

**School of Media, Creative Arts and Social Inquiry  
Faculty of Humanities**

**The Role and Future of Open Access Journal Publishing in  
Supporting Scholarly Communication in Indonesia**

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**This thesis is presented for the Degree of  
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## Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

**Human Ethics.** The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number HRE2018-0026

Signature: 

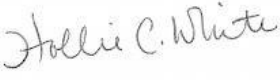

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## Statement of Contributors

This thesis has been written under supervision and guidance of my supervisor Dr Hollie White and co-supervisor Dr Leisa Gibbons. Some parts of this thesis written during the first 2 years of my study were guided by my former supervisor Associate Professor Paul Genoni.

This thesis contains several edited excerpts from my candidacy proposal, submitted to the Graduate Research School of Curtin University, and from the following conference paper:

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Total %	100	100	100	100	100	100	

## Abstract

Indonesia has been identified as the leading country for open access (OA) publishing. A proliferation in the number of OA journals has triggered the need for reliable data regarding the progress of scholarly publishing in a developing country such as Indonesia and the extent and role of open journals as part of the country's scholarly publishing landscape. Such rapid uptake of OA journal publishing in Indonesia also raises questions regarding the efficacy of OA publishing in the Indonesian context. Whether in choosing to publish in OA journals, Indonesian scholars are motivated by the awareness of the importance of OA as a desirable and accessible form of scholarly communication, or if they are simply conforming to government regulations around tenure and promotion is unclear.

The purpose of the research is to investigate the extent of the current supporting conditions for OA journal publishing in Indonesia in encouraging scholarly communication in the future. This research project examines Open Access journal publishing in Indonesia focusing specifically on government policies, through the lens of the knowledge commons theory. Using a multi-method approach involving 958 participants, five studies were conducted: a regulations analysis; two online surveys of Indonesian researchers and editors; five interviews with policymakers; and a Directory of Open Access journal comparative metadata analysis from 2017 and 2019. The findings are analysed within the five scholarly communication functions framework, which include registration, certification, dissemination, preservation, and evaluation.

The study findings indicate that the number of OA scholarly journals in Indonesia increased dramatically between 2017 and 2019, with a threefold increase. Almost all of these journals were published by higher education institutions (HEI), with every study program or department more likely to publish a journal. This proliferation was the result of a government policy to push academics to publish, demonstrating that the government has seriously concerned itself with the development of scholarly communication by issuing regulations that support OA journal publication.

The research highlights three critical areas of concern that require attention. The first issue pertains to the lack of long-term preservation of many Indonesian journals. Second concern is sectoral ego, which poses a significant obstacle to effective program implementation and policy formulation, leading to overlap and conflict. The third issue relates to research performance evaluation, which is criticised for relying too heavily on metrics as the primary assessment indicator rather than quality. Overall, the study found that OA scholarly publishing in Indonesia as a knowledge commons should be encouraged to grow in accordance with established scholarly communication functions.

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ  
الحمد لله رب العالمين والصلاة والسلام على رسول الله

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To my late father, H. Kiramang Tumanang (1947-2020) who was always proud of his son and wished to attend his graduation ceremony.

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“What are you doing, Dad?”

“I am studying, honey,” I said.

“Always studying ... always studying ...,” she grumbled.

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## List of Abbreviations

ADEI	<i>Asosiasi Dewan Editor Indonesia</i> (Indonesian Editorial Board Association)
APC	Article Proceasing Charge
BAN-PT	<i>Badan Akreditasi Nasional – Pendidikan Tinggi</i> (the National Accreditation Agency for Higher Education)
BRIN	<i>Badan Riset dan Inovasi Nasional</i> (National Research and Innovation Agency)
DGHE	Directorate General of Higher Education
DGRDE	Directorate General of Research and Development Enhancement ( <i>see</i> Risbang)
Dikti	<i>Direktorat Jenderal Pendidikan Tinggi</i> (Directorate General of Higher Eduacation – <i>see</i> DGHE)
DOAJ	Directory of Open Access Journals
DOI	Digital Object Identifier
HEI	Higher education institution
IHEI	Islamic higher education institution
INASTI	Indonesian Science and Technology Index
ICT	Information and Communication Technology
IOS	Indonesia OneSearch
ISJD	Indonesian Scientific Journal Database
ISSN	International Standard Serial Number
JIF	Journal Impact Factor
LIPI	<i>Lembaga Ilmu Pengetahuan Indonesia</i> (the Indonesian Institute of Sciences)
LPNK	<i>Lembaga Pemerintah Non-Kementerian</i> (Non-ministry Government Institution)
MORA	Ministry of Religious Affairs
MORAREF	Ministry of Religious Affairs’ References

OA	Open access
OASPA	Open Access Scholarly Publishers Association
PDII	<i>Pusat Dokumentasi Ilmiah Indonesia</i> (Indonesian Scholarly Documentation Centre)
PDDI	<i>Pusat Data dan Dokumentasi Ilmiah</i> (Scholarly Data and Documentation Centre)
RISTEK- BRIN	<i>Riset dan Teknologi – Badan Riset dan Inovasi Nasional</i> (The Ministry of Research and Technology – National Research and Innovation Agency)
Ristekdikti	<i>Riset, Teknologi dan Pendidikan Tinggi</i> , also known as <i>RISTEK</i> (The Ministry of Research, Technology and Higher Education)
Risbang	<i>Direktorat Jenderal Riset dan Pengembangan</i> (the Directorate General of Research and Development Enhancement)
SC	Scholarly communication
SINTA	Science and Technology Index of Indonesia
RAMA	<i>Repositori Tugas Akhir Mahasiswa</i> (Students' Final Project Repository)
RJI	<i>Relawan Jurnal Indonesia</i> (Indonesian Journal Volunteers)

# Chapter 1 Introduction

## 1.1 Background

During the latter years of the 20th century, it was commonly argued that scholarly publishing had reached a state of crisis, which was exemplified by the rapid increase in the cost of journal subscriptions (Association of College and Research Libraries [ACRL], 2003). The increased control of scholarly publishing exercised by international commercial publishing conglomerates at the expense of not-for-profit based publishers has been considered to be a major cause of the crisis. The rapid commercialisation of scholarly journal publishing and the associated cost increases resulted in journals becoming increasingly inaccessible behind “paywalls.” The result was a reduction in the capacity of libraries to subscribe to journals and, therefore, a reduced capacity to meet the needs of users (B.-C. Björk, 2017).

During the same period, the rapid pace of development of information and communication technology (ICT) began to have a major impact on scholarly publishing. The new technology, especially the Internet, has facilitated the realization of the democratization of knowledge, as indicated in the three open access (OA) declarations: the Budapest Open Access Initiative, the Berlin Declaration on Open Access, and the Bethesda Statement on Open Access Publishing (also known as the BBB declarations) (Brown et al., 2003; Budapest Open Access Initiative, 2002; Bullinger et al., 2003). The digital storage and distribution of scholarly information, including e-journals, offered the potential to provide content at a lower cost by reducing or eliminating overheads associated with hard copy printing and distribution.

The developments in ICT also provided the potential for scholarly journals to bypass the established commercial publishing houses altogether, and to deliver online journals directly to readers. The outcome was the development of the concept of open access (OA) publishing, a strategy developed and supported by an international network of scholars, publishers, and librarians as a means of addressing the scholarly communication crisis. OA is seen as a strategic solution to the crisis since it

potentially provides, in some forms, “free online access” to scholarly works (Harnad, 2005, para. 2; Suber, 2004, para. 31).

The capacity of nations and regions to leverage the potential of OA publishing has been shaped to a large extent by the state of development of their higher education and research sectors and their prior engagement with established traditions and methods of scholarly communication. For some developing countries, OA publishing has been seized upon as an opportunity to move rapidly from a traditional print publishing environment, in which they dealt mostly with established scholarly journals or major publishing houses, to a digital open-access environment which gave them greater control and reduced costs. For example, the number of Indonesian OA journals listed in the Directory of Open Access Journals (DOAJ) has increased rapidly in recent years. In 2012–2013 there were only 30 Indonesian journals listed in the DOAJ (Lukman et al., 2012; Pendit, 2013), but by 2019 this number has been increased to 1,389 titles, second only to the UK (Pashaei & Morrison, 2019). This rapid increase has been influenced by government regulations, including the *Circular Letter of Higher Education Director No. 2050/E/T/2011*, which mandated academics to publish research output in an online form. Under the terms of the *Circular Letter*, a research output will not contribute to academic tenure and promotion if it is not accessible online, and if the details of the journal in which it is published are not available on the internet. The *Circular Letter* did not specify that this must be an OA journal, but subsequent regulations have established that the DOAJ is an acceptable guide to reputable, internet-available OA journals (*Ristekdikti Ministry Regulation No 20 of 2017*, 2017).

This proliferation in the number of OA journals has triggered the need for reliable data regarding the progress of scholarly publishing in a developing country such as Indonesia and the extent and role of open journals as part of the country’s scholarly publishing landscape. This rapid uptake of OA journal publishing in Indonesia also raises questions regarding the efficacy of OA publishing in the Indonesian context, and, in particular, whether in choosing to publish in OA journals Indonesian scholars are motivated by the awareness of the importance of OA as a desirable and accessible form of scholarly communication, or whether they are simply conforming to government regulations around tenure and promotion.

The purpose of this research is to investigate the extent to which the current conditions supporting OA journal publishing in Indonesia reflect the potential for its future role in supporting scholarly communication. Identification of this role will improve stakeholders' awareness of the need to improve the participation of Indonesian researchers in global scholarly communication and contribute to knowledge.

Digital scholarly communications, including OA journals, provide both opportunities and challenges for developing countries, providing them with an opportunity to implement transformative change to their own scholarly publishing practices. This research is important for Indonesia, given the nation's position in terms of its rapidly developing economy and rising standards of living. This environment has resulted in an emphasis on human capital and higher education, including developing a high impact research sector. Participation in the global channel of scholarly communication is important to achieve this, and OA is the pathway that can enable this participation.

## **1.2 Research Question**

The following research question was devised to underpin the investigation regarding the practice of OA journal publishing in Indonesia:

- To what extent do the current supporting conditions for OA journal publishing in Indonesia encourage scholarly communication development in the future?

## **1.3 Objectives**

The research question was answered by selecting methods that address the following objectives:

1. To evaluate the government regulations related to scholarly journal publishing in Indonesia.
2. To assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing.
3. To explore editors' experiences with and awareness of scholarly communication and the impact of OA on scholarly journal publishing.

4. To discover the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia.
5. To analyse the trends in OA journal publishing in Indonesia across a period of 2 years (2017–2019).

#### **1.4 Definition of Terms**

The key terms mentioned in the research question are *scholarly communication* and *open access*. This section clarifies the definitions of both terms.

##### **1.4.1 Definition of Scholarly Communication**

The terms *scholarly* and *scientific* are used interchangeably in several bodies of literature. This section aims to clarify whether *scholarly communication* and *scientific communication* refer to the same concept.

*Scholarly communication* is a general term for scholars' conduct in sharing their scholarly work with other scholars and the broader community. Rick Anderson (2018, p. 5) defines it as “an umbrella term that refers to the many different ways in which authors and creators of scholarly and scientific work share information with each other and with the rest of the world about the work they are doing.” Other authors, such as Borgman and Furner (2002) and Sugimoto (2016), also give it the same meaning.

Other authors use the term *scientific communication* (Algarni, 2014; Cronin, 1984; Kaplan & Storer, 1968; McKiernan et al., 2016; Roosendaal & Geurts, 1997). Kaplan and Storer (1968, p. 112) define scientific communication as “the exchange of information and ideas among scientists in their roles as scientists.” Blaise Cronin (2003) largely uses this term interchangeably with *scholarly communication* in his article, but seems to imply that *scholarly communication* is a more general term.

An article on a blog written by Khachik Gevorgyan (2021, para. 9) distinguishes the meaning of *scientific* from *scholarly*. The former indicates natural/exact sciences while the latter means humanities and social sciences. In contrast, Sugimoto and Larivière (2018, pp. 9-10) stated that the word *science* does not specifically refer to natural sciences but includes all fields of science. The word, they said further, is in

line with the understanding of the origin of the word science from the Latin *scientia* which means knowledge.

The Scholarly Communications Committee (Association of College and Research Libraries [ACRL], 2003, para. 1) defines scholarly communication as

the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. The system includes both formal means of communication, such as publication in peer-reviewed journals, and informal channels, such as electronic mailing lists.

This definition is interesting because it makes implied references to the scholarly communication functions: registration, certification, dissemination, preservation, and evaluation, which will be discussed later in the literature review chapter.

This thesis has chosen to use the term *scholarly communication* as it is more commonly used in much of the literature than *scientific communication*. Besides, *scientific communication* is clearly more limited in scope, excluding by definition research in the arts and humanities.

#### **1.4.2 Definition of Open Access**

To a certain extent, defining OA is complex. Although the common definition of OA is often simply being free access to literature, it is delineated differently by diverse communities.

In the BOAI (Budapest Open Access Initiative), aka the Budapest Declaration (Budapest Open Access Initiative, 2002, para. 2-3), *open access* is defined as a “free and unrestricted online availability” of literature. The declaration clarifies the term’s meaning further:

By “open access” to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without



financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself.

The Berlin Declaration (Bullinger et al., 2003, para. 2-3) states

We define open access as a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community.

In order to realize the vision of a global and accessible representation of knowledge, the future Web has to be sustainable, interactive, and transparent. Content and software tools must be openly accessible and compatible.

The Berlin Declaration requires not only free content but also compatibility and easy use of the software needed to access the work publicly. The Berlin Declaration further explains that authors should provide or grant all users free access and reuse.

The Bethesda Statement (Brown et al., 2003) defines open access by describing the conditions that a publication should have, which are closely similar to the conditions proposed by the Berlin Declaration. Briefly, the statement requires that open access should provide the right to access and reuse the publications.

From these definitions, two main elements emerge as the characteristics of OA journal articles: online access, and freedom to read and reuse. This research project prefers to use a definition which conforms to the Budapest Declaration's definition. There are quite different routes to and models of OA which will be discussed in a later chapter.

### **1.5 Significance**

OA journal publishing has potential benefits for scholarly communication in developing countries. In particular, it has the potential to enhance the availability of international research to scholars in developing countries, plus it has the capacity to make developing country research far more readily accessible to a global readership. The results of a study of OA journal publishing in Indonesia will assist stakeholders in developing policies and processes to support affordable and sustainable access to scholarly outputs. The data and associated analysis will be useful inputs for the government and higher education and research sector policymakers in formulating

supportive and targeted policies and in implementing appropriate management for the ongoing development of scholarly communication. This will, in turn, contribute to the further development of the Indonesian higher education and research sectors, and help ensure that the benefits of Indonesian scholarship are widely and efficiently disseminated.

The results of the research will also have implications for other developing countries, particularly in the South-East Asian region, but the lessons regarding the value of OA in underpinning improvements in scholarly communication will also have broad international benefits.

## **1.6 Thesis Organisation**

The present chapter introduces the rationale for the research, research questions, objectives, and significance. It also discusses the definitions of two main terms: *scholarly communication* and *open access*.

This research investigated the conditions of OA scholarly journal publishing in Indonesia in the context of governmental approaches to OA and scholarly communication in Indonesia. Therefore, to provide clear contextual background for scholarly publishing in Indonesia, Chapter 2 describes a brief history of scholarly communication and the OA movement in global perspectives. It also explores the current conditions surrounding scholarly publishing and scholarly communication in that country and outlines the Indonesian government's policies and programs for enhancing scholarly journal publishing.

Chapter 3 presents a review of the literature related to the research objectives. Since this research explores the role and future of OA journal publishing in supporting scholarly communication, articles regarding scholarly communication functions were reviewed to examine how the key actors involved in OA journal publishing should position their roles. This chapter also discusses OA journal publishing practices in several developing countries.

Chapter 4 describes the research methodology that has been employed in investigating the current conditions of OA journal publishing in Indonesia. As noted earlier, the investigation focuses on five research objectives, including government regulations and programs developed to enhance scholarly publishing. The objectives

also include explorations of the awareness of researchers about scholarly communication and the impact of OA, and the experiences of OA journal editors. In this chapter, the research methods used for each objective are explained.

Chapter 5 presents the online survey findings. It is divided into two main sections. The first section deals with the results of the researcher survey, which was intended to assess researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing. The second section of this chapter explains the results of the editor survey, which was aimed at exploring journal editors' experiences in managing OA journals, their awareness of scholarly communication, and the impact of OA on scholarly journal publishing.

Chapter 6 provides the findings of regulation analysis, interviews with policymakers, and a metadata analysis of OA journals. This chapter is presented in three main sections. The first section describes the results of a qualitative content analysis of the government regulations related to journal publishing and scholarly communication. The second section presents the findings of a series of interviews with policymakers about their efforts to develop scholarly journal publishing in Indonesia and the hindrances they have encountered. The third section presents the findings of a quantitative content analysis of Indonesian DOAJ journal metadata in 2017 and 2019 to explore the trends in OA journal publishing in Indonesia.

Chapter 7 presents discussion of the study findings. The discussion is structured based on the five functions of scholarly communication. The scholarly communication functions were used as an analytical framework and a structure for the discussion to integrate all the analyses of findings from the five different studies. The theory of knowledge commons is employed to analyze how the existing circumstances that promote open access journal publishing in Indonesia contribute to the advancement of scholarly communication within the nation.

Chapter 8 contains conclusions, implications, and recommendations, and explains the limitations of the research. It summarises the main points of the chapters, particularly the findings. Answers to the research question and achievements against the research objectives are provided. Implications and recommendations follow, and a discussion of the limitations of the study and questions for further research end the chapter.

## **Chapter 2 Contextual Background: Scholarly Communication, OA Movement, and Scholarly Journal Publishing in Indonesia**

This chapter presents two main sections. The first section deals with the global context of OA movement and its role in scholarly communication. It begins with a brief history of scholarly communication.

The discussion is followed by an overview of scholarly journal publishing in Indonesia. It covers the government bodies involved in scholarly publishing and regulations related to scholarly communication. An outline of government efforts to promote scholarly communication, including infrastructure developments, such as databases and indexes, is also presented. Finally, the last section briefly describes the non-government OA movement in Indonesia.

### **2.1 The Role of Open Access (OA) in Supporting Scholarly Communication (SC): A Global Perspective**

This section examines how OA supports SC. OA plays an important role in supporting the development of SC. OA extends the dissemination of research results and accelerates the cycle of knowledge development through open journal publishing and immediate uploads of research outputs to repositories. These particular roles are presented later, in the subsection on scholarly communication functions. This section begins earlier, with a brief explanation of the definition of SC and the history of its development. The discussion then describes how OA has brought changes to the SC landscape in the past three decades since the emergence of the World Wide Web in the 1990s.

The benefits and challenges of OA are explored in the next subsections. An explanation of theories around OA and the functions of SC form the final part of this first section.

#### **2.1.1 A Brief History of Scholarly Communication (SC)**

This subsection reviews scholarly communication in the past and explains how it has evolved into its current form. Scholarly communication has long been practised and preserved by scholars from generation to generation (Cronin, 2003; Fjällbrant, 1997).

This communication process is a tradition among scholars to spread and keep the results of their research (Mukherjee, 2009). Using various communication channels, such as journals, conference proceedings, papers, and monographs, scholars carry out this tradition by sharing, disseminating, and discussing scientific and other research results, both formally and informally. In this way, they can relearn, analyse, and criticise the results of previous research to develop innovations and continue research based on previous research results (Das, 2015). Intellectual progress can only be achieved through the connection between contemporary scholars and their predecessors, and this can only be established through scholarly communication (De Silva & K. Vance, 2017).

Before the 1700s, scholarly communication among scientists tended to be informal. Knowledge and information were disseminated through face-to-face discussion and dialogue, the results of which were then spread by word of mouth (Abbas, 2016). Scholarly communication within this model then encouraged the formation of the learned societies, such as the Royal Society, which was founded in 1662 in London and still exists today. Scholarly community activities like this were the forerunners of the formation of more formal scholarly communication models, such as journal publishing. One of the journals often referred to as the first journal is the *Journal des Savants*, which was published in Paris in 1665, and which was then followed by *Philosophical Transactions*, first published by the Royal Society in the same year. Through this new scholarly communication channel, research outputs were disseminated, reviewed by peers, recognised, and permanently archived. Since then, the publication of scholarly journals has widely become a formal mode of scholarly communication and of communication between scholars (Ball, 2011; De Silva & Vance, 2017).

The development of information and communication technology has also encouraged researchers to communicate more intensely, interactively, and globally. The rise of the Internet and the World Wide Web led to the transformation of formal and informal scholarly communication forms (Rid & Hecker, 2009). Scientists can now disseminate the results of their research through online networks, send emails to individuals and research groups throughout the world, and use social media to convey their study results to the broader community.

Since the 17th century, scholarly communication has developed rapidly and has now reached exponential growth. Price (1975, 1986) has formulated a theory from his observations that the number of scientific journals has doubled every 15 years. A more recent study by Bornmann and Mutz (2015) found that science has grown rapidly since the mid-1600s, and growth rates tripled in three phases: the first phase was up until the middle of the 18th century, the second phase was until the period between the two world wars, and the third phase was until 2010.

This proliferation has harmed the number of journal subscriptions and ultimately put pressure on journal publishers to increase subscription prices to cover production costs (Kingsley, 2008; Odlyzko, 1995). The dramatic increase of journal prices makes it difficult for libraries to subscribe to scientific journals both in printed and electronic forms (Francke, 2008). The rise in price caused a “serials crisis.” However, according to Das (2015, p. 47), the exponential price rise was not the only cause of the crisis. He argues that other reasons, such as economic recession and inflation that resulted in library budget decreases, have contributed, including the economic disparity between developed and developing countries. Although there are various theories about what caused the “serials crisis,” it is widely accepted that the dramatic increase in journal subscription costs was caused by publishers realising that libraries were largely a captive market (Hubbard, 2022; Phillips, 2014; Wenzler, 2017).

Commercial publishers responded to the serials crisis by offering bundled packages of journals, a tactic commonly known as the “Big Deal” (Anderson, 2018, p. 224; Morrison, 2009, p. 49; Swan, 2006, p. 10). This Big Deal allows libraries to subscribe to journals at a relatively lower price per unit. However, this transaction model causes trouble for libraries because often the purchase package includes journals that are not needed or do not meet the needs of their customers (Anderson, 2017c; Odlyzko, 2015).

### **2.1.2 OA Movement**

Modern information and communication technology (ICT) has enabled the digital distribution of written scholarship through global networks more rapidly and cheaply than the printed equivalents. Formal scholarly communication has transformed from a paper-based medium into an almost exclusively digital medium, which in the very

early days was described by Stevan Harnad as “scholarly skywriting” (Harnad, 1990, p. 342). A timeline created by Suber (2009) indicates the extent to which developments in ICT since 1966 have made scholarly writing accessible online. A major development occurred in 1991, shortly after the World Wide Web had been launched, when researcher Paul Ginsparg founded a preprint server, arXiv (<http://arxiv.org>), where researchers could self-archive scientific papers. The arXiv repository was a precursor to other similar forms of OA of scholarly content, many developed by universities or research centres to create an archive of their own, institutionally based research outputs (Suber, 2009). These various repositories were an impetus to further consideration of how the power of ICT could continue to be harnessed in the service of low-cost scholarly communication.

Motivated by the capacity of electronic networks to extend the accessibility of scholarly information and to find a solution to the affordability crisis facing scholarly journals in the mid-1990s, researchers and librarians conceived the idea of liberating scholarly publishing from its domination by commercial publishers. As a result, the concept of OA publishing emerged during this period (Okerson & O'Donnell, 1995), with the birth of OA as a movement in the early 2000s, as indicated by the Budapest Open Access Initiative (BOAI) in February 2002; the Bethesda Statement on Open Access Publishing in June 2002; and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities in October 2003 (Guédon, 2004; Suber, 2012). According to one of its foremost advocates, Peter Suber (2012), OA, as it was conceived in this period, was designed to “make research literature available online without price barriers and without most permission barriers” (Suber, 2012, p. 8), while Stevan Harnad (2005, para. 2) defines it succinctly as “free online access.” In the BOAI declaration, “open access” is defined comprehensively as free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. (Budapest Open Access Initiative, 2002, para. 1)

In the BOAI declaration, two strategies were recommended to achieve OA to scholarly literature: self-archiving and OA journals (Budapest Open Access

Initiative, 2002). The first strategy expects scholars to deposit preprint or postprint copies of articles, commonly known as *e-prints*, into online electronic archives or repositories, including personal websites, disciplinary archives, institutional-unit archives, and institutional repositories. The second strategy was to create “a new generation of journals committed to OA and to help existing journals that elect to make the transition to OA” (Budapest Open Access Initiative, 2002, para. 5). The former approach is now widely referred to as *Green OA* and the latter as *Gold OA*.

In the Gold approach, the journal publishing is organised in one of two major business models based on the funding model of the publishing operation. First, the publishing operation may be self-funded by the publishers, which mostly applies to research institutions or universities subsidised by government. Second, the journal operation may be funded by authors who pay an article processing charge (APC). The APC model has been implemented with two kinds of journals: the *born-OA* journals, which are OA from their beginning (Contreras, 2012, p. 48; Crawford, 2011, p. 27); and subscription journals that publish toll-accessed articles but also provide OA to certain articles funded by the authors to make them accessible for readers. These latter journals are also known as *hybrid* journals (Björk, 2012).

The type of Gold OA publishing without any cost on the author side and reader side is *platinum* OA, also known as *diamond* OA (Fuchs & Sandoval, 2013). However, the concept of platinum, diamond, and other colour spectrum was rejected by Harnad (2013), who reasoned that the Gold OA model is sufficient to include all kinds of OA journals.

Another OA model is described as *bronze* OA, which is defined as articles that are provided with free access to read but with no permission to download and reuse them (Piwowar et al., 2018, p. 5). There is some argument that bronze OA is not OA because it does not allow reuse.

### **2.1.3 The Challenges of OA**

Since its emergence, the benefits of OA have been acknowledged by researchers. Among the benefits of OA for researchers are the increase in visibility, usage, and impact of their research outputs. OA also enhances knowledge transfer among developing countries, and between developed countries and developing countries.



The International Federation of Library Association (IFLA) Governing Board has stated that “there are significant gains to making research and research results available without financial, legal and technical barriers to access” (2011, p. 2). The impact of OA on academy, economy and society based on evidence has been explored by Tennant et al. (2016). The authors concluded that “OA has the potential to be a sustainable business venture for new and established publishers, and can provide substantial benefits to research- and development-intensive businesses, including health organisations, volunteer sectors, and technology” (p. 16).

However, the OA movement also faces numerous challenges. Two important challenges facing OA publishing are its underlying business model and the quality of publications. The former is mainly related to the lack of subscription revenue and the subsequently high price that authors are often required to pay to have articles published. As noted earlier, the business model of many Gold OA journals requires authors to pay an article processing charge (APC), thereby not resolving the affordability problem since it simply shifts the cost from reader (or subscriber’s) side to the author’s side (Peterson et al., 2013; Shahriari et al., 2016). The APC was initially introduced by Vitek Tracz when he founded BioMed Central (BMC), the first OA publisher with an “author pays” model. Tracz is an entrepreneur, and his goals have been business-oriented. It was no surprise that he later sold the BMC to a major publisher (Springer) (Poynder, 2015). A number of authors, including Tennant et al. (2016, p. 14), criticise this APC model as it is not suitable for developing countries:

The pay-to-publish system is a potentially greater burden for authors in developing countries, considering that they are not used to paying publication costs, and funding systems for OA are not as well-established as those in the Western world.

Other variations of the APC-based model include a hybrid system applied to subscription-based journals by giving authors of individual articles an OA alternative through payment of a fee.

The quality of OA journals and individual articles within them has also been questioned, principally based on an argument that they may have lower editing and

refereeing standards than those applied to more traditional journals. Bohannon has tested the peer-reviewing process of OA journals by creating fake and conspicuously low-quality articles and directing these to several OA journals listed in the DOAJ. The results, according to Bohannon, indicated that the standard article review processes were not rigorously performed (Bohannon, 2013). Bohannon's investigation has been criticized as it involved an invalid methodology and only targeted OA journals (Taylor et al., 2013), while poor quality reviewing can also occur at highly regarded journals published by major international scholarly publishers (Oransky, 2015). The DOAJ underwent significant changes in indexing practices as a result of this and other studies.

A report by Archambault et al. (2014) has collated evidence from a range of studies regarding the strengths and weaknesses of OA. Among the identified weaknesses of OA are a lack of awareness of OA, the quality of OA literature, OA's lack of prestige, the presence of predatory publishers, copyright issues, author-side fees, lack of profitability, and lack of infrastructure in developing countries. Citing several surveys, the report asserts that OA advocates are still failing to convince researchers about the advantages of OA and that researchers' attitudes toward OA publishing are based on "misinformation and misconceptions about OA" (Archambault et al., 2014, p. 37). An example of the misconceptions surrounding OA is that scholars misunderstand how Gold OA, with its pay-to-publish method (through APC), provides free access for readers (Moksness & Olsen, 2017; Suber, 2016, 2019). According to Kingsley (2014, p. 263), many people mistakenly believe that "Gold" open access means "paid" open access, which has led to considerable confusion. This confusion has been exacerbated by the rise of hybrid open access and the improper usage of the term "hybrid open access journal." Hybrid journals are subscription journals that give open access to specific articles by charging publishing fee (APC), while other articles remain closed behind paywall (Kingsley, 2014). Other misconception is that OA responsible for the emergence of predatory journal publishing. Predatory publishers exploit the open access model by charging authors to publish their work without providing proper peer review, editing, or publishing services. These publishers may use deceptive tactics to attract authors, such as using fake impact factors, creating misleading websites, and using spam email campaigns.(Tennant et al., 2019).

Regarding issues around copyright, Poynder (2017, p. 36) describes this as “the immovable barrier that the open access movement underestimated.” He argues further that the forms of licensing favoured by OA journals fail to protect authors from other parties making a profit from their work. Concern about copyright problems are also addressed by Anderson (2017a), who argues that the copyright issue arises as there is no unanimity on the definition of OA by various parties and institutions. Furthermore, Anderson argues that OA advocates themselves have failed to reach a unanimous definition of OA. He explains further that members of the OA community understand “freely available” in various ways.

In dealing with the right to reuse a scholarly work, the OA community uses Creative Commons licences. Creative Commons has seven licence attributes with different restrictions (<https://creativecommons.org/licenses/>):

1. CC0: public domain, free to reuse without restrictions.
2. CC BY: free to reuse/remix with *the requirement to credit the creators*.
3. CC BY-SA: free to reuse/remix with the requirement to credit the creators and *the new work should transfer the same licence*.
4. CC BY-ND: the same as CC BY but *the work should not be adapted or changed*.
5. CC BY-NC: the same as CC BY but *the work should not be commercialised*.
6. CC BY-NC-SA: the creator must be credited as for CC BY plus *the new work should not be commercialized and must carry the same licence*.
7. CC BY-NC-ND: the most restrictive licence where *the work is not allowed to be adapted and reused/redistributed for commercial purposes*.

The BOAI declaration suggests the use of CC BY. SPARC considers CC BY to be the standard OA licence. DOAJ, which is a prominent indexing databases for OA journals and encourages adherence to BOAI, allows journals to choose a more restrictive licence (Anderson, 2017a). Anderson (2017b) says further that that it would be difficult to accept if OA legitimized CC BY and CC BY-NC at the same time because these two licenses were essentially contradictory. The first exempts the right to use the work freely even for commercialization, even if it provides credit to

the author, while the second does not allow the commercialization of the work. Each OA community differs in adopting this license because of the different interpretations in defining OA.

It is relevant to note that the international movement in support of OA scholarly publishing has resulted in some innovative practices. In November 2013 two students, Joseph McArthur and David Carrol, announced the launching of Open Access Button ([www.openaccessbutton.org](http://www.openaccessbutton.org)) “a browser-based tool” that helps users find alternative access to paywalled articles or to make requests for an article directly to the author (Open Access Button, 2013). Another web-browser extension that helps users to find scholarly articles is Unpaywall (<http://unpaywall.org>). Once the extension is installed in a web browser, it will show a clickable green unlock icon in a webpage if a legal OA version of an article is available and a grey lock if it is not available for free. Unpaywall was initiated by Heather Piwowar, Jason Priem, and Cristhian Parra and launched on April 14, 2017 (Chawla, 2017; Else, 2018).

Another OA activity that is worth mentioning is Sci-Hub. In 2011, a 22-year-old graduate student in Kazakhstan, Alexandra Elbakyan, established a database, Sci-Hub, which provides free access to millions of scientific papers pirated from the largest commercial publishers of scholarly literature (Lockhart, 2017; Oxenham, 2016; Rosenwald, 2016). Although some people judge this to be illegal, or in Björk’s words “black OA” (B. C. Björk, 2017, p. 1), Sci-Hub data reveal that downloaders come from all parts of the world. The fact that the largest downloaders come from the wealthiest countries, such as the United States, has led to the observation that the article downloads are not driven by economic necessity but by convenience (Bohannon, 2016).

In addition to these examples of OA practices, not all interested parties are in accord with the overall concept of OA. The Green model has been criticised in terms of a lack of quality control since there is no editing or reviewing involved in the self-archiving process (Teixeira da Silva, 2018). This is a misconception, as articles deposited in institutional repositories can be preprints or postprints. Postprints (aka. Author Accepted Manuscript (AAM)) have gone through peer review process but have not been copy-edited and formatted yet. Some journals and publishers require

authors to wait for a certain amount of time (e.g., 6 months) before self-archiving their work. This embargo makes OA more complex for institutions.

Meanwhile, the Gold model, which requires authors to pay for publishing, is considered to be a gateway opportunity for predatory publishers. Predatory publishers are those that adopt the practice of establishing low-quality journals with the primary goal of profiting from exorbitant author processing charges (Krawczyk & Kulczycki, 2021). The term “predatory publishers” was initially coined by Jeffrey Beall, a librarian at the University of Colorado, Denver, who maintained a list of potential, possible, or probable predatory publishers and journals in his blog, *Scholarly Open Access*, which was dedicated to criticising the OA movement (Beall, 2012, 2015). In 2017, Beall abruptly shut down his website, but the closure did not stifle debate of his involvement in the fight against predatory journals and publishers. Beall’s list contains many flaws. According to Kimoto, critics of Beall's work generally point to four main issues: methodological faults, Beall's bias against OA, discrimination against emerging economies, and Beall's listings of predatory publishers as an assault on academic freedom (Kimotho, 2019). Using journals' blacklists like Beall's can be problematic. A number of factors, including the editorial leadership and financial pressure on the publishing firm, can cause the level of scrutiny in scholarly journals to rise and fall over time (Berger, 2021).

To sum up, the rise of Open Access (OA) publishing has brought many benefits to researchers, such as more visibility, usage, and impact of research outputs and better knowledge transfer. However, the OA movement also faced challenges, the most important of which are the underlying business model and the quality of publications. Many OA journals require authors to pay an Article Processing Charge (APC) to have their articles published, which may not be possible for many authors, particularly those in developing countries. In addition, the quality of OA journals and individual articles has been called into question because editing and reviewing standards are lower than those for traditional journals. Other problems with OA include not enough people knowing about it, predatory publishers, copyright issues, author-side fees, low profits, and a lack of infrastructure in developing countries. The OA community has not agreed on a clear definition of OA, which has led to confusion and misunderstandings about the concept.

#### **2.1.4 The Future of OA Journal Publishing**

Now, in its third decade, the OA movement is at something of a crossroads. The two strategies, the Green and Gold route, recommended at the beginning of the movement and which had initially seemed to be mutually self-supporting, are now increasingly perceived as being in competition (Rizor & Holley, 2014; Zhang & Watson, 2017). As early as 2004, Guédon (2004) argued that the two pathways should not be treated as separate, while Harnad (2005) accused Guedon of being inclined to support the Gold OA approach because Guedon criticises Green OA for its lack of the journal branding that is associated with prestige publishing. More recently, advocates, such as Michael Eisen (2015), co-founder of the Public Library of Science (PLOS), are arguing for the Gold pathway, while Harnad believes that the only feasible way to achieve OA is through the Green approach (Miguel et al., 2016). The disagreement between Eisen and Harnad was exacerbated by Eisen's claim that "e-print sharing was somehow illegal," prompting Harnad to declare that he was about "to quit OA advocacy" (Harnad, 2016). The debates among advocates imply that there is disagreement about the best way to achieve OA objectives.

The OA movement has developed gradually over the last two decades. Although some advocates like Harnad (2016) still consider the movement as "too slow," numerous milestones have been achieved. Some important initiatives, such as OA2020, are still in development. OA2020 is an initiative proposed by the Max Planck Digital Library and launched at the Berlin Open Access Conference in December 2015. It is intended to build a global consensus to transform scholarly journals from a subscription-based model to OA by 2020. A brief review of OA2020 official website indicates that not much progress has been made after 2020. While 156 scholarly organizations have officially signed the Expression of Interest and 16 parties have declared their endorsement, only seven new signatories and one endorsement have been recorded as of November 2022 (OA2020, 2021).

The OA to scholarly outputs envisaged over 20 years ago has been fundamentally implemented. The Green route has been strategically supported by a number of governments that have mandated the deposit of publicly funded research outputs into open repositories, although compliance remains low in some cases (Xia, 2013).

Meanwhile, the Gold route has also developed, with various innovative business models supporting this form of open publishing.

The hegemony of established commercial publishers remains strong in the scholarly publishing market. These publishing houses realise that journal prices remain quite elastic as libraries are reluctant to surrender subscriptions to the long-established and high-profile journals. Publishers realise that libraries are, therefore, reluctant to cancel the subscriptions, and will absorb high prices by diverting resources away from other content, such as monographs (Hubbard, 2022). The legacy publishers are also adept at adopting new business opportunities provided by OA publishing, such as modifying APC in return for restricted forms of Gold OA (Esposito, 2022; Lund & Zukerfeld, 2020). They have also become participants in OA advocacy organisations, such as Open Access Scholarly Publishers Association (OASPA), and in other instances have adopted practices associated with OA, such as enabling open peer review for articles submitted to their journals (Pool, 2017).

Commercial publishers work with a business model, which can mean that the research topics of the articles published are those that are likely to appeal to the North American and developed countries market (Berger, 2021). The APC model often sits on top of the existing subscription model, generating additional revenue (Björk & Korkeamäki, 2020). Guédon et al. (2019) suggest that the current state of the OA movement is complicated. Too many players are involved, including *opponents*, and these opponents appear to support OA but, in reality, weaken and slow the movement by distorting the main purpose of OA and creating more complexities (Esposito, 2022; Guédon et al., 2019). An example is in some of publisher Elsevier's OA journals that were initially open and later became closed-access journals. This is referred to as "reverse flips" by Matthias et al. (2019, p. 21), who documented 152 journals that had flipped from OA to toll access (TA) journals since 2005. Another list of OA journals flipping to TA journals can be found in the Open Access Directory ([https://oad.simmons.edu/oadwiki/Main\\_Page](https://oad.simmons.edu/oadwiki/Main_Page)) hosted by the School of Library and Information Science at Simmons University.

Elsevier has also proposed a geowalling strategy by limiting access to European countries only (Hinchliffe, 2019). It has also acquired big repositories, such as OLH and Bepress (McKenzie, 2017). A 2017 article by Morrison describes how Elsevier

became involved in the OA movement. According to Morrison (2017), Elsevier was the largest OA publisher: “Elsevier offers 511 fully OA journals and 2,149 hybrids. Most fully OA journals do not charge article processing charges (APCs). APCs of fully OA journals average \$660 US (\$1,731 excluding no-fee journals); hybrid OA averages \$2,500”. However, a proportion of the Elsevier OA journals do not charge an APC because they are mostly society or university journals that host journals with Elsevier and have their own sources of income to cover production costs.

Although commercial publishers’ monopoly on the dissemination of scholarly publication has been weakened, they know that scholars need *certification*, an element of the scholarly communication functions which is also interpreted as quality approval. The publishers know that scholars, particularly academics, need a reputation: required by funders to get research grants and by institutions for tenure and promotion (Poynder, 2019). Therefore, they have created journal rank databases, such as SCImago Journal Rank (SJR) by Elsevier and Journal Citation Rank (JCR) by Clarivate Analytics, and they exploit journal impact factor (JIF) to rank the prestige of their journals. JIF was initially created by Eugene Garfield and his colleague, Irving H. Sher in 1963 (Garfield & Sher, 1963) “to help select additional source journals ... to be covered in new Science Citation Index (SCI)” (Garfield, 2006, p. 90) and to help “libraries select journals to purchase” (p. 92). JIF has been exploited by publishers as a quality standard to advertise their journals and has been criticised widely by some scholars as an improper measurement (Buranyi, 2017; Csiszar, 2020; Hicks et al., 2015; Seglen, 1997; Tennant et al., 2019).

Some scholars, such as Secher (2013), have claimed that OA has left scholarly communication in a worse state than it was before, more vulnerable to the hegemony of legacy publishers. Secher provides example that OA stirs regulation by shifting from traditional subscription-paid journals to researcher-paid ones. Researchers from developing countries were particularly disadvantaged by the introduction of APC. This is refutable as seen for example, Kingsley and Kennan (2015b) argue that APCs allow researchers to understand the actual publishing costs and make informed decisions about where to publish based on value for money. Open access journals are generally free to publish in, and those that do charge fees are significantly more affordable than hybrid OA or traditional subscription-based journals. The perceived



high cost of OA is attributed to commercial publishers, rather than the open access model itself (Kingsley & Kennan, 2015a).

It has to be admitted that the OA movement, to some extent, has been successful in freeing up access to scholarly communications for readers. However, this achievement must be weighed against the new financial burden OA has created for authors. It should be noted here that authors are also readers of articles.

Consequently, OA has simply moved the price barrier from readers of research to authors of research, who are in turn also readers of research outputs (Meagher, 2021).

As a means to facilitate the transition of subscription-based journals towards open access publishing, transformative agreements (TAs) are gathering traction on a global scale. TAs are an umbrella term for initiatives that seek to reshape the business model of scholarly journal publishing, shifting away from traditional toll access (subscription-based) models and towards fair pricing strategies for open access dissemination (ESAC, n.d.). Nonetheless, it is essential to recognise that the practises associated with TAs exhibit substantial variation and can manifest in various ways (Borrego et al., 2021).

In 2018, an initiative to fully and immediately allow OA to research outputs was launched by Coalition S funders (<https://www.coalition-s.org/>), a consortium of European research funders. This initiative was called Plan S, “which consists of one target and 10 principles”. The main principle states that starting in 2021, all scholarly publications resulting from research funded by public or private grants must be published in open access journals, platforms, or repositories without embargo (*What is cOAlition S?*, n.d.). To comply with Plan S, researchers funded by cOAlition S have three options: they can publish their work in an open access journal or platform, or they can choose to publish in a subscription journal and immediately deposit either the final published version (Version of Record or VoR) or the author's accepted manuscript (AAM) in a repository without any embargo period. Alternatively, they may publish openly in a subscription journal under a transformative agreement. (cOAlition S, 2019).

Plan S initiative to accelerate the transition to open access (OA) in scholarly publishing has been met with mixed reactions from the research community. Some researchers have welcomed the initiative, while others have expressed concerns about its impact. Plan S initially intended to fully implement the principles in 2020 but later postponed it to 2021. The change of the implementation year is intended to give publishers and other stakeholders more time to prepare, address concerns, and develop new open access publishing models. This will help to ensure that Plan S is implemented in a way that is fair, equitable, and sustainable. The potential impact of Plan S on the research community is uncertain, and it is possible that Plan S could have both positive and negative impacts.

An open knowledge project in Latin America countries, AmeliCA, has decided not to join Plan S and argues that the APC funding model is not suitable for developing countries. In addition, CC BY, which is recommended by Plan S, is seen as opening the door to for-profit publishers and other parties to commercialise research outputs. For these reasons, AmeliCA recommends using CC BY-NC-SA to prevent other parties from modifying and commercialising their work (Poynder, 2019). This decision is not in line with BOAI's openness position, which implicitly recommends the use of CC BY (Budapest Open Access Initiative, 2002). CC BY is the most permissive licence attribute of the Creative Commons (CC), which "allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator," while CC BY-NC-SA is the second most restrictive attribute of CC that does not allow the reuse of a work for commercial purpose and that the new work must be shared with the same licence (Creative Commons, 2019).

All these facts demonstrate that, as noted at the beginning of this discussion, the OA movement is somewhat at a crossroads. Therefore, it is difficult to predict the end results of the OA movement. Legacy publishers are capable of quickly adapting to and co-opting OA scholarly publishing. The future of OA journal publishing is still uncertain and the idea of returning scholarly communication control to the hands of the scholarly community and the OA movement may probably remain a dream.

## 2.2 Scholarly Journal Publishing in Indonesia

Scholarly communication activities in Indonesia that rely heavily on the capacity of digital technology have recently escalated. The number of online journals, portals/indexing databases (e.g., Indonesia OneSearch by the National Library (*Perpusnas*), MORAREF by the Ministry of Religious Affairs (MORA), and ISJD by the Indonesian Institute of Sciences (LIPI)), and institutional repositories, including those in higher education institutions (HEI), have increased rapidly. This upturn has been enabled not only by developments in technology but by government policies that provide funding support for digital journal publishing, including payments for authors.

Until 2014, the number of papers published were comparatively low, with Indonesia having been assessed as fourth among South-East Asian countries in terms of scholarly publishing output, after Malaysia, Singapore, and Thailand (Wiryawan, 2014). To enhance the number of scholarly publications and to discourage plagiarism, the government have announced several regulations. In supporting these regulations, the Directorate General of Higher Education (DGHE) issued *Circular Letter No. 2050/E/T/2011*, which states that higher education and journal administrators are required to upload all papers of students and academics to institutionally based repositories. In addition, DGHE will not assess any published paper if it is not available online. A scholarly paper submitted as one of requirements for academic promotion must be assessed by DGHE. The Ministry of Research, Technology, and Higher Education (*Ristekdikti*) has released a new *Ristekdikti Ministry Regulation Number 20 of 2017* regarding the professional allowance of lecturers and honorary allowance of professors. The regulation requires a person holding an academic position as *lektor kepala* (senior lecturer) to publish at least three papers in nationally accredited journals, or one paper in an international journal, in each 3-year period, and recommends that a professor publish at least three papers in international journals or one paper in a selected group of “reputable international journals.” The government also provides an annual payment of AUD 20 to AUD 50 to authors and editorial board members per person per issue. Reviewers, on the other hand, receive an annual compensation of approximately AUD 150 per person per issue for their services (Kemenkeu, 2016, 2022). The payment may not be substantial but is nonetheless intended to encourage journal publishing.

In terms of supporting OA, there is no substantial formal advocacy movement in Indonesia. However, Indonesian journals were first represented in DOAJ in 2009 when four titles were included. The number of the Indonesian journals listed in DOAJ began to increase significantly from 2013, and by the beginning of 2017 no less than 500 journals had been registered in DOAJ (Kozok, 2017; Lund University Libraries, 2017). In 2019 this number had been increased to 1,389 titles (Pashaei & Morrison, 2019). Although many higher education institutions in the last decade have implemented institutional repositories, the motivations for doing so may not be primarily related to OA, with Liauw and Genoni (2017) recently reporting that the motivation is more likely to be the usefulness of OA as a strategy to counter plagiarism and to improve institutional prestige by boosting an institution's Webometrics Ranking (Liauw & Genoni, 2017). Webometrics Ranking of World Universities is a ranking system of world universities initiated by Cybermetrics Lab, a research group under a research body in Spain: the *Consejo Superior de Investigaciones Científicas* (CSIC) (2022).

Also in 2011, to maintain the quality of publishing, the Ministry of Education and Culture of Indonesia (*Kemdikbud*), through the DGHE, introduced *Circular Letter No. 29/Dikti/Kep/2011* regarding journal accreditation, requiring all journals to be accredited by the government. The DGHE has also recommended the use of online open-source software such as Open Journal Systems (OJS) to facilitate OA journal publishing (Wiryawan, 2014).

Ironically, in pushing academics towards journal publishing, the government have unwittingly facilitated predatory publishing. The pressure placed by the DGHE on academics to publish scholarly papers results in some academics finding *easier* ways to publish without carefully considering the quality of a selected journal. As a result, a number have become victims of predatory journals (Dana Ilmu Pengetahuan Indonesia, 2016; Kozok, 2015, 2016a, 2016b, 2017; Mart, 2013; Zulys, 2013). Predatory journals are those that “accept articles for publication — along with authors' fees — without performing promised quality checks for issues such as plagiarism or ethical approval” (Grudniewicz et al., 2019, p. 210).

### 2.2.1 Government Bodies Involved in Scholarly Journal Publishing Development

At the time this research was conducted (2017-2019), scholarly journal publishing in Indonesia was mainly coordinated and supported by two institutions: the Ministry of Research, Technology, and Higher Education (*Ristekdikti*); and the Scientific Information and Documentation Centre – Indonesian Institute of Sciences (PDII-LIPI)<sup>1</sup>. *Ristekdikti* accredited scholarly journals of higher educational institutions (HEI) and of professional associations while LIPI approved journals of the research and development (R&D) units of government institutions and non-academic institutions. Both had their own accreditation standards (Lukman & Kustantyana, 2012).

*Ristekdikti* was the ministry that handled research, technology, and higher education affairs. Previously, higher education affairs were managed by the Directorate General of Higher Education (DGHE/*Dikti*) under the Ministry of Education and Culture. In 2015, *Dikti* was integrated with research institutions under *Ristekdikti*. Within the ministry, the development of scholarly publications was managed by the Directorate of Research and Development Enhancement (*Risbang*). Since November 2019, in the second term of Jokowi's presidency, the ministry structure changed and *Dikti* returned to the Ministry of Education (*Kemendikbud*). A new unit, National Research and Innovation Agency (BRIN), was established and the ministry name changed into the Ministry of Research and Technology – National Agency for Research and Innovation (*Ristekbrin*). In 2021, *Ristekbrin* and *Kemendikbud* were fused into one ministry namely the Ministry of Education, Culture, Research and Technology (*Kemendikbudristek*). BRIN was separated and becomes a new non-ministerial government agency directly under the President of Indonesia. Since 2021, journal publishing and other research-related programs are handled by *Kemdikbudristek*.

Up to 2019, Indonesia has a total of 4,621 HEIs. Of these HEIs, *Dikti* directly coordinates 122 state-run HEIs and 3,129 private HEIs (Attamimi et al., 2019, p. 4). However, some specific HEIs are overseen by departments or ministries other than

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<sup>1</sup> Since 2019, the institution's name of PDII changed into PDDI (the Scientific Data and Documentation Centre).

*Dikti*. Although non-*Dikti* HEIs have the authority to manage their own institutions, they conform to national policies and regulations issued by the *Dikti*. The Ministry of Religious Affairs (MORA) has responsibility for the second largest number of HEIs (1,192 HEIs). These are directly managed by the Directorate of Islamic Higher Education (*Diktis*). Other ministries and government institutions have responsibility for 178 HEIs in total (Attamimi et al., 2019, p. 18).

In addition, to facilitate research and scholarly publication, *Diktis* (the directorate managing HEIs under MORA) has a Sub-Directorate of Research, Scholarly Publication, and Community Service. It maintains an indexing database, MORAREF, which, in 2018, included 810 journals and 22,216 articles (<http://moraref.kemenag.go.id/> retrieved January 22, 2018). MORAREF provides an index to journal articles published by the religious higher education institutions that sit under MORA.

The Scientific Information and Documentation Centre – Indonesian Institute of Sciences (PDI-LIPI) was a non-ministry institution which was responsible directly to the President in regard to research and scientific development<sup>2</sup>. It organises scientific research activities, including releasing ISSN numbers, an eight-digit serial number used to uniquely identify a serial publication such as journal, and maintaining the Indonesian Scientific Journal Database (ISJD). LIPI launched ISJD in 2009 (Lukman & Kustantyana, 2012, p. v) and claims to have indexed 14,305 journals, printed and electronic, with 351,308 articles that can be accessed publicly and downloaded in full text by members (<http://isjd.pdi.lipi.go.id/> retrieved January 18, 2018). Before the accreditation was integrated and handled only by *Dikti*, LIPI also accredited journals published by R&D units of non-academic institutions, including those under ministries (Lukman & Kustantyana, 2012). The role of ISJD as a scientific journal database and the problematic issues around preservation will be presented in the preservation section of discussion chapter. The interview results of policymakers from *Dikti*, *Diktis*, and LIPI will be presented and discussed in the later chapters.

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<sup>2</sup> Since 2021, LIPI including PDDI were integrated into BRIN

The Ministry of Administrative and Bureaucratic Reform (*Kemenpan-RB*) also helps encourage journal publishing with a regulation that requires teachers and academics to publish in order to gain tenure and promotion. *Kemenpan-RB* formulates and implements policies regarding bureaucratic reform and public servants' accountability.

The *Badan Akreditasi Nasional Perguruan Tinggi* (BAN-PT), also known as the National Accreditation Agency for Higher Education (NAAHE), supervises and accredits HEIs' performance, including the scholarly communication activities of academics and students (<https://banpt.or.id/>). An HEI and its study programs or departments are not allowed to operate if they do not fulfil the minimum requirements of accreditation.

The role of *Kemenpan-RB* and *BAN-PT* will not be discussed further in this thesis since they only release regulations that encourage teachers, academics and students in doing scholarly activities but do not directly involved in the management of scholarly journal publishing. However, regulations related to scholarly activities issued by these institutions are included in the findings presentation.

### **2.2.2 Regulations Related to Scholarly Publication in Indonesia**

Regulations and laws related to scholarly publication come from a variety of Indonesian governmental areas. The hierarchy of rules and regulations in Indonesia is outlined under Article 7 of Law No. 12 of 2011 on the Formulation of Law and Regulations (“UU RI tentang pembentukan peraturan perundang-undangan,” 2011). From this law, the following hierarchy is established (Lindsey & Butt, 2018, p. 37):

1. 1945 Constitution, (*Undang-Undang Dasar - UUD 1945*)
2. People's Consultative Assembly Decision (*Ketetapan MPR - Tap MPR*)
3. Law (*Undang-Undang - UU*) and Government Regulation in Lieu of Law (*Peraturan Pemerintah Pengganti Undang-Undang - Perpu*)
4. Government Regulation (*Peraturan Pemerintah - PP*)
5. Presidential Regulation (*Peraturan Presiden - Perpres*)
6. Provincial Regulation (*Peraturan Daerah Propinsi – Perda Provinsi*)

7. County /city regulation (*Peraturan Daerah Kabupaten/Kota – Perda Kabupaten/Kota*).

This hierarchy means that any regulation should refer to the higher regulations. The hierarchy acknowledged in Article 7 of Law No. 12/2011 is incomplete. Article 8 of the Law explains additional regulations included in the legal system, such as Presidential Decision (*Keputusan Presiden – Keppres*), Presidential Instruction (*Instruksi Presiden – Inpres*), Ministerial Regulation (*Peraturan Menteri – Permen*), Ministerial Decrees (*Kepmen*), Director General Regulation (*Perdirjen*). However, the full hierarchy remains unclear (Lindsey & Butt, 2018, pp. 51-52). Some regulations that are also commonly used are not mentioned such as circular letters (*Surat Edaran - SE*) and Head of Non-Ministry Government Institution Regulations (*Peraturan Kepala Lembaga – Perka*). These descriptions are provided to show the complexity of the Indonesian legal system; this research will not discuss lawmaking and legal instruments in detail.

Most of regulations related to scholarly communication activities are released by ministries and non-ministry government institutions that organise the management and operation of research activities. Director Generals under ministries also issue regulations. The initial accreditation standards for HEIs were issued by *Dikti*, the Directorate Generale of Higher Education (DGHE) under *Ristekdikti* ministry, Regulation No. 04/DIKTI/Kep/2011 (“*Perdirjen Dikti Kemdiknas RI tentang pedoman akreditasi terbitan berkala ilmiah*,” 2011) and the Head of LIPI, Regulation No.04/E/2011 (“*Perka LIPI tentang akreditasi terbitan berkala ilmiah*,” 2014). In 2012, both institutions agreed to make improvements and revise the standards. This agreement resulted in the new standards set out in DGHE Regulation No. 1 of 2014 and LIPI Regulation No.3 of 2014, both of which came into force on April 1, 2014 (Lukman, 2016).

The accreditation standards from both *Dikti* and LIPI used to have exactly the same content due to each institution managing different groups of clients. *Dikti* accredited journals operated by academic institutions and professional groups while LIPI accredited journals of R&D units of government (Lukman, Ahmadi, Manalu, & Hidayat, 2017). The 2014 journal accreditation standards set by *Dikti* and LIPI were intended to promote the proliferation of online journals. The standards emphasise



electronic journal publishing accreditation and do not perform any evaluation of printed journals. Publishers were encouraged to transform their print journals into electronic before 31 March 2016 (“*Perdirjen Dikti Kemdikbud RI tentang pedoman akreditasi terbitan berkala ilmiah*,” 2014; “*Perka LIPI tentang akreditasi terbitan berkala ilmiah*,” 2014). These regulations were also supported by a circular letter from the Directorate General of Research and Development Enhancement (DGRDE – *Ditjen Risbang*) that suggests the use of open-source journal management software (such as OJS) (“*SE Ditjen Risbang Kemristekdikti RI tentang akreditasi jurnal ilmiah secara elektronik*,” 2015). In 2018, both journal accreditation standards issued by *Dikti* and *LIPI* were integrated into one standard: Permenristekdikti No.9 Tahun 2018, the Ministry of Research, *Ristekdikti* on National Journal Accreditation.

To improve scholarly publication visibility, the government, including universities and other institutions, have built indexing websites and repositories. Several repositories have also been established by HEIs as a response to regulation, specifically a circular letter from DGHE No. 2050/E/T/2011 that requires lecturers, for tenure and promotion, to make all their scholarly outputs retrievable online. The letter also requires HEIs to distribute online all scholarly outputs of students and lecturers. To facilitate networking and collaboration among journal editors and administrators, several journal volunteers initiated the RJI group (*Relawan Jurnal Indonesia* or Indonesian Journal Volunteers) (<http://relawanjurnal.id>). For the same purpose, ADEI (*Asosiasi Dewan Editor Indonesia* or Indonesian Editorial Board Association) was founded on 26 January 2016 (<http://indonesianeditor.org>). Indonesian governmental organisation, as well as the associated HEI relationships, are truly complex.

### **2.2.3 Government Efforts**

The government has issued some regulations to enhance scholarly publications. In addition to the initiative discussed above, in 2012, *Ristekdikti* advised publishers, which are mainly based in universities, to transform their journals from print to online and to use open-source software for journal management: the OJS (Online Journal System) created by PKP (Publishing Knowledge Project). The main intention was “to improve the number of Indonesian journals indexed in Scopus and Web of Science” and in other reputable indexing databases (Lukman et al., 2017, p. 4).

*Ristekdikti* classifies and rates indexing databases into three categories as can be seen in the list shown in Table 1.

*Table 1* Categorisation of reputable indexes

Category	Characteristic	Institution/indexing database
<b>High reputation</b>	These indexes cover various kinds of disciplines, have the biggest databases in the world, and have instruments for citation analysis and journal rankings. These have become a reference of international rankings for higher education, and, relative to other indexes, have a very selective system of journal indexing.	<ol style="list-style-type: none"> <li>1. Thomson Reuters/Web of Science (Science Citation Index Expanded) (WoS)*</li> <li>2. SCOPUS</li> <li>3. Any other equivalent platform</li> </ol>
<b>Middle reputation</b>	This group includes indexes that cover particular disciplines, and that become a reference source for indexing in those disciplines. These indexes have fairly big databases; they do not need to have instruments for citation analysis and journal ranking, and are relatively more selective in journal indexing than indexes with a lower reputation. This group includes journal aggregators.	<ol style="list-style-type: none"> <li>1. Directory of OA Journals (DOAJ)</li> <li>2. EBSCO</li> <li>3. PubMed</li> <li>4. Gale</li> <li>5. ProQuest</li> <li>6. Chemical Services (CAS)</li> <li>7. CABI</li> <li>8. Compendex, Engineering Village, Inspec</li> <li>9. ASEAN Citation Index (ACI),</li> <li>10. Any other equivalent platform</li> </ol>
<b>Low reputation</b>	These cover and become an indexing source for particular disciplines and have fairly big databases; they do not need to have instruments for citation analysis and journal ranking, and are relatively non-selective in journal indexing.	<ol style="list-style-type: none"> <li>1. Google Scholar</li> <li>2. Indonesian Publication Index (portalgaruda.org)</li> <li>3. ISJD</li> <li>4. MORAREF</li> <li>5. Mendeley</li> <li>6. CiteULike</li> <li>7. WorldCat</li> <li>8. Sherpa/Romeo</li> <li>9. Any other equivalent platform</li> </ol>

Source: Ditlitabmas in Lukman et al. (2017, p. 6)

Notes: \* Thomson Reuters/Web of Science is now owned by Clarivate - <https://clarivate.com/webofsciencegroup/solutions/web-of-science/>

The criteria used by the government to categorize indexing databases is problematic. However, some attempt appears to have been made by the government to measure reputation based on functions to enable citation analysis and indexing.

At the regional level, Indonesia has participated in ACI (ASEAN Citation Index <https://asean-cites.org/index.html>) as an active member. ACI was initiated by a Thailand indexing institution, TCI (Thai Citation Index) in 2011.

Despite the government's recommendation for journals to use OJS and encouragement for them to register in DOAJ, their insistence on the use of commercial citation databases, such as Scopus and Web of Science (WoS), as the main sources and indicators of the research metrics system (Lukman et al., 2018) calls into question their commitment to OA implementation. The use of journal impact factors from commercial databases, such as Scopus, as the main indicator in assessing research performance actually encourages them to publish their research results in journals indexed by that database. Publishing articles in reputable international journals indirectly puts down the development of less prestigious local and national journals. Researchers will not be interested in developing research that directly impacts local communities but will be more interested in following research developments in developed countries (Irawan et al., 2021). This condition will further sharpen the gap between developed and developing countries. This gap essentially goes against the basic principle of OA to democratize knowledge (Holbrook, 2019; Knöchelmann, 2021).

#### **2.2.4 Databases Related to Scholarly Communication**

Indonesian government institutions have built several databases and indexes. These institutions can be classified into ministries and non-ministry government institutions (Lembaga Pemerintah Non-Kementerian = LPNK). The ministries include, for example, *Ristekdikti* (noting that in 2020, due to a restructuring of ministries, this ministry's name changed to *Ristekbrin*) and MORA, while the non-ministry institutions include LIPI and *Perpusnas* (the National Library).

##### **2.2.4.1 *Ristekdikti* Databases/Indexes**

To support scholarly publishing, the Ministry of Research, Technology, and Higher Education has built several databases. SINTA, Science and Technology Index, was initially developed in December 2016, upgraded to SINTA 2.0 in 2018 and to SINTA 3.0 in 2022. It was aimed to be not merely a citation index but a metric to rank local journals, with six levels of scoring (S-scores) from SINTA 6 as the lowest level to

SINTA 1 as the highest rank. The ranking level was awarded after a journal was evaluated by the National Journal Accreditation scheme, which has a scoring system for the management of the journal, including content and indexing matters. In that scoring system, the government analyse eight evaluation items: “journal title, aims and scope; publisher; editorial and journal management; quality of articles; writing style; the format of PDF and e-journal; regularity; and dissemination” (Lukman et al., 2018, p. 135). SINTA also scores the research performance of researchers based on the citation count of articles they have authored. The highest score is given to articles indexed in high reputation indexes, such as Scopus and WoS. It also uses Google Scholar as a source of citation data.

The ministry has built the online database ARJUNA, National Journal Accreditation (<http://arjuna.ristekbrin.go.id/>), to facilitate the accreditation process. Since 2018, *Ristekdikti* has had a commitment to increase the quality of journals by improving the number of accredited journals. Accreditation is meant to provide quality assurance regarding journal management, including journal content. The strategy taken by the government was to accelerate the accreditation process by increasing the frequency of evaluations from twice a year to at least six times a year.

*Ristekdikti* also founded GARUDA, Portal of Indonesian Digital Reference (<http://garuda.kemdikbud.go.id>), as a scholarly publication indexing database. GARUDA has a long history of development. It was initially founded by the Directorate of Research and Community Engagement (DRCE) of *Kemdiknas* (the Ministry of National Education) in 2010 with the name RII (*Referensi Ilmiah Indonesia*) to lessen plagiarism. It then collapsed because of funding problems and was taken over by IAES (Institute of Advanced Engineering and Science, Indonesia section), a non-government organisation (NGO) that was also initially involved in the database’s development. The name of the database was then changed to IPI (Indonesian Publication Index, [id.portalgaruda.org](http://id.portalgaruda.org)) in 2015. In 2018, IPI was acquired by *Ristekdikti* and reverted to its previous name, GARUDA. When *Ristekdikti* moved into *Kemdikbud* in 2020, the website of GARUDA also moved under *Kemdikbud* (<https://kemdikbud.go.id/>).

RAMA Repository (<http://rama.kemdikbud.go.id>) is a national repository for unpublished scholarly works by higher education students, including theses and

dissertations. However, this repository does not archive documents. It only indexes and provides links to the documents in repositories registered with RAMA. Full texts can be downloaded from the source if the source provides such access. In some cases, full access requires a login. *Ristekdikti*, through a circular letter of the Directorate General of Learning and Student Affairs (DGLS) (number B/323/B.B1/SE/2019) about the scholarly publications of bachelor, master, and doctoral students, has recommended that authors not upload their work to a repository if they intend to publish this research in journals. This policy stands in opposition to the notion of repository openness.

#### **2.2.4.2 MORA Databases/Indexes**

To enhance scholarly journal publishing, the Indonesian Ministry of Religious Affairs (MORA) has launched two databases: MORAREF and MoraBASE. MORAREF (Ministry of Religious Affairs' Reference, <http://moraref.kemenag.go.id>) is an indexing database for journals published by Islamic higher education institutions (IHE). It was developed in 2015 in collaboration with the journal *Al-Jami'ah: Journal of Islamic Studies*, based at Sunan Kalijaga Islamic University. It has its own metric system, but this does not operate effectively. MoraBASE – Ministry of Religious Affairs' Bank of Articles System (<http://morabase.kemenag.go.id>) is a database for article manuscripts or drafts. Authors may upload their articles to the database. A team of reviewers will evaluate the articles and assist the authors in editing drafts. If an article is considered to be ready, it is offered to journals that may be interested in publishing it.

#### **2.2.4.3 LIPI Databases/Indexes**

LIPI, as noted earlier, is the Indonesian Institute of Sciences (<http://lipi.go.id/>). It has built several databases related to research and scholarly publishing, including a metrics database, scholarly journal archive, and data repository.

INASTI (<http://web.archive.org/web/20200430105341/http://inasti.lipi.go.id/inasti5/>) was initiated in 2015 and was originally created to be a national metrics system based on impact factor and citation analysis of local journals. The role of INASTI as a metric system has been taken over by SINTA. The data from INASTI have been

integrated into SINTA. This database has not been maintained since January 2019 and the website has been taken down since 2020.

ISJD (<http://isjd.pdii.lipi.go.id/>)<sup>3</sup> is an Indonesian scholarly journal database initially founded in 2009 (Lukman et al., 2019; Shabrina et al., 2021). ISJD database content comes from articles that publishers have to send in for each issue as part of the requirements for getting an ISSN from LIPI. In print publishing era, the data entry was laborious, since the article data were extracted manually from PDF files sent by publishers (Tambunan, 2012). The website's journal data display was of poor quality. To access the fulltext of the article, a user had to browse deeply in to the web. It might be enhanced by offering thorough details comparable to those found in DOAJ. Since April 2023, the database was not active anymore and the website is inaccessible. The last snapshot of the website can be traced in the Internet Archive as of 29 March, 2023.

In 2019, LIPI built RIN (*Repositori Ilmiah Nasional*, <http://rin.lipi.go.id/>) as a database for data sharing. It is an open database for storing raw research data, working in collaboration with Harvard Dataverse. RIN continues to collect raw data, including thesis and dissertation data.

#### **2.2.4.4 Perpustnas Databases/Indexes**

*Perpustnas (Perpustakaan Nasional)* is the National Library of Indonesia. In 2015 *Perpustnas* launched Indonesia OneSearch (<http://onesearch.id>), which was built by Ismail Fahmi. It is a portal or indexing database integrating online catalogues or bibliographic data with an index of libraries in Indonesia. It also provides links to Indonesian journal articles and repository materials.

#### **2.2.5 Non-Government OA Movement in Indonesia**

Several NGOs have initiated an OA movement. Among the initiatives of this movement are the establishment of a preprint repository, organisation of OA conferences, and the establishment of a Creative Commons chapter in Indonesia.

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<sup>3</sup> The website is inaccessible. The last snapshot recorded on March 29, 2023, which can be tracked in the Wayback Machine of the Internet Archive in the following link: <http://web.archive.org/web/20230329062153/http://isjd.pdii.lipi.go.id/>

INA-Rxiv, a preprint database powered by OSF (Open Science Foundation) was founded in 2017 by Dasapta Erwin Irawan (Shih, 2018). Unfortunately, this repository was no longer able to continue because it lacked funding to maintain the server (Smriti Mallapaty, 2020). INA-Rxiv was then acquired by Scientific Data and Documentation Centre (PDDI-LIPI), and it was launched as RINArxiv (<https://rinarxiv.lipi.go.id/lipi>). A pre-release announcement of its launch was made on the Declaration of Indonesian Open Science Awakening Day, 20 May 2020 (Irawan, 2020).

In 2015, the student guild (BEM) of *Universitas Negeri Jakarta* (Jakarta State University) held an OpenCon (Setiawati, 2016). The OpenCon is a global conference supported by SPARC (the Scholarly Publishing and Academic Resources Coalition) to promote the OA movement, including open data and open learning. OpenCon conferences were subsequently held annually by Open Access Indonesia (OAI, <https://openaccessid.weebly.com/>), an NGO founded to influence policymakers, managers, researchers, public, academics, and students to implement OA policy on research and to continue the OA movement in Indonesia.

In addition, and as noted above, Creative Commons—a non-profit institution that handles copyright licensing of OA works—opened its official Indonesian chapter, Creative Commons Indonesia (CCID, <https://creativecommons.or.id>), in 2018. This organisation has actively promoted the use of Creative Commons to Indonesian students and researchers. Unfortunately, it seems that the website has not been updated since January 2019 (<https://creativecommons.or.id/berita/>, accessed on February 17, 2021).

The description above shows how the government is trying to develop scholarly communication in Indonesia. This effort is demonstrated by the issuing of regulations that spur scholarly publication, including the development of supporting infrastructure. However, it appears that there are several indexing databases created by several institutions with roughly the same content.

This chapter has described the development of the OA movement in global context and an overview of scholarly communication activities in Indonesia, both in government and in the scholarly community. To explore the effectiveness, the

challenges and impact of legislating in the scholarly communication space, a qualitative content analysis on documents of related regulations between 2009 to 2020 and a series of interview with policymakers has been done (the findings are presented in Chapter 6). Two online surveys on the awareness and attitude of researchers and journal editors (the findings are in Chapter 5), and a longitudinal study that analysed OA journal metadata in 2017 and 2019 have been conducted to see the impact of the government policy and regulations on scholarly communication in Indonesia, particularly on OA journal publishing (the results are presented in Chapter 6). The following chapter will provide reviews of literature related to the research objectives.



## **Chapter 3 Literature Review**

The focus of this research is to find out to what extent do the current supporting conditions for OA journal publishing in Indonesia encourage scholarly communication (SC) development in the future. Therefore, this chapter looks over literature related to the research objectives: researchers and editors' awareness and perceptions of OA; policy and regulations, in particular their effectiveness, challenges and impact related to OA. Prior to that discussion is a review of theories of OA, in particular the economic theory of knowledge as a public good. This theory is commonly used by OA advocates as a justification to diminish any access barriers to knowledge. Theories about the functions of scholarly communication are addressed in the initial part of this review. The scholarly communication functions as the conceptual framework for the findings' analysis of this research.

The implementation and regulatory challenges related to OA including the perceptions and claims of governments and policymakers on the impact of OA will be discussed. Sectoral ego (also known as the silo effect) in Indonesia, which is commonly accused as one of the main predicaments in Indonesian governance will be reviewed. Then, the implementation of OA journal publishing in developing countries will be discussed. The chapter, then, will end with specific Indonesian literatures on OA.

### **3.1 Theories of OA and Scholarly Communication Functions**

This section discusses the theories of OA and scholarly communication and how they are related. The discussion shows how OA facilitates scholarly communication in extending the exposure of knowledge and research results and brings the exchange of ideas into more collaborative and immediate interactions. The closing part of this section addresses how the theories form the framework for this research.

#### **3.1.1 Is Knowledge a Public Good**

This subsection discusses scholars' views on considering knowledge as a commodity. The background justification for the overall concept of OA commonly used by OA proponents is that knowledge is a public good (Suber, 2012). The

opening paragraph of the BOAI Declaration begins with: “[A]n old tradition and a new technology have converged to make possible an unprecedented public good.”

The next sentences define the key terms *old tradition* and *new technology*:

[T]he old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. (Budapest Open Access Initiative, 2002)

The first sentence of the paragraph is an expression of gratitude for the intersection of the scholarly journal publishing tradition with no cost and the Internet that enables the production of “an unprecedented public good.” The passage goes further describing what this “public good” is:

The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds. (Budapest Open Access Initiative, 2002, para. 1)

The reason that “the peer-reviewed journal literature” can be described as a public good relates to “the willingness of scientists and scholars” to share their research “without payment.” It is also associated with the assumption that most research is funded by the public or taxpayers (Fésüs, 2018) and involves low or no costs. However, the declaration also admits that journal publishing requires expenditure, as it states, “While the peer-reviewed journal literature should be accessible online without cost to readers, it is not costless to produce” (Budapest Open Access Initiative, 2002, para. 4).

Considering the use of the term *public good* in the BOAI Declaration leads to a discussion of economic theories on the types of good. Paul Samuelson (1954, p. 387; 1955, p. 350) differentiates goods into two types: private consumption goods (a private good) and collective consumption goods (a public good) based on the possibility of excluding people from accessing goods. If it is possible to exclude people from using a good, then it is considered a private good; otherwise, it is a public good. Samuelson classifies goods into private and public goods, where the management of the former is handled by the market, while the latter is controlled by

the state or government (Anomaly, 2015; Helfrich, 2012). This fits well with the practice of OA journal publishing in developing countries, where the management of such publishing, especially the publishing costs, is subsidised by the government (Kurambayev & Freedman, 2020).

Later, Buchanan (1965) demonstrated that there are goods that cannot be considered as either pure public goods or pure private goods. He identified one type of good – “club goods” – where the consumption of the good by an individual will not affect others’ consumption but may exclude people who are not a member of the club. However, the consumption of club goods depends on their maximum capacity, referred to as their “congestion limit”. In contrast to Buchanan’s position, Elinor Ostrom (2010) found that some goods may be limited in consumption, but it is impossible to exclude people from accessing them. She thus proposed a fourth type of good – common-pool resources (CPR), or known simply as common goods – where consumption is managed and regulated to avoid the free rider problems identified by Hardin, who had previously popularised notion of “the tragedy of the common” that may occur with public goods (Hardin, 1968, p. 1243). In summary, Ostrom expanded the classification of goods into four types based on the level of their “subtractability of use” and “difficulty of excluding potential beneficiaries” (Ostrom, 2010, pp. 644-645). The former term refers to the extent to which the consumption of an individual may affect the consumption limit of others, an idea also referred to as rival/non-rival goods, while the latter refers to the possibility of excluding people from consumption, also known as excludable/non-excludable goods.

Considering whether knowledge is a public good or not is challenging. In economic theory, if the existence of a good can be recognised with the physical senses, it is considered tangible; otherwise, it is called an intangible good. Knowledge can be tangible and intangible at the same time. Knowledge in its intangible form might be free, but when it is distributed in a textual form, whether printed or digital, it becomes tangible and has production costs (Machlup, 1980). Knowledge is acquired through a learning process, and this process incurs cost (time, energy, and labour cost). Overall, the classification of goods by neoclassical economists into four types,

as described previously, creates confusion, especially when trying to apply it in real life (Helfrich, 2012).

Rick Anderson (2004) argues that knowledge in the form of ideas is a public good, but once it becomes distributed information, it is not a public good because it has costs. Suber (2009) asserts that knowledge as a text in printed form can be private because it incurs cost, but when it is in digital form, where no or much less cost is incurred, it is a public good. In contrast, Kent Anderson, a former publisher at the journal *Science* who Eisen (2014) calls an “anti-#openaccess campaigner”, refutes the idea that digital distribution costs are low or close to zero. He reasons that

[d]istribution has become a major expense for consumers ... spending on Internet access alone is now double what people were paying for information in 1999. And this doesn't even include things like cell phone bills, text messaging charges, or the price of devices.

(Anderson, 2010a, para. 8; 2010b)

A similar view is expressed by Poynder (2020), who argues that the claim of some OA advocates that the notion of information distributed online being cheap or cost-free has been the main weakness of the OA movement since its beginning.

From the perspective of research consumers, open access knowledge is a public good, but developing an open access environment is not just about reading. As Berger argues that “Open access, at its origin, was conceptualized with the reader (access) in mind (Joseph, 2019), and not the author (knowledge creator) — and therein lies the essential and continuing dilemma” (2021: p. 388). For research to be read, it must be published first, and it has to be published openly to be read widely. So, open access, especially as a public good, is not just about being able to read for free. It's also about being able to publish in venues where anyone can see it without having to pay (Jester, 2021). It is clear that in scholarly communication ecosystem, doing research, disseminating, and preserving research incur cost and labour. The question then who would be responsible for the management and production cost. Several authors come with various ideas.

While it is generally believed that public goods should be provided and supported by the government (Samuelson, 1955), some scholars believe that knowledge is a club

good and, therefore, should be maintained and supported by the relevant club. The idea of considering knowledge as a public good has been challenged by a number of scholars such as Neylon (2015), who argues for knowledge as a club good rather than a public good. A number of other authors support this club approach to knowledge (Hartley et al., 2019; Potts et al., 2017), recommending that journal publishing be based on “the joint production and consumption of scholarly output among a scholarly community” (Hartley et al., 2019, p. 29). Thus, access to scholarly outputs would be limited only to scholars with the same interests.

An interesting idea was put forward by Eve (2015), who proposed co-operating with Gold OA without implementing author-side payments for the publishing process and introduced the Open Library of Humanities (OLH) initiative. The libraries participating in this co-operative agree to support OA by providing a publishing platform for academic journals in humanities, the Open Library of Humanities (Eve et al., 2020). However, cooperating will only work in an academic environment where publishing is seen as a means of interaction with other scholars. In communities where publishing is encouraged merely to boost authors’ prestige and career trajectories, and as a means of achieving tenure and promotion—captured in the popular phrase “publish or perish”—this will not work. In this kind of scholarly community, people may not really care whether their research will have an impact or be of good quality as long as it meets the requirements of the journals and passes the reviewing process (Kurambayev & Freedman, 2020). In several Indonesian cases, for example, some authors have even published in journals outside their field. Apparently, they do not care as long as they are successful in getting a Scopus ID, as this is one of the requirements for gaining promotion. In Indonesia, some scholarly authors have also gamed the citation system to boost their impact score (Rochmyaningsih, 2015; Zein, 2018).

For some Global South countries that are members of AmeliCA (an open knowledge initiative in Latin America and the Global South), “scientific knowledge generated by public funds is a common good” (Becerril-García, 2019, p. 4). For AmeliCA, access to scholarly outputs must be protected to avoid commercialisation. This is in contrast with the Plan S approach, which is based on the BOAI Declaration and is underpinned by a belief that knowledge is a public good and therefore must be free to

access with no restrictions on reuse (Becerril-García, 2019). With regard to reuse restrictions with a Creative Commons licence, Plan S recommends CC BY while Amelica prefers CC BY NC SA (Becerril-García & Aguado López, 2019).

### **3.1.2 Knowledge as a Common Good**

This subsection explores the concept of knowledge as a common good in scholarly communication and supports for its management as a knowledge commons. It highlights the application of Ostrom's principles for managing CPR in OA publishing and emphasizes the importance of stakeholder participation.

Several authors argue that knowledge in scholarly communication ecosystem, as a public-like good, should be best managed as a commons and propose the notion of knowledge commons (Neylon et al., 2019). This means that knowledge should be best categorized as a common-pool resource (CPR), a good classification initiated by Ostrom (Ostrom, 2010). According to Morrison (2019), the only barriers to using an open access resource are the readers' own resources (computer, internet, reading skills, etc.). In spite of this, funding is necessary for the production and maintenance of open access works (hardware, software, internet connectivity, editors). Ostrom's guidelines for the design of CPR (Ostrom, 2015) are most likely to bear fruit in this context, namely the infrastructure required to construct and maintain open access works. Morrison (2019) has identified various OA infrastructures that could potentially be managed as CPR. These include OA journals that are produced by independent scholars or groups of scholars, such as those affiliated with societies or universities. Additionally, open source journal publishing platforms, such as Open Journal Systems, and university consortia that share infrastructure and/or provide support for open access, such as Scielo, Ontario's Scholar's Portal, and the Open Library of the Humanities, are also examples of such infrastructures.

Building a knowledge commons requires participation of all stakeholders and members of a community. Ostrom's work on CPR management provides valuable insights into how common resources, such as scholarly knowledge, can be managed in a sustainable and equitable manner. Her eight principles for CPR management include: clearly defined boundaries, congruent rules and procedures, collective-choice arrangements, monitoring, graduated sanctions, conflict-resolution mechanisms, minimal recognition of rights to organize, and nested enterprises

(Ostrom, 2015). De Rosnay (2021), who conducted recent research on knowledge commons for OA publishing is highly supportive of Ostrom’s principles and strongly recommends them as an analytical framework.

As such, these principles are useful contributors to the effective management of a knowledge commons for open access scholarly publishing. By considering these principles, publishers, academics, and other stakeholders can work together to ensure that academic knowledge is produced, disseminated, and preserved in a way that benefits society as a whole.

This thesis will explore the use of commons theory, specifically within the domain of knowledge commons, as a lens through which to analyse open access scholarly journal publishing in Indonesia and its potential implications for the future of scholarly communication. In order to make the knowledge commons sustainable, two crucial elements must be available: governance and collaboration. The governance should come from those who can handle control and set boundaries for the commons, while commoners (such as university publishers and editors groups) could contribute and recommend ways to manage the commons in accordance with Ostrom's principles.

### 3.1.3 The Scholarly Communication Functions

The role of journal publishing in supporting scholarly communication can be viewed in terms of scholarly communication functions, and every scholarly publishing effort should fulfil these functions in some way or other (Hagenhoff et al., 2009, p. 217). Several authors have defined the functions using various types of terminology. This section explains the functions and compares various authors’ definitions.

Scholarly communication functions are mentioned in several papers and books. Table 2 provides a summary of the relevant literature.

*Table 2 Functions of scholarly communication/scholarly publishing: Author definitions*

Authors and Year	Functions of Scholarly Communication/Scholarly Publishing
<b>Roosendaal and Geurts (1997)</b>	<ol style="list-style-type: none"> <li>1. Registration</li> <li>2. Awareness</li> <li>3. Certification</li> <li>4. Archiving</li> </ol>

<b>Rowland (2002)</b>	<ol style="list-style-type: none"> <li>1. Dissemination</li> <li>2. Archiving</li> <li>3. Quality control</li> <li>4. Assignment of priority and credit</li> </ol>
<b>Van de Sompel et al. (2004)</b>	<ol style="list-style-type: none"> <li>1. Registration</li> <li>2. Certification</li> <li>3. Awareness</li> <li>4. Archiving</li> <li>5. Rewarding</li> </ol>
<b>Borgman (2007)</b>	<ol style="list-style-type: none"> <li>1. Legitimization</li> <li>2. Dissemination</li> <li>3. Access, preservation, and curation</li> </ol>
<b>Priem and Hemminger (2012)</b>	<ol style="list-style-type: none"> <li>1. Archiving</li> <li>2. Registration</li> <li>3. Dissemination</li> <li>4. Certification</li> </ol>
<b>Suber (2012)</b>	<ol style="list-style-type: none"> <li>1. Registration (timestamp)</li> <li>2. Certification (peer review)</li> <li>3. Awareness (distribution)</li> <li>4. Archiving (preservation)</li> </ol>
<b>Ware and Mabe (2015)</b>	<ol style="list-style-type: none"> <li>1. Registration</li> <li>2. Dissemination</li> <li>3. Certification</li> <li>4. Archival record</li> </ol>
<b>Ware (2015)</b>	<ol style="list-style-type: none"> <li>1. Registration</li> <li>2. Dissemination or awareness</li> <li>3. Certification</li> <li>4. Archiving</li> <li>5. Rewarding</li> </ol>
<b>Guédon et al. (2019)</b>	<ol style="list-style-type: none"> <li>1. Registration (attribution)</li> <li>2. Certification (peer review)</li> <li>3. Dissemination (distribution, access)</li> <li>4. Preservation (scholarly memory and permanent archiving)</li> <li>5. Evaluation (journal impact factor)</li> </ol>

Four terms are commonly mentioned by several authors as the functions of scientific or scholarly communication: registration, awareness, certification, and archiving (Roosendaal & Geurts, 1997; Rowland, 2002; Van de Sompel et al., 2004). In some pieces of literature, these scholarly communication functions are presented as identical to the functions of scholarly publishing (Priem & Hemminger, 2012; Suber, 2012; Ware & Mabe, 2015). One of the earliest examples of scholarly publishing, *Philosophical Transactions*, has been identified by Mabe as having four functions: “registration, dissemination, peer review, and archival record” (Mabe, 2010, p. 139). Suber asserts that library community conventionally differentiates four functions of scholarly journals: “registration (timestamp), certification (peer review), awareness



(distribution), and archiving (preservation)” (Suber, 2012, p. 62). This identification of the functions of scholarly communication and the functions of scholarly publishing as identical is understandable because a scholarly journal is the principal means of scholarly communication. In this context, the scholarly journal should fulfil the functions of scholarly communication.

The most commonly cited paper about scholarly communication functions is the one written by written by Roosendaal and Geurts (1997). Longer explanations about the functions can be found in other Roosendaal articles (Roosendaal, 1995; Roosendaal & Geurts, 1999). In his article “Roles of Bibliometrics in Scientific Communication,” Roosendaal (1995) explains the scholarly communication functions as follows:

- The certification function concerns the validation of research quality and has to do with scientific standards within a research programme.
- The registration function relates particular research to an individual scientist, who then claims priority for the research. This function is closely connected to ownership protection and *the reward system* [emphasis added], and influences to a large extent the social dynamics within the system.
- The awareness function leads to disclosure and relates to the search needs, such as browsing, of the researcher.
- Finally the archival function relates to storage and accessibility of information. (Roosendaal, 1995, p. 238)

In this article Roosendaal mentions the reward system along with ownership protection as closely connected to the registration function.

In other articles, a fifth function is added: reward or rewarding, which is interpreted as the process of gratifying authors through metrics (Lagoze et al., 2015; Van de Sompel et al., 2004; Ware, 2015). The authors identifying a fifth function inaccurately refer to its source as a Roosendaal and Geurts article published in 1997. However, the latter authors did not mention this fifth function in their article, proposing only four functions (Roosendaal & Geurts, 1997, p. 14). Instead, it appears

that the rewarding function was introduced by van de Sompel et al. in their 2004 article as the fifth function of scholarly communication. Although they claimed to have taken it from Roosendaal and Geurts (1997), the reward system was clearly an idea influenced by Roosendaal (1995). “Rewarding,” in the van de Sompel et al. definition, is the function that “rewards actors for their performance in the communication system based on the metrics derived from that system” (Van de Sompel et al., 2004, para. 10).

Guédon et al. (2019) use a different term, *evaluation*, as an alternative term to rewarding, with the same meaning. Evaluation is associated with the use of a journal impact factor (JIF) to measure the quality of a journal. However, the use of this impact factor to measure research output quality is debated among scholars because many consider it an inaccurate representation of the quality of research outputs (Ezema, 2010; Ha et al., 2006; Larivière & Sugimoto, 2019; National Health and Medical Research Council, 2010; Seglen, 1997). Guédon et al. argue that separating evaluation from communication-related functions may open up a possibility for solving this problem. They further state that “from all that precedes, it becomes obvious that the kind of open access really needed should dissociate communication from evaluation” (Guédon et al., 2019, p. 36)

Rowland’s (2002) article is about the peer review process. Although he mentions the functions, he does not elaborate on them. Rowland cites three sources (Ziman, 1968; Ravetz, 1973; Meadows, 1974) and claims that all three agree that “the four main functions of the scholarly literature are dissemination of current knowledge, archiving of the canonical knowledge base, quality control of published information, and assignment of priority and credit for their work to authors” (Rowland, 2002, p. 247). The last function that he mentions here has an identical meaning to the rewarding function.

Borgman (2007) categorises scholarly communication functions differently but the function definitions she proposes, while using different terms, have similar meanings to those provided by other authors. She categorises the functions into three groups: legitimisation; dissemination; and a third that includes access, preservation, and curation (Borgman, 2007, p. 66). Legitimisation, in Borgman’s definition, is an expectation for quality control, which has the same meaning as Roosendaal’s

certification function. In defining the dissemination function, Borgman also interprets this similarly to other authors. Borgman's third communication function consists of three integrated concepts: access, preservation, and curation. In her view, access may include permission, physical connections, and the necessary skills to reuse the material. Roosendaal and other authors separate access and preservation as different functions.

Priem and Hemminger (2012) mention four functions of scholarly communication: registration, certification, dissemination, and archiving, in their article. They also highlight additional or alternate functions suggested by other authors, such as, rewarding, marketing, cataloguing, copyediting, and retrieval. Then, they incorporate some of these alternate functions into the four traditional functions, but as sub-functions. As a result, registration has two sub-functions, stamping and feedback; dissemination has four sub-functions, marketing, search, publication, and preparation; archiving has two sub-functions, identification and storage; and the registration function is considered as a by-product of archiving.

Priem and Hemminger's article is interesting because they propose an alternative model of journal publishing system, which they called "decoupled journal (DcJ)" (p. 1). They argue that the coupling of the functions of scholarly communication in journal publications has limited the innovation of the journal publishing system. The coupling of the functions in one publishing system also allows publishers to control the scholarly communication ecosystem. These functions, according to them, should be separated from each other and implemented as services. By this way, the function of scholarly communication will no longer be taken over by one party but by different actors in the form of services: the archiving service, for example, is handled by institutional repositories, copyediting and typeset by publishers, indexing and tracing by database indexing service providers, while peer reviewing can be carried out by agencies connecting authors with reviewers (Priem & Hemminger, 2012). This proposed model could potentially change the future of scholarly communication and OA.

While this discussion has demonstrated that there are various concepts related to scholarly communication functions, this research project will use Guédon et al.'s

functions. Therefore, the scholarly functions used as the conceptual framework in this research are:

1. Registration: date stamping a work and claiming ownership of a discovery.
2. Certification: ensuring quality control and approval for the work through the peer-reviewing process.
3. Dissemination: the distribution of research outputs to encourage scholars or promote public awareness of new discoveries.
4. Preservation: long-term maintenance of knowledge.
5. Evaluation: the rewarding system, implemented by measuring quality, impact, or research performance.

In the Ministry of Research regulation, Permenristekdikti No.9 Tahun 2018, on National Journal Accreditation, the scholarly journal functions are defined in Chapter 1 Section 3 of the regulation, as follows:

1. Registering scholarly activities
2. Archiving the outputs of scholarly activities
3. Recognising the outputs that meet scholarly qualifications
4. Disseminating the outputs of the scholarly activities
5. Disseminating the outputs of community engagement services
6. Protecting the scholarly outputs

These journal functions defined in the regulation closely line up with the scholarly communication functions defined in this research. Function number 3 in the regulation has the same context as the certification function. Meanwhile, the last function in the list above is associated with copyright protection, and is assumed to be related to copyright transfer agreement (CTA), which requires authors to transfer their copyright to the journal publishers (Dirjen Risbang, 2018, p. 9). The occurrence of these functions in the ministry regulation means that the government aware on how should scholarly journals function in scholarly communication environment in Indonesia.

### 3.2 The OA Related Policy and Regulations

This section discusses the effectiveness, challenges, and impact of legislation in scholarly communication areas particularly related to OA. It includes discussion of research findings on policymakers' statements and perceptions on the benefits of OA.

A study related to government policies on OA was reported by Elsabry (2017). His research was on the claims of people or parties outside the academic environment regarding the benefits of OA by analyzing relevant documents related to OA. The analysed documents were divided into three groups: first, a document containing statements of OA figures or declarations that are deemed to represent the views of OA advocates; second, a document containing government policies to understand the views of policymakers regarding the potential benefits of OA; and third, journal editorial writing as a representative of the editor's opinion regarding the benefits of OA.

To find out the claims of policymakers regarding OA, Elsabry (2017) analysed the policy statements of organizations providing public research funds listed on ROARMAP as of December 24, 2016. The results of the analysis show that the majority of government policies (61% of  $N = 72$ ) consider that OA has a positive impact on the research community. He reports further that the interesting thing about the government policies related to OA is their emphasis on the economic benefits of OA. The economic benefits referred to here are not related to cost savings due to the implementation of OA. Instead, the benefits of OA that are emphasized here are the opening of access to research results that can be used by companies in encouraging production and innovating products and services that will ultimately enhance the economy.

The economic imperatives of the government are made clear in the previous discussion. Naturally, the government is interested in demonstrating to the public the positive effects that public taxation has on the expansion of the economy. In this context, the desire of the government might be seen in terms of the concept of knowledge as a public good that it is the responsibility of the government to provide. The provision of access to information is comparable to the supply of public amenities, like roads and clean water, as examples of public goods that the

government is obligated to provide for its citizens. In the prior section of this chapter, it has been discussed how knowledge is an essential component of the public good.

Regarding discussions about who should fund the OA publishing, Fuchs and Sandoval (2013, p. 440) recommend, “all research councils in the world should introduce mandatory policies that regulate that scholars who receive funding are obliged to publish in Diamond Open Access (DOA)”. They also endorse the importance of public funding to support DOA publishing.

### **3.2.1 Sectoral Ego**

The concept of sectoral ego, also referred to as silo effect or mentality, is frequently identified as a major impediment to the effective implementation of government regulations and policies in Indonesia. Numerous articles on Indonesian bureaucracy across different sectors, such as government, conservation and the environment, tourism, and mining, have highlighted sectoral ego as a hindrance to collaboration. Despite its common usage, a clear and concise definition of this term is not readily available. An article written by Nofyanza et al. (2020) briefly explains what sectoral ego is:

Sectoral ego, or *ego sektoral* in Indonesian, refers to a feeling of pride in one's own institution. This has often led institution staff to prioritize their organizational interests and to reject collaboration if it was perceived to jeopardize the institution's priorities. (p. 7)

Other articles mention sectoral ego but do not provide a clear definition. However, contextually from the explanation presented by Mukhlis (2019), it can be concluded that sectoral ego is the reluctance of an institution to cooperate with other institutions in implementing a policy or program with the same goal, especially for cross-sectoral affairs (Mukhlis, 2019). Some Indonesian writers tend to interpret sectoral ego with silo thinking or silo mentality (Purwaningrum, 2016; Ramadani, 2022). Silo thinking is a reluctance to share and cooperate between workers and between institutions within an organization or government. Based on the findings, Purwaningrum (2016: p. 70), who examined policies in the research development sector, concluded that “a silo mentality that impedes coordination between ministries ... constitute[s] the structural predicaments of academia in the Indonesian science system.”

The phenomenon of sectoral ego has posed a significant challenge to policy and regulatory efforts in Indonesia. According to (Wijaya, 2020), the challenges confronting the reform of the Indonesian public sector, and reveals that the large size and structure of the sector provides an environment in which significant overlap between institutions is possible, leading to ineffective and inefficient governance. Wijaya argues that sectoral ego, driven by a desire for recognition, plays a significant role in this process. The existence of sectoral ego among various institutions results in the duplication and overlap of legislation, further exacerbating governance inefficiencies.

### **3.2.2 A Brief Overview of DOAJ**

This sub-section provides an overview of the Directory of Open Access Journals (DOAJ), its commitment to quality content, challenges faced, and efforts to improve. It also highlights concerns regarding metadata limitations and the preservation initiative, Project JASPER.

The DOAJ is an indexing database for OA journals from all around the world. It was first established in 2003 by Lars Bjørnshauge, the Director of Libraries at Lund University in Copenhagen. As of November 15, 2022, it has indexed 18,495 journals with 12,755 of them without APCs (also known as diamond OA journals). On its homepage the DOAJ asserts that it is “a unique and extensive index of diverse open access journals from around the world, driven by a growing community, committed to ensuring quality content is freely available online for everyone” (DOAJ, n.d.).

The DOAJ’s commitment to ensure quality content has been challenged. In 2013, an article in *Science*, “Who’s afraid of peer review,” written by a science journalist John Bohannon (2013), questioned the peer review process in journal publishing. His investigation involved sending fake articles with intentional scientific flaws to 304 journals listed by Beall’s as predatory journals and to those listed in the DOAJ; 60% of the journals accepted them. Several authors critiqued Bohannon's study and questioned his technique. He was accused of purposely targeting the OA journal since he excluded subscription papers from his investigation (Eve, 2013; Haider & Åström, 2017; Taylor et al., 2013). Despite the criticism, Bohannon's sting led the associated publishers and the DOAJ to adopt corrective and preventative measures.

Since the article was released, the DOAJ has cleaned up its lists, and it constantly re-evaluates its members and journals. Marchitelli et al.'s (2017) study reports that the journals listed in the DOAJ have improved in terms of quality as a result of the revised acceptance criteria and the enhanced screening procedure carried out by national groups under the guidance of the new management. The analysis demonstrates that the reapplication project and the consequent removal of journals that did not reapply, combined with the work performed by the national groups and the new management, has had a positive, invaluable influence on the improvement of editorial and publishing standards of many OA journals (Marchitelli et al., 2017). In contrast, Teixeira da Silva et al. (2018) argue that although the DOAJ has improved its list, it still has issues and limitations, including a loss of trust that must be recovered. The academic community has voiced concern that the DOAJ's listings are unreliable since they are in a constant state of change, indicating that the selection criteria or quality-related indicators are of poor quality. In addition, the inclusion of corporate interests through financial sponsorship increases the likelihood of financial and/or academic bias.

In 2021, Zhao et al. (2021) presented a selection of the DOAJ's metadata limitations. Identified weaknesses included inconsistent data and those placed in the incorrect column. The "Alternative title" data field comprises a series of numbers or special characters; keywords are written in different ways, for example, some utilise bullets; and URLs are written incorrectly, for instance, "https" without the letter "h." The authors also discovered that a significant amount of metadata was not updated, hence it is highly probable that the metadata does not match the website's content.

In 2020, the DOAJ introduced Project JASPER (JournAIs are Preserved forevER) (DOAJ, 2022a) as an initiative to preserve OA journals indexed in their database. The preservation initiative is a collaborative project between DOAJ, CLOCKSS (<https://clockss.org/>), Internet Archive (<https://archive.org/>), Keepers Registry (<https://keepers.issn.org/>) and PKP (<https://pkp.sfu.ca/>). The initiative to provide a free long-term preservation became the DOAJ's concern after a study reported by Laakso et al. (2021) that many articles disseminated in OA journals listed in the DOAJ had disappeared. The DOAJ realized that some of the editors and publishers of journals may not know why archiving is important or how they are different from



backup and storage. Some journals may also not be able to use preservation services because they cannot afford to or cannot understand how. For Phase One of the project, preservation was only provided for a journal indexed in the DOAJ that “does not charge any fees of any kind” and that was “not archived in a preservation service” (DOAJ, 2021, para. 6).

### **3.3 Researchers’ Awareness and Perceptions of Open Access**

A survey was conducted by Richardson et al. (2019) involving 180 lecturers in the field of educational leadership at the University Council for Educational Administration (UCEA) about their perceptions of OA publishing. The survey results show some interesting facts. Most respondents mentioned that OAJ has a wider circulation range and faster publishing lead times than subscription journals. However, more than half think that traditional journals are more cited than OAJ. Some of them thought that OA publications had lower quality and production standards (43.1% and 40.3%, respectively). However, the majority of them admitted that OA publishing has the potential to be of high quality and as stringent as traditional publishing. Regarding APC, less than 10% of respondents admitted that they had paid publishing fees, and only 15 respondents (11.6%) stated that they were willing to pay. Most of them were only willing to pay less than USD 100. OA journals that charge a publishing fee (APC) are considered negatively and appear to have low standards, dubious peer review processes, and inappropriate publishing ethics. In contrast, publishing in OA journals that charge no fees from the authors were perceived positively.

An extensive global survey was conducted in the first decade of the emergence of OA by Rowlands and Nicholas (2006), with a total of 5,513 senior authors of journal articles indexed at the Institute for Scientific Information (ISI). The survey results show that the majority of respondents thought that the high price of journals created barriers access to information. Surprisingly, only a small percentage of them admitted that the choice of the journal in which they published their articles was determined by the affordability of the publication fees demanded by the publisher. This shows that although they admitted that access to articles in paid journals is expensive, they are still reluctant to publish their writings in OA journals. Among the

main criteria they consider when choosing a journal to publish an article is the reputation of the journal that ranks at the top, followed by the level of readability, then the impact factor and speed of publication.

A survey conducted by Yang and Li (2015) reports that although the respondents are "willing to publish in OA publications, their attitudes towards OA mandates are not very positive" (p.13). The OA mandate requires them to upload their research outputs in the institutional repository. Yang and Li state that "not knowing the deposit process stood out as the number one barrier, followed by copyright concerns, as well as the perception of IR contents as lower quality as the second significant barrier" (2015, p.14). This attitude shows that they do not understand the urgency of uploading scholarly papers in the repository, and they do not want to be bothered unless it is related to promotions and incentives.

Nobes (2019) has carried out a study on the attitudes and preparedness of researchers towards OA in developing countries. He involved 507 researchers in his survey. The results showed that the respondents' attitudes towards OA were very positive, but when asked about their choice criteria in choosing a journal to publish their articles, they tended to choose a reputable international journal. The majority of respondents had published articles on OA but only about 20% had their work stored in institutional repositories. In terms of copyright, they were quite familiar with Creative Commons licenses and had a positive attitude to share research results and research data.

### **3.4 Editors' Awareness and Perceptions of Open Access**

Only a limited number of studies have examined editor's attitudes towards OA. A survey in 2009 in the USA aimed to determine the awareness and attitude of editors of journals in the field of criminology and criminal justice towards OA, author rights, and matters related to justice issues. A survey involving 29 journal editors showed that editors were aware of the importance of OA and appreciated the principles underlying the OA movement. They agreed that authors have the right to archive their articles in public repositories or private websites, as well as supporting archives of older articles being opened online. What is interesting is that when they were asked whether they would switch their journals to the OA model, only a third of the respondents clearly agreed. Another third said they would refuse. Why is that? The

author suspects that most respondents do not know much about OA, especially about the quality of OA journals or because of the bias caused by the influence of their habits of working in non-OA traditional journals. Therefore, the authors recommended that efforts to make them more aware of OA journals need to be improved (Robinson & Scherlen, 2009).

Alzahrani (2010) wrote a doctoral thesis on the attitude of the editorial board's role towards Green and Gold OA in 2010. The findings of the study show that the editors generally had a positive attitude toward OA and demonstrated some awareness about journal access policies. However, they were satisfied with subscription-based journals and were not willing to make any efforts to change the journal access policies.

Furthermore, a study was conducted involving 49 journal editors in the field of library and information science (Castellà et al., 2016). The main purpose of this research was to find out the opinion of the editors regarding the latest condition and future trends of scientific journals in the LIS field in WoS and Scopus. There were four main points of concern, namely, the business model, peer review procedures, the role of the editor, and subject specialization. This study, among others, reports that the majority of survey respondents predicted that OA publishings will become dominant in the near future and most of them will be financed by institutions. They also predicted that in the future there will be changes related to metrics and data management.

Regarding incentives for editors, Teixeira da Silva and Katavić (2016, p. 203) interestingly stated that “most publishers, academic or not, still rely hugely on the overall goodwill of the academic community, i.e., editors and peer reviewers who still traditionally believe in the honour of serving a journal or a publisher, all in the name of academic endeavour and greater (scientific) good.” This implicitly indicates that some editors think of their editorial work as part of their academic duties that they should carry out without having to be financially incentivized.

Although OA has many benefits for readers, publishers and editors have concerns. The implementation of OA will obviously cut the revenue that has been obtained by journal publishers through subscription. Among the things that the editors and

publishers pay attention to is the cost of publishing, which includes the editing, formatting, reviewing, and copyediting processes (Orton, 2009, p. 6).

### **3.5 OA Journal Publishing in Developing Countries**

Some studies have reported on the development of OA journal publishing in developing countries. However, little is known about the role of journals and initiatives from low- and middle-income countries in Asia regarding OA and publication standards in these countries. However, an article written by Memon (2019) described the development of OA journal publishing in some countries in South Asia: Pakistan, India, Nepal, Bangladesh, and Sri Lanka. OA journal publishing in these countries, except Pakistan, is managed by the International Network for the Availability of Scientific Publications (INASP) under its Journals Online (JOL) project. INASP is a non-profit NGO based in Oxford, UK that assists developing countries in Africa, Latin America, and Asia. Another study focusing on the South Asia region has shown that although India has few OA journals in DOAJ (284 as of January 2020), it has been reported as having many predatory journals (Nazim & Ahmadi, 2018).

Some authors have described the conditions of OA publishing in Central Asia. An article written by Nazarovets et al. (2019) discussed journal publishing in Ukraine. In Ukraine, individuals who apply for the academic positions of professor or associate professor are expected to have published works that are indexed in either Scopus or Web of Science (WoS) databases. Likewise, those seeking to obtain a PhD degree are required to have published research in international journals. The government encourages publishing activities to boost Ukraine's position in international university ranking databases, such as the Times Higher Education World University Rankings. A higher ranking position would be expected to attract entrants to universities, as such a ranking would help show that Ukraine's institutions are integrated into international science and academia circles (Nazarovets et al., 2019). Ukraine has slightly more OA journals than India in DOAJ, with 296 journals as of February 2020.

Shen (2017) reported that in China in 2016, based on the COAJ indexing database (which lists China's OA Journals), 654 OA journals were recorded, with 595 of these providing access to full texts articles. She explained that the motivation for publishing in OA mode is to get a wider readership, quicker dissemination, and additional citation advantages. Her study found that the major barrier to OA journal publishing was the lack of a sufficient number of high-quality submissions. One of the reasons suggested by a participant was that authors preferred to submit to high-reputation journals indexed by Journal Citation Reports (JCR). Language was not seen as a barrier, but the cost of transferring the article into English was an issue. The financial instability of journals was identified as the main obstacle hindering internationalisation. However, China's OA policy could be seen as unconvincing since the government has been reported to have applied censorship to scholarly content, including articles published in foreign journals (Poynder, 2019, p. 64).

In Korea and India, as well as Egypt and other parts of Africa, the governments are the main research funder, but OA frameworks are lacking. A regional survey conducted in early 2017 by Shearer et al. (2017) on behalf of Asia OA reported the state of OA in 16 Asian countries: Bangladesh, China, Hong Kong, India, Indonesia, Japan, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, South Korea, Taiwan, and Thailand. The survey found that all regions were active in practising OA, but many did not have a "cohesive strategy" and also "lack[ed] funding to develop the infrastructure to support open access" (p. 3). However, this survey focused more on self-archiving activities (OA repositories) rather than OA journal publishing. Therefore, OA publishing activities were not well covered.

An article written by Tie (2012) examined how the University of Malaya increased its scholarly publications "to enhance its position in the international academic ranking" (p. 437). She reported that the Malaysian government pushes researchers to publish in reputed international journals (Tie, 2012). As of April 2020, Malaysia had only 71 journals listed in DOAJ ([www.doaj.org](http://www.doaj.org)). This low number of DOAJ journals implies that Malaysia prefers to boost its scholarly publishing for prestige rather than to promote the wider readability of its research publications.

In 2020, the Indian government was intending to subscribe to journals and offer them free to all citizens with a "one nation, one subscription" plan (Smriti Mallapaty,

2020). This is likely to lead legacy publishers to implement geoblocking or geowalling. According to Suber (2003, para. 24), providing “‘open access’ to one country and not others isn’t really ‘open access’.”

In sum, the primary findings of this country-specific literature reveal situations comparable to those found in Indonesia, where the government is involved in scholarly publishing. The government provides the majority of research funding and places a premium on publishing for the sake of both reputation and internationalisation. These underdeveloped nations also struggle with a lack of funding to back OA publication.

### **3.5.1 National Pride: Prestige and Research Excellence**

According to Siregar (2020, p. 135), for a “lower-middle-income country, research utilisation is more significant than the actual pursuit of excellence itself.” Siregar (2020) noted that Indonesian President Joko Widodo, also known as Jokowi, has been emphasizing the need to improve productivity and competitiveness. In supporting this argument, Siregar quoted one of Jokowi’s speeches where he stated that research ought to “rediscover its utility. It should be useful and serve the needs of society. It should strengthen innovation and competitiveness. It should not be done for the sake of research itself” (p. 119). However, it seems that there is a dualism in Indonesian government policy on research development. On one side, it aims for research utilisation by encouraging “research down streaming and valorisation, commonly termed as *Hilirisasi*” (Siregar, 2020, p. 120) while on the other side it aims at the achievement of research excellence by encouraging global competitiveness. One of the proofs that the Indonesian government is in pursuit of “research excellence” is that it has signed an MoU with Clarivate Analytics (Williams, 2019). The memorandum objectives are to support the integration of Web of Science data into SINTA.

Neylon (2020) in his article “Research excellence is a neo-colonial agenda” concludes that

many of the challenges facing countries seeking to develop their research capacity can be seen through the lens of self-confidence. When compounded

with resource limitations, this leads to a perceived need for external validation and certification. (p. 96)

The standards that are often used as benchmarks are “being international,” “prestigious,” or “excellent,” all of which basically refer to the practice of research conducted by developed countries. The meaning of the word *international* embedded in journal titles on principle does not reflect the distribution of writers, readers, or fields of science. Its true meaning is more in favour of customers and investors in developed countries, coming with a covert suggestion that “they are “neutral,” “objective,” and “international”” (Neylon, 2020, p. 99). The use of the word *international* in a journal title has two connotations. The first one is associated with journal quality, and implies that the publication is among “the best journals in the world”; the second connotation is related to geographical distribution (Moed et al., 2020, pp. 1-2).

However, the internationalization has broader implicit message, which is problematic. One of the BOAI signatories, Leslie Chan, has suggested that developing countries, in pursuing the “excellence” and “international” standards must follow the research standards of developed countries “even if it means abandoning research that would contribute to local well-being” (Chan, 2018b, para. 9). This situation, according to Chan (2018b), creates asymmetry between the research outputs of researchers in nations with abundant resources and those in countries with limited resources. This disparity is a strong reflection of the deeper historical and structural power that positioned former colonial rulers as the centre of knowledge creation and relegated former colonies to peripheral positions, mostly as producers of raw data.

The rationale behind this is “reputation economy”. At the global level, excellent reputation in scholarly communication can influence the standing and competitiveness of national governments in the global research landscape. A country's reputation for producing high-quality research can attract international collaborations, partnerships, and investment, leading to economic benefits (Pinfield et al., 2021). According Pinfield et al. (2021), the reputation economy has created a situation where researchers prioritize pursuing high impact factors, rather than embracing open practices. This is due to the lack of strong incentives for open

practices. It is unclear which policy approaches would be most effective in encouraging open access (OA), as researchers are motivated more by personal reputation than by the potential benefits of openness (Fecher et al., 2017; Willinsky, 2010). This issue is a systemic challenge on a global scale, and policy changes at individual institutions or countries may not be enough to bring about change. Coordinated efforts across national boundaries are necessary, but this is a complex task. So far, the closest to such coordination has been achieved through policies like SciELO in South America and Plan S in Europe (Morrison & Rahman, 2020; Pinfield et al., 2021).

Some OA observers, such as Richard Poynder, denounce scholars for being so addicted to impact factors (IF) and metrics (h-index, ranking, etc.). The legacy publishers have been successful in convincing research communities and funders to use their journal ranking system as a basis for measuring the quality and performance of research outputs (Poynder, 2019). Comments on Poynder's blog post refute the accusation that researchers are addicted; instead, these contributors argue that they are required by their institutions, or by government regulations that have adopted IF-based metrics, to use this measure of research performance, including as part of the requirements for tenure and promotion.

In the early 1990s, in a mailing list discussion compiled by Okerson and O'Donnell (1995), Harnad criticised the slow pace of scholarly communication through printed publications. According to Harnad, this slowness could be overcome by the availability of the Internet. Communication between scientists could be carried out through a network that is connected so that the research results outlined in the writing could be circulated immediately. The dissemination of texts through this network was what Harnad envisioned as "scholarly skywriting" (p. 7). Harnad then invited the scientific community to upload scientific writing directly to the Internet without going through a long publication process. This proposal, made through the mailing list, is widely known as a *subversive proposal*. Unfortunately, the idea was not widely welcomed, with one of the reasons for this negative response possibly being the existence of a system of academic promotion and rank which required publication (Okerson & O'Donnell, 1995).



Researchers have attempted to develop an appropriate system of metrics to measure the impact of research outputs. However, the effort to measure the impact of research has been reduced to a quantitative measurement based on citation analysis (known as the impact factor). This citation analysis was originally created by Eugene Garfield's Science Citation Index (SCI) and was launched in 1964 (Baykoucheva, 2019; Garfield, 2007). This citation index was initially intended to identify the core journals to help libraries in selecting journals for subscription. Making a selection of journals was crucial for libraries at that time because the number of journals had proliferated, and therefore to stay within their budgets, libraries had to be very selective.

In pointing out the inaccuracy of using these types of indicators, Leydesdorff et al. argue,

indicators such as  $h$ ,  $\bar{h}$ , or  $h_a$  (and the many  $h$ -index variants proposed hitherto; see Bornmann et al. 2011) can be evaluated (1) analytically and empirically as a methodology in bibliometrics and science studies, and (2) normatively as an indicator providing management information. The  $h$ -index itself, for example, has virtually no analytical value, as has been shown extensively in the scientometric literature (e.g., Bornmann 2014), but it is frequently used in research management and by policymakers to measure quality and impact of research. (Leydesdorff et al., 2019, p. 1164)

However, while scholars are aware of bibliometrics limitations, they still tend to use it (Haddow, 2019).

The concerns about the limitations of using quantitative metrics in research assessment have led to several initiatives to improve research assessment systems. One example of such an initiative is the San Francisco Declaration on Research Assessment (DORA), which was declared in 2012 at the Annual Meeting of the American Society for Cell Biology (ASCB) in California. The declaration contains a series of recommendations on how research assessment should be conducted. It generally recommends the avoidance of using journal-based metrics as a proxy measure of the quality of individual research articles (The American Society for Cell Biology, 2012). Another initiative is the Leiden Manifesto, which contains 10

principles that guide how metrics should be used in research assessment. These principles were formulated at the 19th International Conference on Science and Technology Indicators, held in September 2014 in Leiden. The first principle of the manifesto insists on prioritizing expert qualitative assessment over quantitative evaluation. Quantitative evaluation should only be used as supporting and supplementary data (Hicks et al., 2015).

### **3.5.2 OA Challenges and Democratization of Knowledge in Developing Countries**

It is widely believed that OA can help developing countries by reducing barriers to scholarly information and democratising knowledge. One of the purposes of the OA movement in removing barriers to accessing scholarly work is stated in BOAI declaration as being to “share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge” (2002, para. 1). Despite the benefits that OA offers, scholars have argued that it reinforces existing epistemic injustices and asymmetries between the Global North and South. This section discusses the challenges of OA in the context of developing countries, focusing on issues of equity, epistemic injustice, neo-colonialism, and the asymmetry of the Global North and South.

Equity is a fundamental issue that OA seeks to address. Access to scientific information is crucial for research, innovation, and socio-economic development, but it is often limited by economic barriers. The high cost of subscription fees and article processing charges (APCs) prevent researchers in developing countries from accessing and publishing scholarly knowledge (Rouhi et al., 2022; Smith et al., 2020). This creates knowledge inequality that deepens the already existing disparities between the Global North and South. As Cox (2020) notes, the imposition of APCs as a means of financing Open Access publishing creates an epistemic injustice that restricts access to scientific knowledge to those who can afford it.

The democratization of knowledge through OA is hindered by epistemic injustices, which are injustices that occur in the production and dissemination of knowledge. As Knöchelmann (2021) argues, the democratization of knowledge through OA is a myth because it reinforces epistemic injustices. The production of scientific

knowledge is often dominated by scholars from the Global North, who hold the power to control and disseminate knowledge. This asymmetry in knowledge production creates a system of epistemic injustice that marginalizes scholars from the Global South.

The issue of neo-colonialism is central to the challenges of OA in developing countries. The asymmetry in knowledge production perpetuates a system of neo-colonialism that reinforces existing power structures and inequalities (Crawford et al., 2021; Sengupta, 2020). According to Nkoudou (2020), African scholars are often alienated from the global scholarly communication system, which limits their participation in the production and dissemination of knowledge. OA is viewed as a means of challenging this system of neo-colonialism, but it can also reinforce it by replicating existing asymmetries and power structures.

The asymmetry between the Global North and South is a significant challenge to Open Access in developing countries. The Global North dominates the production and dissemination of scientific knowledge, which creates a knowledge divide between the two regions. This asymmetry limits the participation of scholars from the Global South in the production of scientific knowledge, which leads to a marginalization of their voices in global scientific discourse (Chan, 2018a). As Posada and Chen (2018) note, the integration of academic infrastructure by big publishers reinforces this asymmetry by perpetuating the monopoly of knowledge by these publishers.

Overall, OA offers a means of democratizing knowledge by breaking down the paywall that restricts access to scientific information. However, this democratization is hindered by challenges such as equity, epistemic injustice, neo-colonialism, and the asymmetry of the Global North and South. To achieve the democratization of knowledge, it is necessary to address these challenges and to ensure that OA initiatives are inclusive and equitable. This requires a reconfiguration of the scholarly communication system that challenges existing power structures and promotes the participation of scholars from the Global South in the production and dissemination of knowledge.

### 3.5.2.1 Problematic Nature of Publishing in Non-English Languages Countries

After two decades, the OA movement has, to some extent, liberated scholarly journals from paywalls. The price barrier may have been diminished but other essential barriers, such as language-based difficulties for non-English authors and readers, still remain unsolved. These are related to the equity problems addressed in the previous section.

One potential problem with journal publishing in non-English language countries is the potential for language barriers to hinder the dissemination of research. Many academic journals and conferences require research to be submitted in English, which can be a barrier for researchers who may not have strong English language skills or who may be working in other languages. This can limit the ability of these researchers to share their work and engage with the broader research community, which can hinder their career development and impact.

Scholars have proposed several solutions, such as providing a translated version of articles (Meneghini & Packer, 2007), or the use of a *lingua franca* that is considered easier to learn than any other languages (MoChridhe, 2019). MoChridhe (2019) recommends the use of Interlingua as the *lingua franca* of scholarly communication. Although Interlingua would be easy to learn, as MoChridhe claims, it is nevertheless impractical because learning a new language needs “time, effort and commitment” (Piller, 2018, para. 16).

Another potential problem is the potential for bias and discrimination against research from non-English language countries. Some research has suggested that research from non-English language countries is less likely to be published in top journals and is cited less frequently than research from English language countries. This can unfairly disadvantage researchers from non-English language countries and prevent their work from reaching a wider audience.

Gibbs (1995) had reported earlier how peer reviewers in the West show bias against authors from the Global South. More recently, Silbiger and Stubler (2019, p. 3) have testified to the occurrence of unprofessional peer reviews based on language proficiency. For example, one of the referee reports they described made the

following reviewing comment: “The author’s last name sounds Spanish. I didn’t read the manuscript because I’m sure it’s full of bad English.”

### 3.5.2.2 Business Models of OA Publishing

Researchers had realised the cost problems inherent in scholarly publishing even before the BOAI Declaration in 2002. Graham (2000, p. 4), for example, stated that “the problem in scholarly communication is the inability of the whole system to achieve the purpose of communication cost-effectively.” The OA movement was initially driven by the high price of access and subscription to journals. The OA movement was initially driven by the high price of access to subscription journals. The OA movement then endorses two complementary strategies: *self-archiving* (aka. Green OA) where authors deposit their articles submitted in subscription journals before or after reviewed, and *open-access journals* (aka. Gold OA) where authors publish their articles in fully open access journals with article processing charge (APC) or without APC (Brown, 2010). The Gold OA with APC model shifts the cost of scholarly publishing from readers to authors, who pay a fee to have their article made freely available online. Commercial publisher, especially the big ones, exacerbate the APC model by offering a hybrid model where authors can publish their articles openly for readers in subscription journals (Boyes & Kingsley, 2016).

The APC is not cheap, especially those who are not funded by a research grant, and there is no common standard on how much is an acceptable limit (Holley, 2018). PLoS, for example, charges authors about USD 2,000-6,000 for a research article (PLOS, 2023), while bigger publishers, such as Nature Springer, charges USD 11,390 (Else, 2020). This high cost is impossible for authors from developing countries to pay if they have no funders for their research or are only subsidised by their government or local institutions (West et al., 2014).

Publishers, on the other hand, believe that they are not charging exorbitant fees without justification because publishing costs are high (Poynder, 2020), but this is a highly contested claim. A study on the real cost of publishing reports that prestigious scientific journals charge considerably more than the expenditures they incur to publish each article (Grossmann & Brembs, 2021). Several studies reveal that the increase of APC is significantly influenced by the citation impact (Schönfelder,

2020), and also the “journal reputation, market power of publishers, hybrid model, and the concentration of disciplines” (Budzinski et al., 2020, p. 2202).

Local publishers in developing countries do not collect APC because the government or journals’ institutions financially support journal publishing. Nobes and Harris (2019) recently surveyed researchers’ awareness of and attitudes to OA in low- and middle-income countries. The results showed that 60% of the researchers who participated in the survey had to pay the APC themselves when publishing in journals that required this payment. In predicting future challenges, Siler notes that “OA publishing solves access problems, but not necessarily cost problems” (Siler, 2017, p. 83). Similarly, and in reference to the Graham (2000) statement cited above, Poynder concludes that researchers and scholars have not fully embraced the OA concept because it has not solved the cost-effective problem of scholarly publishing. As noted above, it just transfers the cost burden from readers to authors (Poynder, 2019). Ware and Mabe (2015, p. 71) cite the results of a survey conducted in the UK where academics prefer to publish in a journal without APC, even where this means that the speed of publication will be slower. While Green OA may not incur any cost to authors and readers, some studies report that authors are reluctant to embrace it for time consuming and complex (Heriyanto, 2018; Holley, 2018; Pearce, 2022).

The actions of the scholarly community and the publishing market make it clear that the OA debate has now moved on to what is necessary to make it sustainable, and to the problems of how a transition should be managed. Gold OA is growing fast, but at present, it remains only a small part of the market (about 10% of articles, but only approximately 2.5% of revenue) and there are valid questions about how a scaling-up would be achieved (Ware, 2015, p. 122). The role of the publisher has often been confused with that of the printer or manufacturer, but it is much wider (Ware, 2015, p.17). Publishers need funding to pay for production costs such as copy-editing, typesetting, marketing, distributing (e.g., website and server maintenance) and many other added value elements. As one group of authors note,

Our view is that full subsidies of article processing charges will create the same problems that arise under subscription-based publishing. We believe that it would be wiser for funders to support open access in ways that

encourage price competition among open access publishers. (West et al., 2014, p. 6)

A survey conducted by the BOAI forum in 2017 revealed two main barriers for the OA movement highlighted by the respondents: “the lack of meaningful incentives and rewards for scholars and researchers to openly share their work” and “a lack of funds to pay for APCs or OA-related costs” (Shockey et al., 2018, p. 1).

All these facts reveal that the business model of OA publishing is complex and that there has been no one particular model that is unanimously approved by scholarly communities.

### **3.6 Specific Indonesian Literatures on OA**

Indonesia is an active participant in the OA publishing environment. Some authors have reported OA movement in Indonesia. An article written by Irawan et al. (2021) describes the situation of the openness movement in Indonesia, including an overview of the research ecosystem and government policies related to research in Indonesia. This article begins by describing that Indonesia is the leading supporter of OA with the largest number of OA journals in the world. These journals are published by universities and government agencies using public funds. Another element related to the openness movement in Indonesia is the existence of the preprint server, RINarxiv, which is driven by the open science movement community and has infrastructure support from PDDI-LIPI, a non-ministerial government agency in Indonesia.

This article also states that OA needs to be watched so as not to allow opportunities for neo-colonialism. This article cites the opinion of Piron (2008), who states that OA can actually be a tool of neo-colonialism if OA only opens access to research from the Global North countries, while research results from the Global South or developing countries are not utilized by the North. In other words, OA will bring results for the developing countries if it encourages research collaboration between the Global North and the Global South. The authors of the article also criticize Plan S, which is considered as being more in favour of Gold OA with APC. They argue that the Gold route with APC is not suitable for Indonesian researchers because they are not supported with adequate funds.

A recent article by Irawan et al. (2022) reports the growth of preprints in Southeast Asia. This article discusses the rise of Southeast Asia as a prominent producer of open access scholarly material. However, current research policies in the region prioritize publication outputs and do not consider factors such as research culture, integrity, or open science. The paper proposes that preprints could be a driving force for open science and improved scholarly outputs in Southeast Asia. Although preprinting culture in the region is still developing, preprints have numerous benefits such as free access, retaining copyright, widespread dissemination, and community governance. The authors suggest practical and regulatory measures to incorporate preprints into research policy and practices in order to promote research integrity, open data, and reproducibility.

Other authors have reported the state of Green OA in Indonesia. Liauw and Genoni (2017) evaluated the "openness" and other characteristics of 52 Indonesian higher education institutional repositories (IRs) through content analysis. According to their findings, only 26.9% of the IRs provided all or most documents in full-text, with theses and dissertations (84.6%) and published works (80.8%) being the most commonly included types of work. Unpublished works and university records were also heavily represented. The majority of the IRs (90.3%) offered access via standardised subject headings, and English was widely used. According to the authors, these IRs are still in the early stages of adoption and were initially motivated by factors such as corporate information management, institutional prestige, and the need to counter plagiarism, rather than a genuine desire to support open access. In

In conclusion, this chapter has briefly presented the role of OA journal publishing in supporting scholarly communication and how OA journal publishing and the key actors involved should position their roles in scholarly communication. This chapter has also discussed OA journal publishing practices in several developing countries.



## Chapter 4 Research Methodology

This research methodology chapter explains the research paradigm, the data collection and analysis methods used, and the overall research design. It starts with a brief discussion of the research purpose and a statement of the research question. The research paradigm, conceptual framework, and research design are explained next. This research project has five research objectives, which employ different methods. The research methods are explained in detail for each objective.

The purpose of this research is to understand why Indonesia has a large number of OA journals. In the last 5 years, there has been a proliferation of OA journal publishing in Indonesia. In May 2019, Van Noorden (2019, p. 8) reported that Indonesia might be the world's OA leader, with 81% of the 20,000 journal articles published in 2017 available to read for free online. Indonesia has more journals listed in the DOAJ than any other country, with 1,704 journals as of August 2020. The government has encouraged researchers to improve Indonesian scholarly publication. Regulations related to scholarly publishing have been issued to promote scholarly publishing development, and researchers and lecturers, including students, are required to publish. In addition, journal administrators and editors have created an association to support each other, that is, Indonesian Journal Volunteers (RJI, <https://relawanjurnal.id/>)

This research project examines how the conditions supporting the currently increasing publication of Indonesian OA journals show its potential role in developing scholarly communication in Indonesia. The development of scholarly journals must be seen from the perspective of their role in supporting the functions of scholarly communication. The scholarly communication perspective is crucial because it represents a communication system among scholars in developing knowledge. To find out whether or not the journals' role as a means of scholarly communication functions properly, the conditions supporting journal publishing must be seen from a point of view aligned with the functions of scholarly communication.

To understand more about Indonesian OA, a series of studies were conducted; the research question for this project is “to what extent do the current supporting

conditions for OA journal publishing in Indonesia encourage scholarly communication development in the future?”

#### **4.1 Research Paradigm**

To answer the research question, the researcher was guided by a philosophical worldview focusing on how the world works and can be studied. This kind of worldview is also known as a research paradigm (Creswell, 2018, p. 5). Williamson (2018) defines a paradigm as a basic set of ideas about how phenomena of interest in a particular field should be thought about and researched.

To answer the research question, this research project was guided by a pragmatism paradigm. Pragmatism looks at truth as being what works at a given time (Rossman & Wilson, 1985). This paradigm corresponds with the project's investigations into whether the current conditions supporting OA journal publishing reflect its future role in scholarly communication. Among the supporting conditions are the attitudes of scholars or writers involved in scientific publishing and of the editors who develop journals. Are their publication activities in the framework of scholarly communication? Are they aware of the importance of scholarly communication? Similarly, in considering the government's support as a policymaker and research funder, is its support in developing OA scholarly publishing in line with scholarly communication functions?

Pragmatism is “not restricted to explanations (a key form of positivism) and understanding (a key form of interpretivism)” (Goldkuhl, 2012, p. 140). With pragmatism as the paradigm, this research combined quantitative and qualitative research methods that were considered to be appropriate for achieving the research objectives. Pragmatists perceive that even though there is a reality of truth “out there,” the path to the truth to prove that reality is not absolutely in just one approach. Reality can be understood subjectively based on prevailing conditions. Therefore, pragmatists consider that the solution to a problem does not use only a single quantitative or qualitative method but may combine multiple methods, quantitative and/or qualitative, depending on which one is most likely to be feasible and can solve the research problem.

The pragmatic paradigm is commonly used in social research as a “third option” paradigm for bridging the qualitative and quantitative research methods dichotomy (Borges & Revez, 2019; Kaushik & Walsh, 2019; Morgan, 2007, 2014). However, a literature review revealed that the pragmatic paradigm is not popular as a philosophical foundation in the information science research area (Borges & Revez, 2019). Pragmatism prioritises the research question, which means that using any method or methods that are “feasible, desirable, and also required to address a certain research question or certain combinations of research questions” (Kaushik & Walsh, 2019, p. 8).

With a pragmatic paradigm, it is possible to combine quantitative and qualitative approaches to find solutions. The combination of the two approaches is commonly called mixed methods or multiple methods. There is no full consensus on the terminology used to describe the combination of various methods (Leech, 2010). However, the terms *mixed methods* and *multiple methods* are used interchangeably (Maarouf, 2019; Morse, 2010). A mixed methods design is a research design that combines qualitative and quantitative research methods to collect and analyse data. Mixed methods research provides multiple ways to address a research problem by combining qualitative and quantitative methods (Creswell & Plano Clark, 2018).

The multimethod design is similar to Creswell and Plano Clerk’s definition of “convergent design” with the “parallel-databases variant,” “in which two parallel strands of data are collected and analysed independently and are brought together during the interpretation” (Creswell & Plano Clark, 2018, p. 73). According to Morse (2010, p. 491), “if the supplemental method is complete and could be published separately, this would be considered a multiple method design.”

Morse (2003) reasons (in Byrne & Humble, 2007) that multimethod design is different from a mixed methods design. It involves qualitative and quantitative projects that are relatively complete on their own and are then used together to form essential components of one research program. Multiple methods are used in a research program when a series of projects are interrelated within a broad topic and designed to solve the overall research problem. This research project prefers the term *multimethod* to *mixed methods* as the research design terminology.

## 4.2 Conceptual Framework

As defined previously in the introduction chapter, scholarly communication occurs where scholars share their knowledge and research innovations. Connections between current researchers and their predecessors are essential for intellectual progress, and this can only be achieved through scholarly communication. (De Silva & K. Vance, 2017). Journal publishing is one of the primary means of scholarly communication. Since the earliest era of journal publishing, around the 17th century, four functions of journals have often been referred to: registration (attribution), certification (peer review), dissemination (distribution, access), and preservation (scholarly memory and permanent archiving) (Guédon et al., 2019, p. 5). In the last few decades, through the implementation of the Journal Impact Factor (JIF) as one of the leading indicators of research assessment from the 1970s, another function in scholarly communication has emerged, namely “evaluation” (Guédon et al., 2019, p. 6).

For the sustainability of knowledge development, journal publishing should support the five functions of scholarly communication. These functions were used as the conceptual framework for this project. All findings from the five studies were analysed in the context of these scholarly communication functions.

Turning to OA journal publishing, this is a kind of scholarly publishing that, as explained previously, expands the dissemination of knowledge and facilitates access to research outputs for those who need them. Almost all of the journals that are multiplying in Indonesia are OA. As noted earlier, the main principle that the initiators of the OA movement have continually reiterated since the BOAI declaration is that knowledge is a public good and therefore must be freely accessible to the broader community (Budapest Open Access Initiative, 2002, para. 1). In observing the development of a journal, it is necessary to determine whether the journal’s publication is motivated by this primary OA movement principle that posits knowledge as a public good.

In investigating a journal’s publishing conditions, the elements that need to be observed are the main actors involved in scholarly communication (Neylon et al., 2019). The actors involved in scholarly communication, according to Guédon et al. (2019), are researchers, universities and research centres, funders and policymakers,

and publishers, along with practitioners, lecturers (and their students), and other community groups. To answer the research question, the research focused on five research subjects: the regulations, the researchers, the editors, the policymakers, and the journals. The researchers, the editors, and the policymakers are the key actors of scholarly communication in Indonesia, while the journals are the means of communication. The regulations are the instrument that the policymakers use in managing the research ecosystem and scholarly communication.

In Indonesia, the government is both the primary research funder and the policymaker. The policies are legally enforced through a set of regulations. Therefore, the conditions of journal publishing in Indonesia that need investigation are researchers (as the research actors), editors (as representatives of publishers), and the government (as funder and policymaker, regulating the implementation of research and scholarly communication development as well as using regulation as a policy instrument). Furthermore, to monitor journal publication progress, it is necessary to observe journals; in this case, this research focuses only on journals contained in the DOAJ. The journals in the DOAJ were chosen because they have been verified, so they were less likely to be predatory, and the relevant data were easier to obtain.

Among the conditions that required investigation in this project were the government's efforts to enhance publishing, researchers' awareness of the importance of scholarly publishing, editors' actions, and the growth of Indonesian OA journal publishing in the last 5 years. In looking at these conditions, various approaches were needed. The research purpose implied in the research question was broken down into five research objectives:

1. To evaluate the government regulations related to scholarly journal publishing in Indonesia.
2. To assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing.
3. To explore editors' experiences with and awareness of scholarly communication and the impact of OA on scholarly journal publishing.

4. To discover the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia.
5. To analyse the trends in OA journal publishing in Indonesia across a period of 2 years (2017–2019).

Various research methods were needed to achieve the research objectives based on what approach might work best with each objective. Therefore, quantitative and qualitative approaches were implemented. The selection and implementation of these research methods were guided by the pragmatic research paradigm.

This research examines the supporting conditions for OA journal publishing in Indonesia, including the actors involved in scholarly publishing, especially OA publishing, and attempts to assess whether these conditions can support scholarly communication development in the future. Each of the project's five objectives requires a different approach to data collection and analysis.

#### **4.3 Relationship of the Theories with the Research Problem**

The research question of this thesis is “to what extent do current conditions supporting OA journal publishing in Indonesia reflect the potential for its future role in scholarly communication?”. This research investigates whether the government's efforts in developing scholarly journal publishing are in line with the theories of OA and scholarly communication discussed in the previous sections. The main rationale that OA movement advocates put forward in support of the movement is that knowledge is a public good (Budapest Open Access Initiative, 2002; Suber, 2012)

The concept of public good has been widely utilised to promote open access, as exemplified by the Budapest Open Access Initiative (BOAI). Scholarly journals represent the primary means of scholarly communication and play a fundamental role in supporting its various functions, including registration, certification, preservation, and evaluation. Open access scholarly journals in their digital form are considered as public goods because anyone can use them and their use will not decrease the goods access and provision. However, journals are valuable cultural products that necessitate contributions from multiple stakeholders, including researchers, editors, reviewers, and publishers, and entail expenses and labour. As a result, it is more appropriate to classify them as common goods, which are created through

collaborative efforts and intended for utilisation by members of the community and other individuals who may benefit from them. In this context, the commons theory provides a suitable framework that guides the management of knowledge as common goods. Incorporating this theory enables the development of approaches that balance the interests of all stakeholders, while ensuring the preservation of the common good.

Knowledge commons theory is used as a lens to examine how the current conditions supporting OA journal publishing in Indonesia encourage the development for scholarly communication in this country. This theory has been used by De Rosnay (2021) and Johnson (2019).

As noted in the previous chapter, the Indonesian government has encouraged journal publishing in Indonesia using the OJS (Open Journal System), developed by the PKP (Publishing Knowledge Project) based on OA principles, as the main platform. Meanwhile, the government also encourages scholars and researchers to publish in reputable international journals, which are mainly commercially based and have closed access. These two approaches seem to contradict one another. This research tries to evaluate the Indonesian government's efforts towards, and policy related to, the development of journal publishing to explore the background motivations behind both approaches.

#### **4.4 Research Design**

As noted above, and in line with the pragmatic paradigm that underpins this research, research approaches for each objective were developed based on the researcher's assessment of which methods would best achieve the objective and answer the research question. Table 3 summarises the methods used for each objective.

*Table 3 Methods used for each objective*

Objectives	Methods
<b>1. To evaluate the government regulations related to scholarly journal publishing in Indonesia.</b>	Content analysis (QUAL)

<b>2. To assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing.</b>	Online survey (QUAN)
<b>3. To explore editors' experiences with and awareness of scholarly communication and the impact of OA on scholarly journal publishing.</b>	Online survey (QUAN)
<b>4. To discover the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia.</b>	Interviews/thematic analysis (QUAL)
<b>5. To analyse the trends in OA journal publishing in Indonesia across a period of 2 years (2017–2019)</b>	Content analysis (QUAN)

Note: QUAN =quantitative approach; QUAL=qualitative approach

As shown in Table 3, Objectives 2 and 3 used the same research method, an online survey, with a quantitative descriptive analysis approach. Objectives 1 and 5 used content analysis but with different approaches. Objective 1 used a qualitative content analysis approach, while Objective 5 used quantitative content analysis. Objective 4 used a set of interviews with a qualitative thematic approach.

In the analysis stage, the functions of scholarly communication were used as the analytical framework. The research design is shown briefly in Figure 1 below.



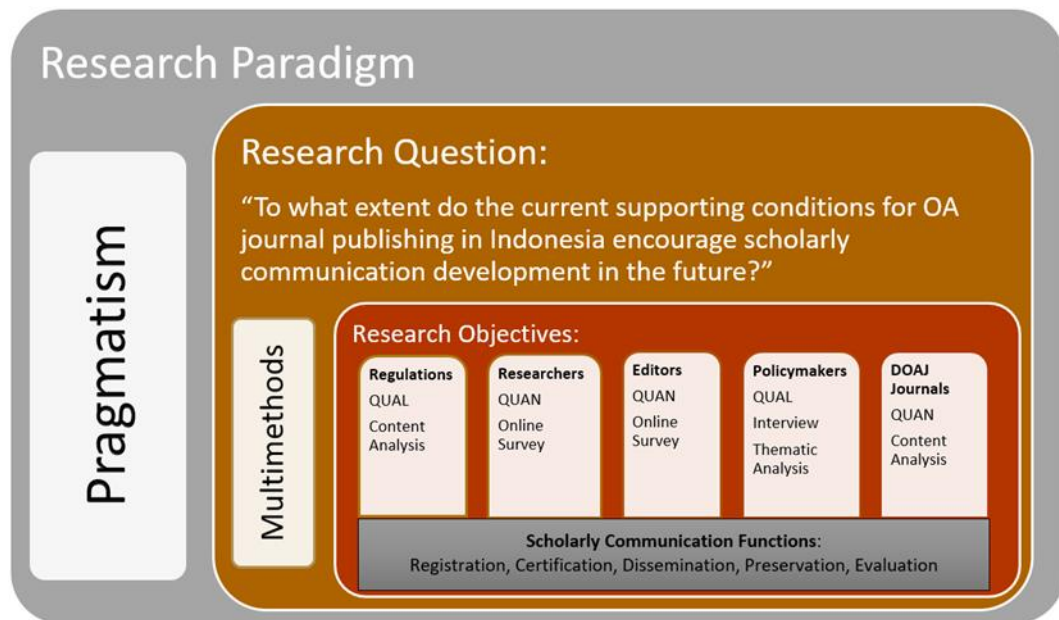


Figure 1 Research design

The data obtained for each objective were analysed within the functional framework of scholarly communication. In synthesising the results of the studies, the researcher used the five functions of scholarly communication.

Consequently, the analyses were expected to show whether the current conditions supporting OA journal publishing in Indonesia reflect the potential for its future role in scholarly communication.

#### 4.5 Ethics Approval

The data collection for this research project has been ethically approved by the Office of Research and Development of Curtin University. The ethics approval was granted for one year from 31 January 2018, to 30 January 2019, with the approval number: HRE2018-0026 (see Appendix A).

#### 4.6 Research Methods

This section discusses specific procedures for collecting and analysing data. It describes what was done and explains the data collection and data analysis techniques employed for each objective.

#### **4.6.1 Objective 1 Method**

Objective 1 involved a qualitative content analysis of the existing government regulations relating to journal publishing and scholarly communication. The analysis focused on the content of the regulations. Qualitative content analysis is one of the research methods used to analyse text data. The method uses a qualitative approach to examine the language intensely and may involve counting keyword frequencies (Hsieh & Shannon, 2005). However, qualitative content analysis often goes beyond counting. According to Saldaña (2015), the frequency with which data is related with a code, category, subject, or concept does not always indicate its value or importance. Thus, the frequency of keyword occurrence does not necessarily explain a text's content.

##### **4.6.1.1. Objective 1 Data Collection**

Data were collected from January 2018 to September 2020. Information about the existence of regulations relevant to this study was obtained from the following websites:

1. Ministry of Research and Higher Education (<http://www.ristekdikti.go.id/>): this was the official website of the *Ristekdikti* ministry where, at the time of data collection, most regulations related to scholarly communication and publication announced.
2. The Directorate of Islamic Higher Education (<https://diktis.kemenag.go.id/>) under the Ministry of Religious Affair. This is the official website of the directorate where regulations and policies related to religious HEIs are announced.
3. National Journal Accreditation (<http://arjuna.kemdikbud.go.id/>) under the Ministry of Education and Culture (Kemdikbud). Policies regarding journal publishing are usually announced in this website.
4. The Centre for Scientific Documentation and Information – Indonesian Institute of Sciences (PDI-LIPI): ISSN Online (<http://issn.lipi.go.id/>). This was the website for registering new scholarly journals. The policies related to journal registration was usually announced in this website.

The regulations were downloaded from the Indonesian regulation database at <http://peraturan.go.id> or <http://ditjenpp.kemenkumham.go.id>. Regulations identified as associated with scholarly communication were selected based on the following terms: *publikasi, karya ilmiah, artikel, jurnal, terbitan berkala, berkala ilmiah, penelitian* [publication, scholarly paper, article, journal, serials, periodicals, research]. Lists of other regulations cited by the identified relevant regulations at the initial stage were also tracked and checked to see if they were related to scholarly communication. Finally, after the identification process, 41 regulations in total were selected as related to scholarly communication.

#### 4.6.1.2. Objective 1 Data Analysis

The regulations were evaluated as to whether or not they were associated with scholarly communication. The selected regulations issued before 2018 were then analysed in February 2018, while those issued after that point were analysed in September 2020. The regulations were analysed using qualitative content analysis techniques and classified into five categories: registration, certification, dissemination, preservation, and evaluation. These categories were based on the five functions of scholarly communication mentioned in this chapter's initial section. The functions of scholarly communications were used as the analytical framework for this analysis. In doing the analysis, the researcher was assisted by a spreadsheet application, Microsoft Excel 2016.

The following coding guidelines were applied during the analysis:

1. **Registration** (date stamping and the process of recording research outputs on behalf of authors): Code R if the regulation contains encouragement or instruction to write or publish scholarly outputs or activities that may improve the quantity of research output registration or scholarly publishing.
2. **Certification** (quality assurance, peer-reviewing): Code C if the regulation contains any statement related to the quality improvement of scholarly outputs such as peer reviewing, anti-plagiarism, training for authors, reviewers, and editors, and so on.
3. **Dissemination** (distribution): Code D if there is any statement in the regulation related to encouraging publication visibility, such as uploading,

registering, or archiving articles or journals to indexing databases such as DOAJ, SINTA, GARUDA, or other open repositories.

4. **Preservation** (long-term archiving): Code P if any statement in the regulation contains an instruction to deposit/archive scholarly outputs in an archiving database.
5. **Evaluation** (research measurement/reward): Code E if the regulation contains instruction or encouragement to use/apply research performance metrics, such as an impact factor, including requirements to publish in internationally reputed or high-ranking journals.

The types of regulations collected were law, government regulations, presidential regulations, ministry regulations, non-ministry government institutions regulations, directorate regulations, circular letters, and decision letters. Each regulation was assigned to one or more of these five categories, noting that one regulation may fall into more than one category. The content analysis results reported the categories of the regulations based on the functions of scholarly communication. The frequencies of the categories' appearances were recorded.

#### **4.6.2 Objective 2 and 3 Methods**

The section discusses research methods for Objective 2, the survey for researchers, and Objective 3, the survey for editors. Both surveys were conducted online with the support of Curtin University's Qualtrics online survey system. The Objective 2 survey for researchers was intended to assess researchers' awareness of scholarly communication and their opinion on OA's impact on scholarly journal publishing. Meanwhile, the Objective 3 survey for editors was intended to explore editors' experiences and their awareness of scholarly communication and OA's impact on scholarly journal publishing.

As pragmatic research focuses more on what works best in method selection, whether it is quantitative or qualitative, the online survey, which is quantitatively based, was considered the best choice to meet these objectives. The survey technique was selected because it was considered a feasible way to investigate awareness and opinions. The survey distribution method was chosen because it was considered the most suitable for the respondents' circumstances. The respondents live in an

archipelagic country, and therefore would be difficult, in terms of financial and time costs, to visit. Therefore, it was decided to distribute the questionnaires as online surveys.

#### **4.6.2.1. Objective 2 Data Collection (Researcher Survey)**

Objective 2 was addressed by a survey designed to gather input and opinion from a range of current Indonesian researchers. The aim was to assess Indonesian researchers' awareness of scholarly communication and OA's impact on scholarly journal publishing. The survey was launched on 22 April 2018 and closed on 8 October 2018.

The survey for researchers was undertaken by inviting participants to complete an online questionnaire to assess the researcher's awareness of scholarly communication and their opinion on the impact of OA on scholarly communication. The invitations were distributed via social media and email. The social media invitations were disseminated by way of personal networking with friends, colleagues, and relatives. The invitations via email were distributed through the Qualtrics emailing system. Email addresses of the researchers were extracted from the websites of the Indonesian Institute of Sciences (LIPI) and fifteen Indonesian universities. As few universities give researchers' contact information, it was rather difficult to extract emails from the websites. Email addresses were extracted from 15 selected university websites, which were chosen based on their provision of access to lecturer's contact details. The process of extracting email addresses posed a challenge, as not all higher education institutions (HEIs) disclosed their lecturers' contact details. E-mails were only selected if researchers' identities could be validated. A total of 2,717 invitations were sent through the Qualtrics emailing system to researchers. The number of invitations distributed through WhatsApp and Facebook was undetected since this was conducted using a snowball technique (see below for additional detail on this methodology).

The researchers here included Indonesian professional researchers working in R&D units, lecturers, and research students. Based on 2016 data from LIPI's website, 9,661 professional researchers were working under ministries and in R&D units (LIPI, 2017). The Ministry of Research, Technology, and Higher Education recorded

about 240,000 lecturers in 2017, including permanent and temporary lecturers (Herdiyanto, 2017).

The survey participants were selected using convenience and snowball sampling techniques. Convenience sampling involves whoever happens to be available, while snowball sampling is a sampling technique where a few respondents selected can identify other people who can identify still other people who might be good participants for a study (Lunenburg & Irby, 2008).

One of the main reasons for using both techniques was that the population is large, as mentioned in the previous paragraph, and access to respondents is not straightforward. The related population is big with various clusters including lecturers, professional researchers, and research students. Due to the absence of a comprehensive list of potential participants, it was difficult to use probability sampling.

The questionnaire for researchers consisted of 28 questions classified into three groups: demographic questions (six items); questions about scholarly communication activities (11 items); and questions related to OA and its impact (11 items). The question types included multiple choice questions with single and multiple answers, multiple choice questions with dropdown lists, rank order questions, and matrix table questions. Three of the multiple choice questions and two of the rank order questions offered 'other (please specify)' options in case participants had other responses (see Appendix D Researcher Questionnaire (English Version), p.281). The formulation of the question areas was motivated by a survey conducted in Dulle's (2010) dissertation and subsequently adapted to the Indonesian context. The questionnaire was constructed following extensive deliberations with supervisors.

#### **4.6.2.2. Objective 3 Data Collection (Editor Survey)**

The participants selected were journal editors-in-chief and/or journal administrators with primary responsibility for journal management. The sampling techniques used were snowball and convenience sampling, similar to the techniques used for Objective 2. The survey was launched on 22 April 2018 and closed on 8 October 2018.

Editors were contacted via email addresses listed in the journal websites by following the links in the DOAJ dataset or through social media groups and the Indonesian Journal Volunteers group (RJI, <https://relawanjurnal.id/>). Colleagues and acquaintances of the researcher were asked for help in distributing the invitation to editors or groups of editors via WhatsApp. A total of 1,808 invitations were sent via the Qualtrics emailing system. The number of invitations distributed through WhatsApp and Facebook was undetected since this was conducted using a snowball technique.

The questionnaire for editors consisted of 30 items with 23 items asking about their experiences in managing their journal, including their familiarity with OA and its impact on journal publishing. The remaining questions collected demographic details. The type of questions included multiple choice with a single answer, multiple choice with multiple answers, rank order with a free text “other” option, and a matrix table using Likert-type questions (see Appendix E Editor Questionnaire (English Version), p.290). The survey was created to align with the research objectives.

#### **4.6.2.3. Objective 2 and 3 Data Analysis**

The data analysis used was a descriptive statistics method. It involved data tabulation, and calculation of response frequencies, mean scores, and data percentages. The open responses were analyzed categorized based similar content and tabulated in percentage. Cross-tabulations were also performed for certain data elements. In calculating mean scores and doing cross-tabulations, the researcher was assisted by Stats iQ™, a statistical analysis tool for surveys provided by Curtin University’s Qualtrics system. The validity of employing mean scores to analyze Likert-type questions has been contested. In lieu of this, certain scholars have recommended alternative measures such as median or frequencies (Boone, 2012; Sullivan & Artino, 2013). A spreadsheet application, Microsoft Excel 2016, was used for preparing the frequency tabulations and calculating data percentages.

#### **4.6.3 Pilot Study Report for Objective 2 and 3**

A pilot study is a kind of trial run or feasibility study of the real study. It is “performed using the same procedures as the survey, but the survey instrument is administered to a smaller sample” (Kitchenham & Pfleeger, 2002). The pilot study is

important for identifying problems that may arise during the survey (Van Teijlingen et al., 2001).

As for the main study, the pilot researcher questionnaire was intended to assess researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing. The questionnaire for editors was designed to discover editors' experiences with and awareness of scholarly communication and the impact of OA on scholarly journal publishing. The pilot questionnaires were designed and set up with Qualtrics.

#### **4.6.3.1. Pilot Questionnaire Distribution for Objectives 2 and 3**

The pilot questionnaires were distributed online by sending invitations through social media, specifically WhatsApp, with a mobile phone. This platform was selected because it was the most common media used by researchers and editors' communities in Indonesia and the most feasible way to reach a small group of respondents. The distribution began on 20 March 2018, with the help of an assistant who was a member of some researchers and editors' WhatsApp groups. Respondents were selected from several WhatsApp groups of researchers and editors. The online pilot questionnaire closed on 25 March 2018.

Along with the invitation texts, evaluation questions were also distributed to gain feedback from respondents. The questions were as follows:

1. Did it take a long time to complete the questionnaire?
2. Was there any question/word/instruction that was difficult to understand or made you think longer?
3. If yes, what number, and why?
4. Was there any question that did not apply to you?
5. If yes, what number, and why?
6. Was there any question that you think was sensitive or offensive?
7. If yes, what number, and why?
8. Please give suggestions/corrections for the questionnaire improvement!



The feedback collected from the evaluation questions were used to edit and reconstruct the main survey questionnaires.

#### **4.6.3.2. Pilot Questions and Results for Objective 2 and 3**

The pilot questionnaire for researchers consisted of 28 items, which were divided into three categories: scholarly communication awareness (11 items), OA awareness (11 items), and demographic questions (six items). The editors' questionnaire consisted of 30 items, which were divided into two categories: editing experiences and opinions about OA (24 items) and demographic questions (six items). Both questionnaires needed approximately 10 minutes to complete.

Of the 44 editors who filled in the editors' questionnaire, only 30 completed it. Fourteen editors did not complete it: two answered the first question only, one answered only until question 23, and another until question six. Forty-four researchers completed the researchers' questionnaire, and 10 others commenced but did not complete it. Of the 10 researchers who did not complete the questionnaire, one answered only until question five, two until question six, and the remainder had no answers recorded.

Time records showed that researchers completed the questionnaire in 1 hour 3 minutes and 12 seconds on average. This was because two respondents completed the questionnaire with an abnormal duration, with one taking more than 24 hours and the other close to 3 hours. It should be noted that about 30% of respondents finished answering in less than 10 minutes. If the two respondents with very lengthy duration are ignored, the average time of completion would be less than 15 minutes. On the other hand, editors needed 17.63 minutes on average to complete the questionnaire, with the longest duration being 53.07 minutes. Only five editors finished the survey in less than 10 minutes. Almost all researchers (95.45%) and editors (86.67%) who participated in the pilot were lecturers.

#### **4.6.3.3. Pilot Recommended Improvements for Objectives 2 and 3**

Respondents were reluctant to suggest corrections. Out of all feedback received, only one of the participants suggested that question 15 in the researcher questionnaire should be edited. The question asked the researchers what they thought the impact of OA journals would have on the following things:

1. ease of access for readers
2. rapid availability
3. high-quality peer review
4. prestige of journal
5. citation rates
6. the emergence of predatory journals
7. APC
8. easy publication for authors
9. international audience

The researchers were required to choose a number between 1 and 5, where the smallest number represented a “negative impact,” and the highest number represented a “positive impact.” The participant who provided feedback said that choices 6 and 7 were confusing and made him/her think longer. Therefore, s/he recommended separating both these choices and putting them in a different question to avoid confusion.

The confusion was conceivably caused by the nature of items 6 and 7 of question 15 because “the emergence of predatory journals” and “APC” both implied an opposite (negative) meaning compared to the other choices. Their position in the list of choices was close to the end of the list, appearing after choices with a positive meaning. A sudden change to answer choices with a negative connotation may have caused confusion. Therefore, to improve this question, instead of creating a separate question for these choices, these choices were separated in the list by moving “the emergence of predatory journals” to the second choice. In contrast, the “rapid availability” choice, which had been in second place, was moved to the sixth position. In addition, Questions 6, 7, and 8 in the researcher questionnaire were also amended by adding a validation component to question 5, so that researchers who had never published could skip the questions about publication.

As the completion time for editors was longer than expected, it was decided that the questionnaire’s size should be condensed. The last question in the editors’ questionnaire (question 30), asking respondents to provide their journal’s title and

ISSN, could be removed as this question was only used as a crosscheck to avoid double data input of editors from the same journal. Another question that was considered for deletion was number 14, which asked about editors' familiarity with several institutions related to the OA movement and editorial ethics.

The wording of questions in both questionnaires was also improved. Adverbs, such as *very*, *strongly*, *extremely*, and *at all*, used in some questions imply nuances of meaning that potentially confuse respondents. Therefore, it was decided to use the adverb *very* consistently to indicate the weight of a choice.

#### **4.6.4 Objective 4 Methods**

To identify the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia, the researcher arranged a set of interviews with policymakers. The policymakers were chosen because they were involved in the management and organisation of the development of scholarly communication, including scholarly publishing. The policymakers were also part of the government's role as the main research funder in Indonesia. The interview method was selected because it is the best way to capture rich data and explore more detailed information on what efforts have been made, or will be undertaken in the future, by the government, including the hindrances policymakers faced in supporting scholarly communication, particularly journal publishing.

##### **4.6.4.1. Objective 4 Selection of Participants**

The interviewees were selected using purposive sampling techniques. Initially, three policymakers were selected from the three institutions that were most strongly related to scholarly publishing policies. They were the Ministry of Research, Technology, and Higher Education (*Menristekdikti*), the Ministry of Religious Affairs (MoRA), and the Indonesian Institute of Science (LIPI). During these interviews, two policymakers recommended another person each to interview. Therefore, there were five interviewees in total. All the policymakers were interviewed in person in their offices in Jakarta, the capital city of Indonesia. Four policymakers were interviewed on 18 May 2018, while the other was interviewed on 21 May 2018. The interview times ranged from 15 to 60 minutes.

Invitations to an interview were sent by email along with the participant information document explaining the research purpose and how the data would be handled, including confidentiality issues, and how it would be used. The interviewees' mobile numbers were collected through networking. The first contact was made by email, followed by WhatsApp messaging.

#### **4.6.4.2. Objective 4 Data Collection**

The data collection for the policymaker group used interviews to determine the level and types of efforts and hindrances experienced in enhancing the development of journal publishing. The interview technique used was semi-structured interviews. A semi-structured interview is an interview that combines structured and unstructured interview approaches, where the interviewer provides a list of questions as guidance for interviewees on what they should talk about. Follow-up questions are asked during the interview to get more detail or deeper explanations based on initial responses (McIntosh & Morse, 2015). The interviews for this research consisted of five main interview questions (see Appendix E for more details):

1. What is your role and area of responsibility regarding scholarly journal publishing?
2.
  - a. What is Open Access (OA) from your point of view?
  - b. What do you think is the benefit of OA, especially in developing countries such as Indonesia?
3.
  - a. What efforts have been made to encourage the development of journal publishing in Indonesia?
  - b. Is there any effort to improve the international readership of Indonesian journals, such as improving scholars' international language skills?
4. What are the main hindrances in enhancing journal publishing in Indonesia?
5. What is the plan for the future development of scholarly journal publishing in Indonesia?

During the interviews, the order of the questions changed depending on the direction an interview took, and additional explorative questions were formulated and asked during the interview based on the interviewees' responses to the main questions.

The interviews were recorded using a digital audio recorder. To build rapport, the researcher started an introductory conversation, explaining the interview's purpose, and why the interviewee had been selected. The researcher then asked the interviewee to sign the consent form (see Appendix D) and asked for permission to record the interview. Interview notes were also used to keep track of circumstances that could affect the interpretation and contextual meaning of the interview content.

#### **4.6.4.3. Pilot Interview for Objective 4**

The interview questions were pre-tested (piloted) with two Indonesian research students on 4 April 2018. This pilot was guided by the following questions:

1. Has the researcher included all of the necessary questions?
2. Do the questions elicit the types of responses that were anticipated?
3. Is the language of the research instrument meaningful to the respondents?
4. Are there other problems with the questions, such as double meanings or multiple issues embedded in a single question?
5. Are the questions in a logical order?
6. Finally, does the interview guide, as developed, help motivate respondents to participate in the study? (McIntosh & Morse, 2015, p. 6)

After the pilot, the wording and order of the questions were adjusted. Two sub-questions were suggested for question number 2 and 3 (as can be seen in Appendix E: item b. of question 2 and 3).

#### **4.6.4.4. Objective 4 Data Analysis**

The interview transcripts were analysed in the original language, Bahasa Indonesia, to maintain the original context. The transcripts were analysed using a thematic analysis technique. The analysis followed a coding manual (see Appendix H) formulated as technical guidance to maintain consistency in the process. The steps set out in the manual refer to the phases of thematic analysis proposed by Braun and Clarke (2006):

1. Familiarizing yourself with the data
2. Generating initial codes

3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing report

The results obtained from the analysis process were discussed in the context of the five functions of scholarly communication. All excerpts selected to be included in the report were translated into English. The researcher used Microsoft Excel 2016 to aid in the analysis.

#### **4.6.5 Objective 5 Methods**

Objective 5 was achieved through a longitudinal study of Indonesian OA journals listed in the DOAJ between 2017 and 2019. This study was conducted to capture the changes in and development of Indonesian OA journal publishing as represented in the DOAJ across 2 years, 2017 and 2019. The data used was the metadata of the Indonesian journals listed in the DOAJ.

A longitudinal study was chosen to enable the researcher to observe the development of journal publishing. It was considered to be effective in identifying changes over time.

##### **4.6.5.1. Objective 5 Data Collection**

The data were collected by exporting the spreadsheet data of journals with a CSV file extension from the DOAJ database (<https://doaj.org/csv>) and filtering it based on the “Country of publisher”, Indonesia. A content analysis based on the selected criteria was utilised as a data collection method. The data were downloaded on 19 March 2017 and 6 March 2019. The number of journals in 2017 was 543, while in 2019 there were 1,409 journals.

##### **4.6.5.2. Objective 5 Data Analysis**

The data analysis approach used was a quantitative content analysis and the use of descriptive statistics, calculated by tabulating the data based on frequencies and percentages. The criteria used in the analysis were taken from the “Principles of Transparency and Best Practice in Scholarly Publishing” produced by the DOAJ (DOAJ, 2022b) and an article discussing quality OA publishing written by Bi (2017).

The DOAJ requirements list was modified as necessary for the current study. The data were categorised based on the following:

1. Basic information
  - a. ISSN (International Standard Serial Number)
  - b. Publishing platform (e.g., OJS)
  - c. “Added on” date
  - d. Full-text language
2. Publisher categories
3. Publishing charges
  - a. APC
  - b. Submission fee
4. Archiving
  - a. First calendar year of online OA content
  - b. Permanent article ID (DOI)
  - c. Digital archiving policy
5. Peer review types
6. Publishing delay
7. Openness
  - a. Compliance with BOAI
  - b. Copyright transfer
  - c. Publishing rights
  - d. Full-text crawl permission
  - e. Deposit policy

Codes were generated based on the information in Table 4, which explains in detail the codes used and their descriptions.

Table 4 List of codes for Indonesian OA journals content analysis

Themes	Codes	Descriptions	Field Name*
<b>ISSN</b>	Print only Online only Both	ISSN is an International Standard Serial Number. A journal may have two ISSNs, for its print version and online version.	<ul style="list-style-type: none"> <li>Journal ISSN (print version)</li> <li>Journal EISSN (online version)</li> </ul>
<b>Publishing platform</b>	OJS In-house platform CMS Blank	A publishing platform includes an application used for managing online publishing.	Platform host or aggregator
<b>“Added on” date</b>	2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	The year when a journal was initially accepted by and listed in DOAJ.	Added on Date
<b>Full-text language</b>	Arabic-English Arabic-English-Indonesian Chinese-English-Indonesian English English-French English-Indonesian English-Indonesian-Japanese English-Indonesian-Malay Indonesian Indonesian-Malay Blank	Articles' full-text language.	Full text language
<b>Publisher categories</b>	RISTEK MORA LIPI/R&D NGO	RISTEK: publishers under HEIs. MORA: publishers under religious HEIs. LIPI: publisher under LIPI or government R&D units. NGO: publishers under professional or non-government organisations.	Publisher
<b>Publishing charges</b>	APC No APC No information	Article processing charge.	Journal article processing charges (APCs)
<b>Digital archiving</b>	National Library Other Blank	Long-term preservation of the journal.	<ul style="list-style-type: none"> <li>Archiving: national library</li> <li>Archiving: other</li> </ul>
<b>Permanent identifier</b>	DOI ARK Blank	A permanent digital identifier of articles.	Permanent article identifiers
<b>Unrestricted reuse (BOAI)</b>	Yes Blank	The conformity of a journal to the reuse rights defined by the	Does this journal allow unrestricted



		Budapest Open Access Initiative (BOAI).	reuse in compliance with BOAI?
<b>Licences</b>	CC BY CC BY-SA CC BY-ND CC BY NC SA CC BY NC ND Own license Blank	The right attributes used by a journal for its articles.	Journal license
<b>Author's copyright</b>	Yes No Blank	A journal's policy on an author's copyright.	Author holds copyright without restrictions
<b>Author's publishing rights</b>	Yes No Blank	A journal's policy on an author's distribution rights.	Author holds publishing rights without restrictions
<b>Full-text crawl permission</b>	Yes Blank	A journal's policy on full-text crawl permission for articles.	Journal full-text crawl permission
<b>Deposit policy</b>	SHERPA/ROMEIO Crossref SWORD None	A deposit policy is a journal's policy on the distribution of articles in other media such as institutional repositories.	Deposit policy directory
<b>Peer review types</b>	Blind peer review Double-blind peer review Peer review Editorial review Open peer review Blank	The peer review procedure type of a journal.	Review process
<b>Publishing Delay</b>	01-10 11-20 21-30 31-40 41-50 51-53	Publishing delay between article submission and publication in weeks.	Average number of weeks between submission and publication

Note: ARK (Archival Resource Key) = a kind of permanent digital object identifier

\*The data field names have been changed in 2020. The changes include deletion of certain fields and the changes in the wordings of the names. (see Appendix I for the complete list of changes)

The codes were then tabulated in frequencies and percentages. In the discussion and analysis stage, the results were discussed in relation to the five functions of scholarly communication.

#### 4.7 Conclusion

This research investigates whether current conditions in Indonesia, including the government's efforts and policy in developing OA journal publishing, are in line with OA's guiding principle that knowledge is a public good, and whether they support the five functions of scholarly communication discussed in the previous sections.

In conducting the studies described above, the researcher used the five functions of scholarly communication as the analytical framework. The next chapter will discuss the results of the two online surveys: the researcher survey and the editor survey.

## **Chapter 5 Survey Results**

The presentation of results is divided into two chapters (Chapter 5 and Chapter 6). Chapter 6 presents the results of the studies for Objectives 1, 4, and 5. This chapter presents the results of the two online surveys which were used to achieve Objectives 2 and 3 of this project. The first survey addresses Objective 2: that is, to assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing. The second survey was conducted to explore editors' experiences and their awareness of scholarly communication and the impact of OA on scholarly journal publishing.

### **5.1 The Researcher Survey**

Briefly recapping the information provided in Chapter 4, the researcher survey was designed to assess researchers' awareness of scholarly communication and their opinions about the impact of OA. The survey was conducted between April and October 2018, and it involved distribution of an online questionnaire to the researcher community. The invitations were distributed through email (2,717 emails sent) and social media (WhatsApp and Facebook). The total number of researchers contacted through social media was unknown since the invitations were distributed using a snowball sampling technique. The snowballing technique means there is no ability to report a percentage of respondents to the survey because it is not possible to know the number of people who were approached. Out of 563 researchers who accessed the survey, 426 researchers completed the questionnaire, 48 answered partially, and 99 left no response. The partial responses are included in the findings presentation.

This section begins with presenting the demographic data collected in questions 23–28 (Q23–Q28). The next part of the results presentation relates to the data collected in questions one to 11 (Q1–Q11) regarding the researchers' awareness of scholarly communication followed by the next 11 questions (Q12–Q23) focusing on the researchers' opinions about the impact of OA (see Appendix B for the Researcher Questionnaire).

### 5.1.1 Demographic Data

The demographic data findings include six data elements: the respondents' main occupation (Q23), the province of their workplace location (Q24), their discipline background (Q25), academic qualification (Q26), the length of time they have engaged in research (Q27), and the type of institution where they work (Q28). Table 5 shows data about the respondents' main occupation. The number of researchers answering this question was 425.

*Table 5 Researchers' main occupations (Q23)*

Occupations	%	Count
<b>Lecturer</b>	52.24	222
<b>Researcher</b>	34.82	148
<b>Other</b>	12.94	55
<b>Total</b>	100	425

Most of the respondents worked as lecturers (222 out of 425, 52%), with the remaining respondents working as professional researchers ( $n = 148$ , 35%), or in other roles ( $n = 55$ , 13%). Table 6 shows that most of the respondents who chose the "other" category (and who were thus prompted to specify their occupation) were research students (18) or librarians (10).

*Table 6 Occupations of respondents who were not researchers/lecturers*

Occupations	%	Count
<b>Research student</b>	32.72	18
<b>Librarian</b>	18.18	10
<b>Practitioner</b>	9.09	5
<b>Public servant</b>	7.27	4
<b>Schoolteacher</b>	5.45	3
<b>Private worker</b>	5.45	3
<b>Lab staff</b>	3.63	2
<b>NGO activist</b>	3.63	2
<b>Medical doctor</b>	1.81	1
<b>Dentist</b>	1.81	1
<b>Data operator</b>	1.81	1
<b>Retired researcher</b>	1.81	1
<b>Contractor</b>	1.81	1
<b>Clinician</b>	1.81	1
<b>Trainer</b>	1.81	1
<b>Head of research</b>	1.81	1
<b>Total</b>	100	55

Question 24 asked about the province where the respondents worked. Indonesia is located in South-East Asia with a total area of 1,904,569 square kilometres. It consists of 34 provinces with 17,508 islands, which are grouped into seven major islands or island groups: Java (Jawa), Kalimantan, Maluku, Nusa Tenggara, Papua, Sulawesi, and Sumatera. The capital city of Indonesia is Jakarta, which is located in Java Island. Figure 2 shows a map of Indonesia's provinces.



Figure 2 Map of Indonesian Provinces

Source: Peta Provinsi Indonesia [Map of Indonesian Provinces] (2019)

Table 7 shows the distribution of the respondents' location of work by province.

Table 7 Respondents' distribution based on the province where they work (Q24)

Island groups	Province	%	Count
<b>Sumatera</b>	Aceh	0.24	1
	Sumatera Utara	0.24	1
	Sumatera Barat	0.95	4
	Riau	0.00	0
	Kepulauan Riau	0.00	0
	Jambi	0.24	1
	Sumatera Selatan	0.70	3
	Bangka Belitung	0.00	0
	Bengkulu	0.00	0
	Lampung	1.65	7
	<b>Java</b>	DKI Jakarta	16.08
Jawa Barat		17.49	74
Banten		7.33	31
Jawa Tengah		4.26	18
DI Yogyakarta		2.36	10
Jawa Timur		24.35	103

<b>Nusa Tenggara</b>	Bali	2.60	11
	Nusa Tenggara Barat	1.18	5
	Nusa Tenggara Timur	0.70	3
<b>Kalimantan</b>	Kalimantan Barat	0.00	0
	Kalimantan Tengah	0.24	1
	Kalimantan Selatan	0.24	1
	Kalimantan Timur	1.18	5
	Kalimantan Utara	0.00	0
<b>Sulawesi</b>	Sulawesi Utara	0.24	1
	Sulawesi Barat	0.24	1
	Sulawesi Tengah	0.70	3
	Sulawesi Tenggara	1.42	6
	Sulawesi Selatan	12.53	53
	Gorontalo	0.24	1
<b>Maluku</b>	Maluku	1.18	5
	Maluku Utara	0.00	0
<b>Papua</b>	Papua Barat	0.95	4
	Papua	0.47	2
<b>Total</b>		<b>100.00</b>	<b>423</b>

Out of 426 researchers that completed the questionnaire, three skipped Question 24. Two of these respondents reported that they were unable to access the province drop-down list in the question.

The results show that most respondents were located in Java and South Sulawesi. Four provinces in Sumatra, two provinces in Kalimantan, and one province in Maluku had no representatives.

Figure 3 shows the respondents' geographic distribution based on the main island groups. The chart shows that most of the respondents were from Java (304 researchers or 71.87%) followed by Sulawesi (65 researchers or 15.37%), Nusa Tenggara (19 researchers or 4.49%), Sumatera (17 researchers or 4.02%), Kalimantan (1.65%), Papua (6 researchers or 1.42%), and Maluku (1.18%).

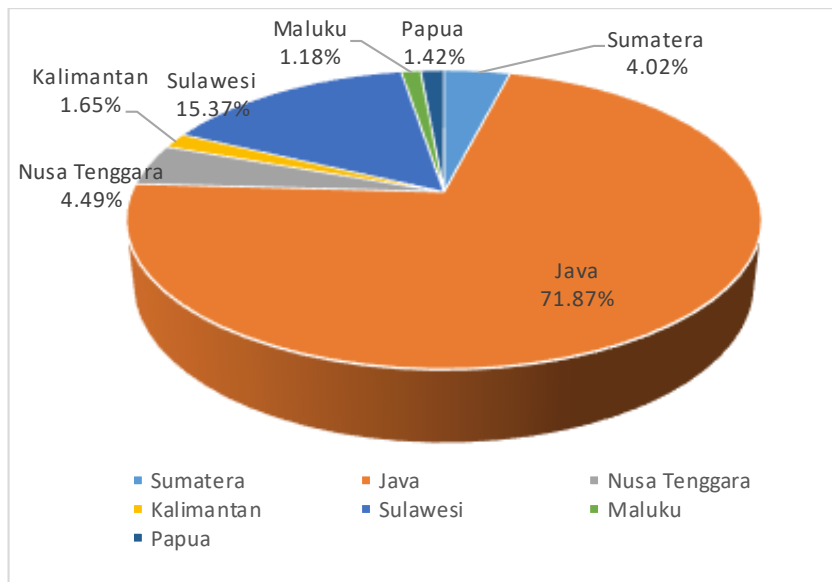


Figure 3 Respondents' work location based on island groups (%)

Question 25 asked about the researchers' educational background; 426 participants responded to the question. Results are shown in Table 8, with the discipline groupings based on the appendix to the Decision of *Ristekdikti* Minister No. 257/M/KPT/2017 about the nomenclature for bachelor, master, and doctoral study programs.

Table 8 Researchers' discipline (Q25)

Disciplinary area	%	Count
<b>Humanities (Art, Philosophy, Linguistics, History, Literature, Language, etc.)</b>	13.38	57
<b>Social Sciences (Anthropology, Archaeology, Agama, Economics, Psychology, Politics, etc.)</b>	31.92	136
<b>Natural Sciences (Chemistry, Biology, Physics, Geology, Geophysics, Astronomy, etc.)</b>	13.85	59
<b>Formal sciences (Computer, Mathematics, Statistics, etc.)</b>	4.46	19
<b>Applied Sciences (Agriculture, Education, Library and Information Science, Law, Medicine, Engineering, Environment, etc.)</b>	36.38	155
<b>Total</b>	<b>100%</b>	<b>426</b>

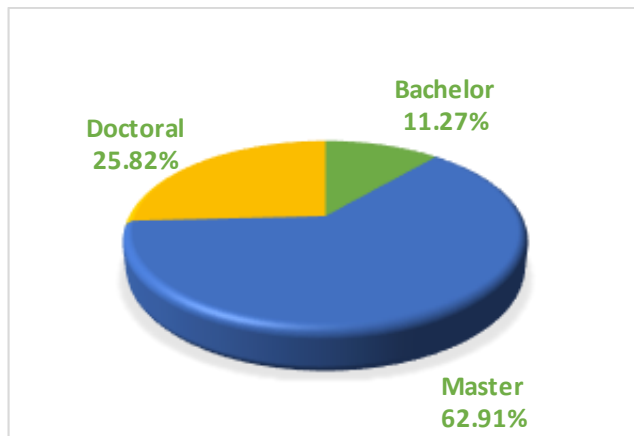
Table 8 shows that the largest group of respondents ( $n = 155$ , 36.38%) had an applied science background, followed by those with a social sciences background ( $n = 136$ , 31.92%). Other respondents had a humanities or a natural sciences background with 59 (13.85%) and 57 (13.38%) each, respectively. The remaining respondents, 19 researchers (4.46%), had a formal sciences background.

Question 26 asked about the respondents' academic qualifications. The sample size for this question was 426. Results are shown in Table 9 and Figure 4. The

researchers' highest academic qualifications were mainly master's degrees (268, 63%), while a quarter had PhDs (110, 26%). A small proportion had only a bachelor's degree (11.27%).

*Table 9 Researchers' highest academic qualification (Q26)*

Qualification	%	Count
<b>Bachelor</b>	11.27	48
<b>Master</b>	62.91	268
<b>Doctoral</b>	25.82	110
<b>Total</b>	100	426



*Figure 4 Researchers' highest academic qualification*

Question 27, again answered by all 426 respondents, asked about the length of the researchers' experience. Four options were offered: less than 5 years, 5–10 years, 11–20 years, and more than 20 years. Most of the researchers had been engaged in research for 5 to 10 years (173 researchers, 40.61%), with a further 106 researchers (24.88%) reporting experience of less than 5 years. Around a quarter of respondents (110, 25.82%) had research experience of between 10 and 20 years, while 8.69% (37 researchers) had experience of more than 20 years.

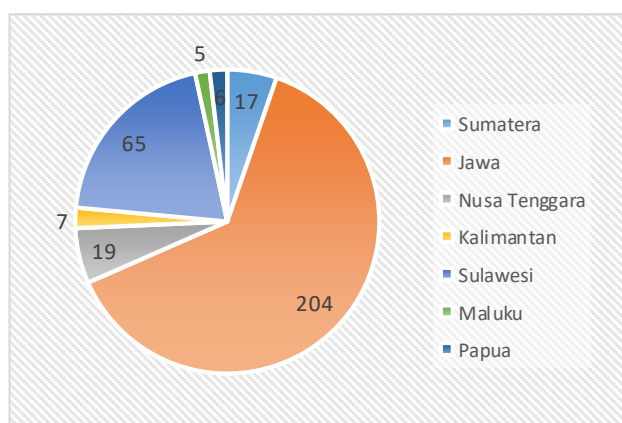
*Table 10 Length of time engaged in research (Q27)*

Time period	%	Count
<b>Less than 5 years</b>	24.88	106
<b>5–10 years</b>	40.61	173
<b>11–20 years</b>	25.82	110
<b>More than 20 years</b>	8.69	37
<b>Total</b>	100	426



To summarize, the researchers' demographic data included main occupation, provincial workplace location, educational background and academic qualification, the length of time engaged in research, and institution type. Most of the respondents were lecturers, followed by professional researchers, and most had academic qualifications of either a master or doctoral degree. The majority had engaged in research for 10 years or less, while the remainder had more than 10 years' experience.

As Figure 5 shows, the geographic distribution of researcher respondents was wide: they worked in different locations in 34 provinces of Indonesia.



*Figure 5 Researcher distribution by island group*

However, the majority worked in the Java island group. Java Island is where Indonesia's biggest cities are located, such as Jakarta, the capital of Indonesia, and Surabaya, the capital of East Java province. As the island where the central government is located, Java is associated with better infrastructure, including access to the Internet. Java Island also is also the location of many big universities and research institutions. These conditions make it reasonable for Java to have the most respondents.

### **5.1.2 Practices and Perceptions of Scholarly Communication**

This subsection presents the results of Questions 1 to 11. These questions were related to the researchers' awareness of scholarly communication activities,

including reading journals (Q1–Q3), publishing articles (Q4–8), international language mastery (Q9), scholarly activities other than publishing (Q10), and the extent of their scholarly community (Q11). The number of respondents answering each question is provided in the table totals below, and in parentheses in the text.

Question 1 asked about how often the respondents read scholarly journals in their discipline ( $n = 473$ ). Results are provided in Table 11, which shows that the majority of the respondents ( $146+207 = 353$  researchers, 74.63% of 473) reported that they regularly read academic journals weekly (207 researchers or 43.76%) or daily (146 researchers or 30.87%). Some researchers (73, 15.43%) read journals monthly, and 45 (9.51%) read them rarely. Two reported that they never read scholarly journals.

*Table 11 Respondents' frequency of reading scholarly journals (Q1)*

Reading frequency	%	Count
<b>Daily</b>	30.87	146
<b>Weekly</b>	43.76	207
<b>Monthly</b>	15.43	73
<b>Rarely</b>	9.51	45
<b>Never</b>	0.42	2
<b>Total</b>	100	473

Question 2 was similar to Question 1, asking about researchers' reading habits ( $n = 474$ ). However, Q2 focused on the reading of OA journals. The results (Table 12) show that most researchers read OA journals weekly (194 researchers or 40.93%) or daily (94 researchers or 19.83%). Eighty (16.88%) read OA journals monthly while 98 (20.68%) rarely read them. Eight researchers (1.68%) reported that they never read OA journals.

*Table 12 Researchers' frequency of reading open access journals (Q2)*

Reading frequency	%	Count
<b>Daily</b>	19.83	94
<b>Weekly</b>	40.93	194
<b>Monthly</b>	16.88	80
<b>Rarely</b>	20.68	98
<b>Never</b>	1.69	8
<b>Total</b>	100	474

Question 3 asked about the researchers' views on the significance of reading scholarly journals in their discipline area ( $n = 475$ ). The respondents were asked to rate the importance of this by choosing a number from 1 to 5 where 1 indicated "not important" and 5 indicated "very important."

The results (Table 13) show that almost all respondents (401, 84%) indicated that reading scholarly journals in their field was "very important" and another 60 respondents gave this item a ranking of 4 in the scale, also implying that they considered this important. Thirteen researchers (2.74%) chose the middle response while no respondents selected the lowest ranking of "not important."

*Table 13 Researchers' opinion of the importance of reading scholarly journals (Q3)*

Level of importance	%	Count
<b>Not important 1</b>	0.00	0
<b>2</b>	0.21	1
<b>3</b>	2.74	13
<b>4</b>	12.63	60
<b>Very important 5</b>	84.42	401
<b>Total</b>	100	475

Question 4 asked the respondents to indicate their opinion of the importance of publishing an article relevant to their discipline by choosing a number from 1 to 5 ( $n = 475$ ). Once again, a ranking of 1 indicated "not important" and a ranking of 5 indicated "very important."

Table 14 shows that the majority of respondents (376 researchers or 79%) thought that publishing scholarly articles was "very important," and a further 79 participants (16.63%) provided a ranking of 4. Seventeen participants (3.58%) chose the middle ranking; three selected option two, while no one chose the lowest ranking of "not important."

*Table 14 Researchers' opinions on the importance of publishing articles (Q4)*

Level of importance	%	Count
<b>Not important 1</b>	0.00	0
<b>2</b>	0.63	3
<b>3</b>	3.58	17
<b>4</b>	16.63	79
<b>Very important 5</b>	79.16	376
<b>Total</b>	100	475

Question 5 asked about how many times the researchers had published their own articles ( $n = 470$ ). The results, shown in Table 15, revealed that most respondents (327, 69.57%) had published between one and 10 times, while 26 researchers (5.53%) stated that they had never published at all. A quarter (73 researchers, 25%) had published between 11 and 20 times, and the remaining respondents (44, 9.36%) had published more than 20 times.

*Table 15 Frequency of researchers publishing articles (Q5)*

Publication frequency	%	Count
<b>Never</b>	5.53	26
<b>1–10 times</b>	69.57	327
<b>11–20 times</b>	15.53	73
<b>More than 20 times</b>	9.36	44
<b>Total</b>	100	470

Question 6 asked about the types of publishing outlets that the respondents chose in distributing their scholarly writings. The respondents were allowed to choose more than one item ( $n = 467$  with 964 choices in total). Table 16 shows that the publishing outlets most preferred by the respondents were print journals (320 choices, 33% out of 964 choices) and OA e-journals (317 choices, 33%). These were followed by institutional repositories (144 choices, 15%) and commercial e-journals (110 choices, 11%). Personal websites and blogs were both the least preferred outlets (39 and 34 choices, respectively, about 4% each).

*Table 16 Publishing outlets used by respondents (Q6)*

Type of outlet	%	Count
<b>Print journal</b>	33.20	320
<b>Open Access e-journal</b>	32.88	317
<b>Institutional repository</b>	14.94	144
<b>Commercial e-journal</b>	11.41	110
<b>Personal website</b>	4.05	39
<b>Blog</b>	3.53	34
<b>Total</b>	100	964

Note: Respondents could choose more than one option

Question 7 asked the respondents to rank from 1 to 3 a set of listed items to show the top three factors that influenced the researchers' choice of publishing channels ( $n = 432$ ). Table 17 shows the top three factors that influence the respondents' choice of publishing outlets: journal ranking (327 choices), speed of publishing process (205 choices) and likelihood of acceptance of article (166 choices). Table 18 shows the detailed answers of the respondents choosing "other" option in Question 7. Figure 6 shows clearly the factors that were identified as important (in the top three) by the most respondents.

*Table 17 Top three factors influencing researchers' choice of publishing outlets (Q7,  $N = 432$ )*

Influencing factors	Choice Rank						Total	
	%	1	%	2	%	3	%	Count
<b>Journal ranking or status</b>	43.75	189	21.99	95	9.95	43	75.69	327
<b>Speed of publishing process</b>	9.72	42	17.36	75	20.37	88	47.45	205
<b>Likelihood of acceptance of article</b>	10.18	44	14.12	61	14.12	61	38.42	166
<b>Quality of peer review</b>	7.87	34	17.12	74	10.64	46	35.64	154
<b>Ease of access</b>	6.94	30	10.87	47	15.74	68	33.56	145
<b>Publishing cost</b>	7.87	34	11.57	50	13.88	60	33.33	144
<b>Government regulation</b>	10.41	45	3.70	16	5.32	23	19.44	84
<b>Language</b>	1.62	7	3.00	13	4.86	21	9.49	41
<b>Payment from publishers</b>	0.46	2	0.00	0	4.16	18	4.62	20
<b>Other</b>	1.57	5	0.23	1	0.92	4	2.31	10

Note: % = the percentage of choices out of total respondents ( $N = 432$ )

*Table 18 Factors identified by researchers choosing "other" option in Question 7*

Influencing factors	%	Count
<b>Journal ranking or status</b>	60	6
<b>Likelihood of acceptance</b>	10	1
<b>Journal coverage</b>	30	3
<b>Total</b>	100	10

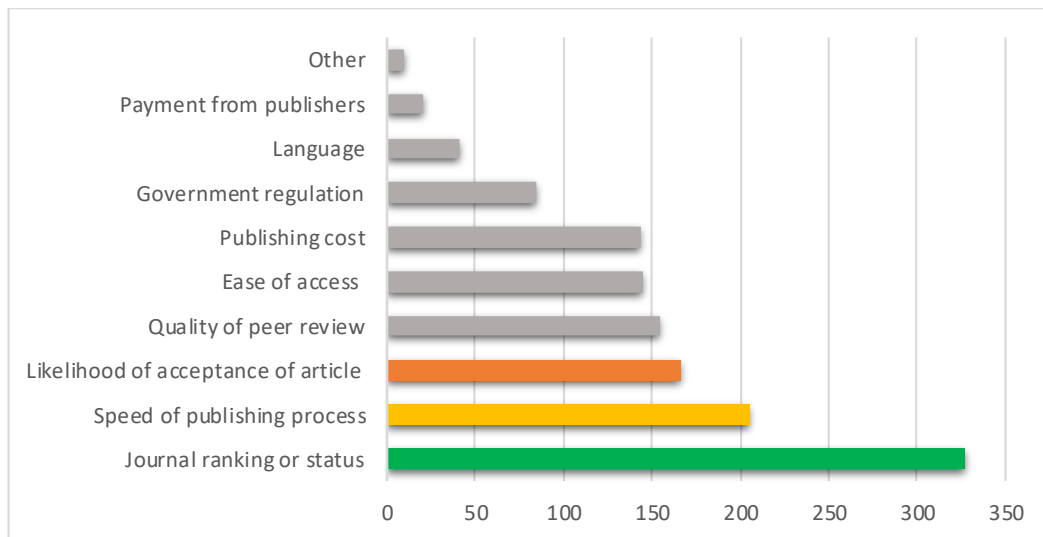


Figure 6 Top three factors influencing researchers' choice of publishing outlets

Question 8 asked the respondents to rank a set of listed items from 1 to 3 to show the top three factors that motivated them to publish ( $n = 428$ , with 1,284 choices). Table 19 shows the top three factors motivating the participants to publish articles: “contribution to your discipline” (373 choices) and “promoting your research career” (284 choices) and “tenure and promotion” (238). Figure 7 illustrates the factors that were identified as important (in the top three) by the most respondents.

Table 19 Top three factors motivating researchers to publish journal articles (Q8,  $N = 428$ )

Motivating factors	%	Choice Rank			Total		
		1	2	3			
<b>Contribution to your discipline</b>	49.87	186	31.37	117	18.77	70	373
<b>Promoting your research career</b>	33.10	94	34.15	97	32.75	93	284
<b>Tenure and promotion</b>	37.82	90	29.41	70	32.77	78	238
<b>Personal prestige</b>	19.33	29	37.33	56	43.33	65	150
<b>Making and maintaining contact with other researchers</b>	12.30	15	41.80	51	45.90	56	122
<b>Institutional prestige</b>	7.06	6	38.82	33	54.12	46	85
<b>Payment from publishers</b>	12.50	2	25.00	4	62.50	10	16
<b>Other</b>	37.50	6	0.00	0	62.50	10	16

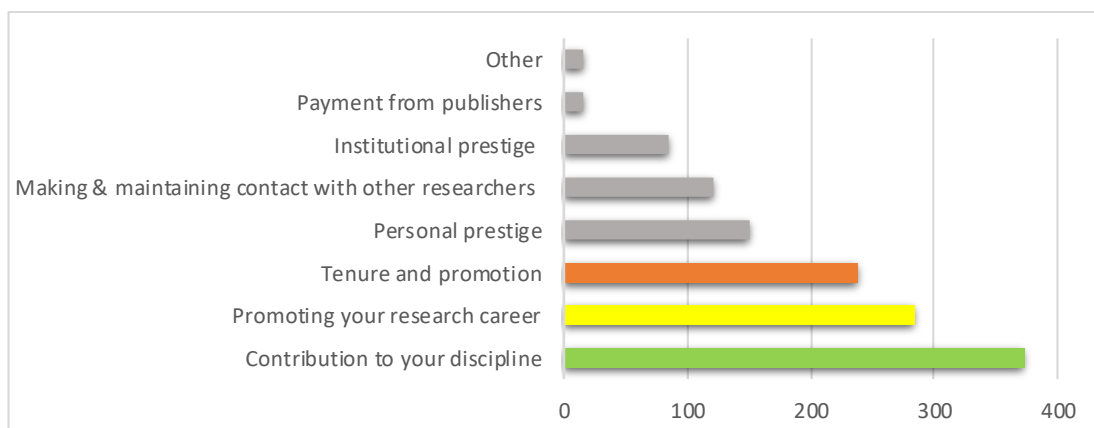


Figure 7 Top three factors motivating researchers to publish journal articles

Table 20 shows the items specified by respondents who chose “other” for Question 8. More than half of these respondents (9 out of 16, 56.25%) specified that they published journal articles to fulfil institutional requirements or as a requirement to pass a unit. Other researchers were encouraged to publish in order to gain experience in this (2 researchers, 12.5%) or to maintain scholarly communication (12.5%). One of the respondents did not specify a factor.

Table 20 Factors identified by researchers choosing “other” option in Question 8

Motivating factors	%	Count
<b>Institutional/unit requirement</b>	56.25	9
<b>Learning experience</b>	12.50	2
<b>Scholarly communication</b>	12.50	2
<b>Personal prestige</b>	6.25	1
<b>Contribution to the discipline</b>	6.25	1
<b>Not specified</b>	6.25	1
<b>Total</b>	100.00	16

Question 9 asked respondents for their opinion on the importance of mastering international languages by choosing a number from 1 to 5, where 1 means “not important” and 5 means “very important” ( $n = 440$ ). Table 21 shows that most respondents (383 researchers, 87.05%) chose number 5, meaning they considered this “very important.” About 10% (45) chose a ranking of 4, indicating that they also considered this important. Only 12 respondents (2.73%) ranked this item as a 3 and none chose a ranking of 1 or 2.

*Table 21 Researchers' opinions on the importance of mastering international languages (Q9)*

Level of importance	%	Count
<b>Not important 1</b>	0.00	0
<b>2</b>	0.00	0
<b>3</b>	2.73	12
<b>4</b>	10.23	45
<b>Very important 5</b>	87.05	383
<b>Total</b>	100	440

Question 10 asked about the researchers' scholarly activities other than publishing articles. Respondents were allowed to choose more than one option from a list of activities ( $n = 442$  with 1,058 choices in total). The results (Table 22) show that conference attendance at a national level (356 choices, 80.54% of 442 choices) or international level (359 choices, 80.54%) were the most popular scholarly activities. Peer reviewing (154 choices, 34.84%) and journal editing (150 choices, 33.94%) were the second most commonly identified activities. "Other" activities were identified by 39 participants (8.82%), and they are specified in Table 23.

*Table 22 Most popular scholarly activities other than publishing articles (Q10)*

Activities	%	Count
<b>International conference attendance</b>	81.22	359
<b>National conference attendance</b>	80.54	356
<b>Peer reviewing</b>	34.84	154
<b>Journal editing</b>	33.94	150
<b>Other, please specify:</b>	8.82	39

As shown in Table 23, quite a few respondents who chose the "other" option specified that their activities other than publishing articles were research-related activities (8 out of 39 choices, 20.51%), writing in non-journal media (8 of 39, 20.51%), or professional group activities (6 of 39, 15.38%). Other choices varied greatly, from focus group discussion, being a trainer and disseminating information



to the public, to attending workshops and annual scholarly meetings. Two respondents did not specify activities, while one other one admitted they did nothing.

*Table 23 Activities other than publishing and activities listed in Q10*

Activities	%	Count
<b>Research-related activities, e.g., doing research, research collaboration, writing proposal</b>	20.51	8
<b>Writing in media other than in journals (book, blog, website, mass media)</b>	20.51	8
<b>Professional group activities</b>	15.38	6
<b>Focus group discussion</b>	10.26	4
<b>Editorial board activities</b>	7.69	3
<b>Speaker at conference</b>	7.69	3
<b>Not specified</b>	5.13	2
<b>Attending workshop</b>	2.56	1
<b>Annual scholarly meeting</b>	2.56	1
<b>Being a trainer</b>	2.56	1
<b>Disseminating information to the public</b>	2.56	1
<b>Doing nothing</b>	2.56	1
	100	39

When respondents were asked about their extent of their scholarly community (Question 11,  $n = 441$ ) many conceived that the range of their community did not extend beyond Indonesia (36.51%) or extended more narrowly still either within their own institution (15.87%) or province (4.54%) (Table 24). Conversely, quite a few respondents considered that their academic network extended outside Indonesia, with 35.60% or 157 respondents specifying a global reach and 7.48% indicating that their scholarly community extended to South-East Asia.

*Table 24 Extent of researchers' scholarly community (Q11)*

Extent of community	%	Count
<b>Within your institution</b>	15.87	70
<b>Within your province</b>	4.54	20
<b>Within Indonesia</b>	36.51	161
<b>Within South-East Asia</b>	7.48	33
<b>Global</b>	35.60	157
<b>Total</b>	100	441

### 5.1.3 Awareness of OA and its Impact

In this section, respondents were asked about their opinion on the impact of OA, including their familiarity with the concept of OA and copyright matters.

Question 12 asked about the researchers' familiarity with the concept of OA ( $n = 435$ ). The researchers were asked to indicate their familiarity by choosing a number from 1 to 5; the higher the number they chose, the more familiar they were. The results (Table 25) show that 110 researchers (25.29%) chose ranking 5, meaning "very familiar," and 156 (35.86%) chose a ranking of 4, also indicating familiarity. On the other hand, a few (9.89%, 13+30) chose low rankings, indicating that they were not familiar with OA and some (126, 28.97%) were unsure or may have little knowledge about OA.

*Table 25 Researchers' familiarity with the concept of open access (Q12)*

Level of familiarity	%	Count
<b>Not familiar at all 1</b>	2.99	13
<b>2</b>	6.90	30
<b>3</b>	28.97	126
<b>4</b>	35.86	156
<b>Very familiar 5</b>	25.29	110
<b>Total</b>	100	435

In Question 13, the respondents were asked to rate the impact that publishing an article in an OA journal would have on four items (personal reputation, institution's reputation, discipline, and country) by giving each of the items a score from 1 to 5 ( $n = 436$ ). The lowest number (1) indicated a negative impact, while the highest number (5) indicated a positive impact.

Table 26 shows that the mean scores for the four items were all more than 4. The highest mean score was for "discipline" with 4.52, followed by "personal reputation" and "institution's reputation" with 4.44 each. The lowest score was for "country" with 4.37.

Table 26 Impact of publication in an OA journal (Q13)

Areas of impact	Min	Max	Mean	Std Dev	Var	Count
<b>Personal reputation</b>	1	5	4.44	0.75	0.56	434
<b>Institution's reputation</b>	1	5	4.44	0.76	0.57	430
<b>Discipline</b>	1	5	4.52	0.67	0.45	436
<b>Country</b>	2	5	4.37	0.78	0.61	424

Figure 8 shows the cross tabulation (crosstab) of Q13, which asked the respondents to rate their opinion on the impact of publishing articles in OA journals to four areas (personal reputation, institutional reputation, discipline, and country) and Q23, which asked their main occupations. The figure presents the groupings of the impact rates of the crosstab (Q13-Q23). Then, the percentages of the impact rates were classified into three categories: negative impact (the percentages of rate number 1+2), positive impact (rate number 4+5), unsure (rate number 3). The results show that the lecturers gave more positive impact than researchers to publishing articles in OA journals in the four areas.

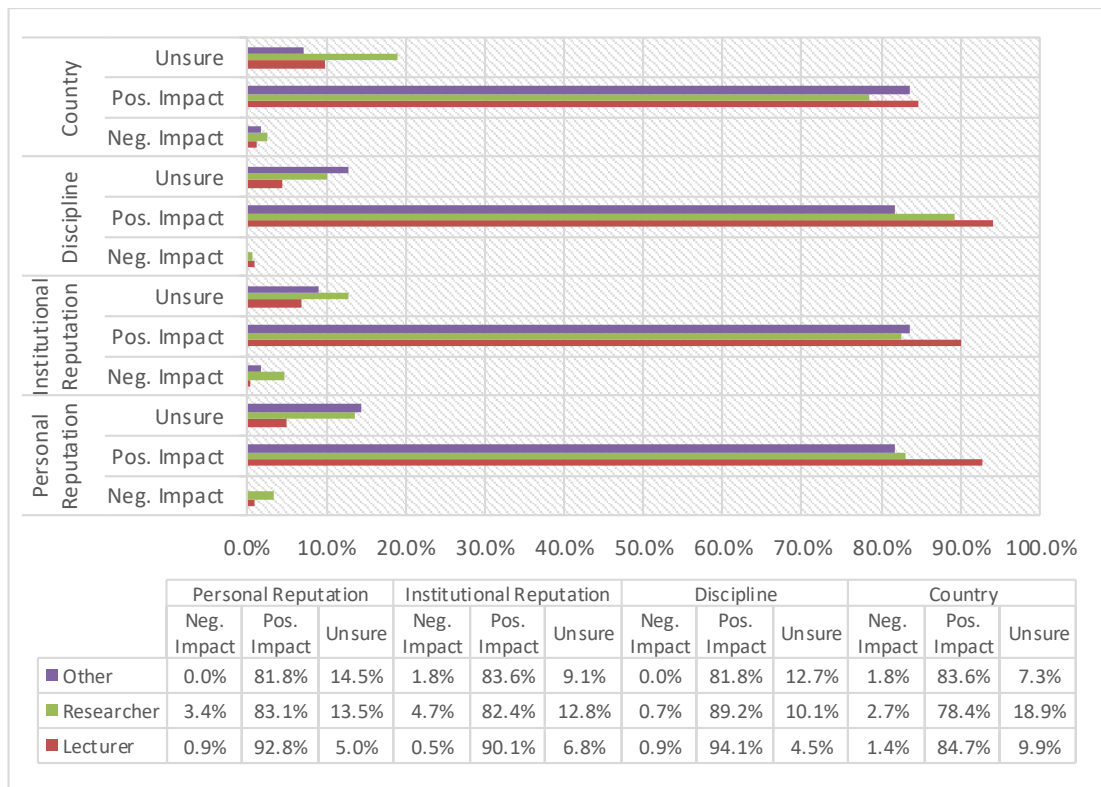


Figure 8 Crosstab Q13-Q23: The impact of publication in OA journals based on respondents' main occupations

Figure 8 shows the cross tabulation (crosstab) of Q13, which asked the respondents to rate their opinion on the impact of publishing articles in OA journals to four areas (personal reputation, institutional reputation, discipline, and country) and Q28, which asked their organization type of their workplace. The figure presents the groupings of the impact rates of the crosstab (Q13-Q28). Then, the percentages of the impact rates were classified into three categories: negative impact (the percentages of rate number 1+2), positive impact (rate number 4+5), unsure (rate number 3). The results show that the respondents working in educational institutions gave more positive impact than those from non-educational institutions to publishing articles in OA journals in all areas of impact.

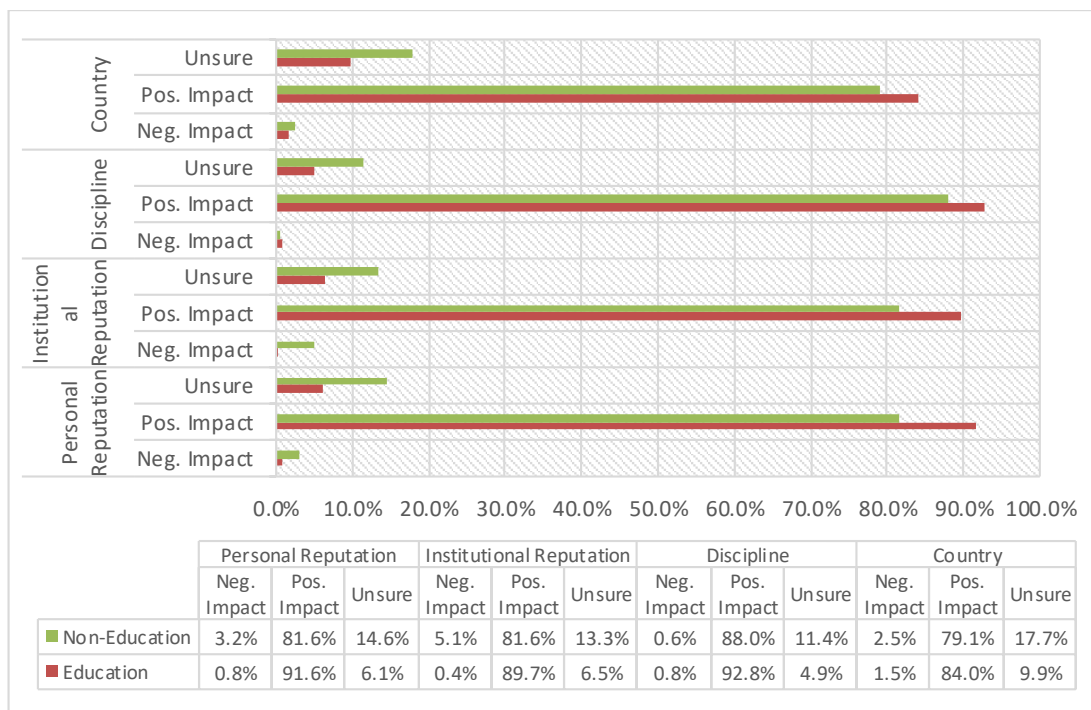


Figure 9 Crosstab Q13-Q28: The impact of publication in OA journals based on respondents' organisation type

Question 14 was similar to the previous question except that it focused on the impact of publication in commercial journals rather than OA journals. It asked the researchers to rate the impact publication in traditional (commercial) journals would have on personal and institutional reputation, discipline, and the country by giving each item a score of between 1 and 5. The results (Table 27) show that the mean scores for each item are about one level lower (less than 4) than the mean scores of the same items in the previous question (Q13). The highest score was for “institution’s reputation” with a mean of 3.47, followed by “personal reputation” and “discipline” with 3.43 and 3.4, respectively. The lowest score was for “country” with a mean of 3.3.

Table 27 Impact of publication in a commercial journal (Q14)

Areas of impact	Min	Max	Mean	Std Dev	Var	Count
<b>Personal reputation</b>	1	5	3.43	1.14	1.29	424
<b>Institution’s reputation</b>	1	5	3.47	1.13	1.27	422
<b>Discipline</b>	1	5	3.4	1.16	1.35	425
<b>Country</b>	1	5	3.3	1.13	1.27	419

Figure 10 shows the cross tabulation (crosstab) of Q14, which asked the respondents to rate their opinion on the impact of publishing articles in commercial journals to

four areas (personal reputation, institutional reputation, discipline, and country) and Q23, which asked their main occupations. The figure presents the groupings of the impact rates of the crosstab (Q14-Q23). Then, the percentages of the impact rates were classified into three categories: negative impact (the percentages of rate number 1+2), positive impact (rate number 4+5), unsure (rate number 3). The results show that the professional researchers gave more positive impact than lecturers to publishing articles in commercial journals in the four areas.

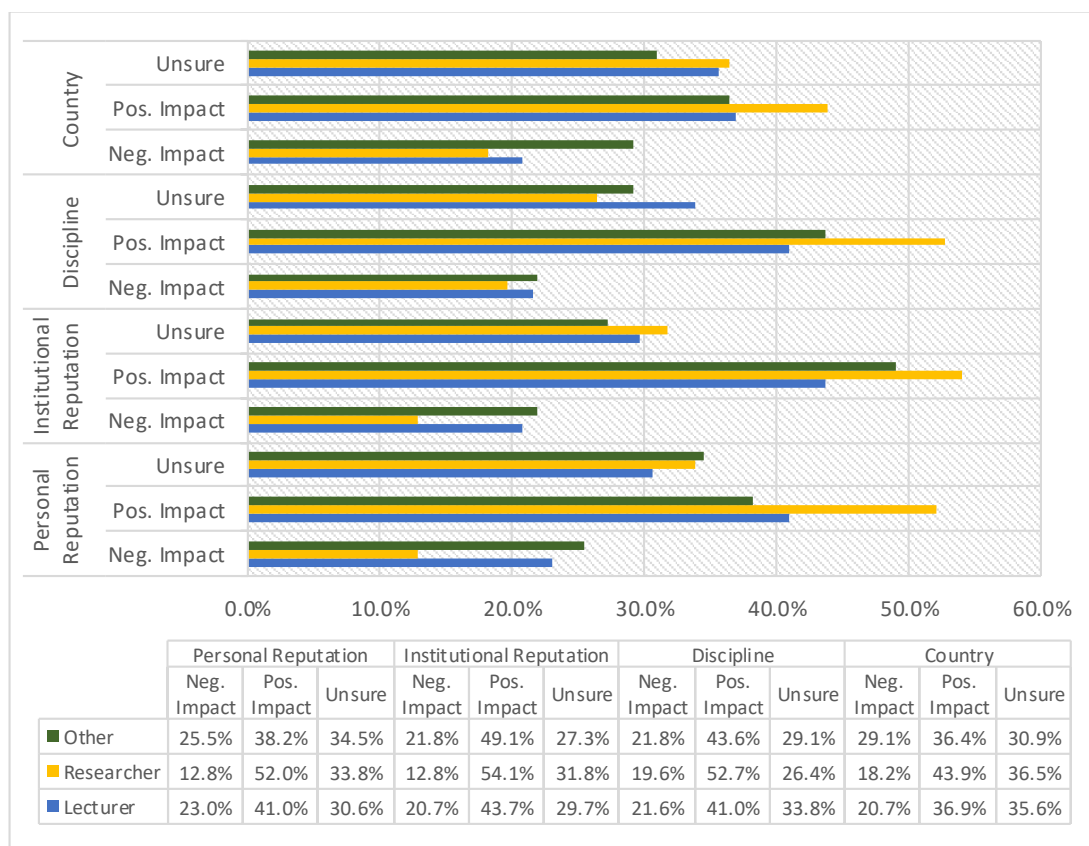


Figure 10 Crosstab Q14-Q23: The impact of publication in commercial journals based on respondents' main occupations

Figure 11 shows the cross tabulation (crosstab) of Q14, which asked the respondents to rate their opinion on the impact of publishing articles in OA journals to four areas (personal reputation, institutional reputation, discipline, and country) and Q28, which asked their organization type of their workplace. The figure presents the groupings of the impact rates of the crosstab (Q14-Q28). Then, the percentages of the impact rates were classified into three categories: negative impact (the percentages of rate number 1+2), positive impact (rate number 4+5), unsure (rate number 3). The results indicate that respondents affiliated with educational institutions had a more positive impact

on publishing articles in commercial journals across all areas of impact, in comparison to those from non-educational institutions.<sup>4</sup>

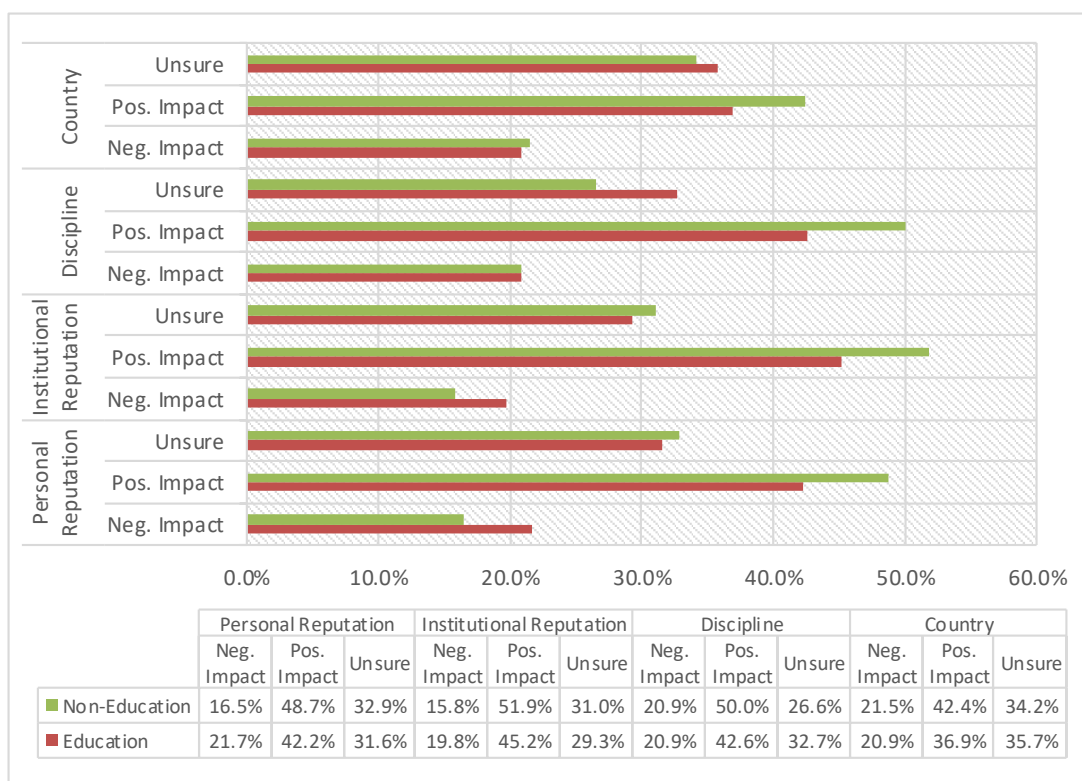


Figure 11 Crosstab Q14-Q28: The impact of publication in commercial journals based on respondents' main occupations

Question 15 asked the researchers for their opinion on the impact of OA journals on nine listed items:

1. ease of access for readers
2. emergence of predatory journals
3. high-quality peer review
4. prestige of journal
5. citation rates
6. rapid availability
7. APC (article processing charge)
8. easy publication for authors

<sup>4</sup> Within the context of Indonesia, these distinctions, while unusual, are important.

9. international audience

The researchers were asked to rate the impact of OA journals on the items by allocating each a number from 1 to 5. The lowest number (1) indicated a negative impact, and the highest number (5) indicated a positive impact.

The results (Table 28) show that the three items that have the closest mean scores to the maximum number (5) are ease of access for readers (4.79), an international audience (4.58), and rapid availability (4.52). Two other items that had relatively high mean scores (greater than 4) were citation rates (4.34) and easy publication for authors (4.3). Article processing charges and high-quality peer review had lower mean scores than most other items (3.61 and 3.75, respectively) while the emergence of predatory journals item had the lowest mean score (2.61).

*Table 28 Researchers' views of the impact of OA journals on specified items (Q15)*

Areas of impact	Min	Max	Mean	Std Dev	Var	Count
<b>Ease of access for readers</b>	1	5	4.79	0.5	0.25	431
<b>Emergence of predatory journals</b>	1	5	2.61	1.37	1.87	423
<b>High-quality peer review</b>	1	5	3.75	1.01	1.03	425
<b>Prestige of journal</b>	1	5	3.89	0.96	0.93	423
<b>Citation rates</b>	1	5	4.34	0.87	0.76	427
<b>Rapid availability</b>	1	5	4.52	0.68	0.47	423
<b>APC (article processing charge)</b>	1	5	3.61	1.08	1.16	424
<b>Easy publication for authors</b>	1	5	4.3	0.83	0.69	430
<b>International audience</b>	1	5	4.58	0.71	0.51	427

Question 16 asked respondents about the strategies that they use in identifying predatory journals (n=420). They were asked to choose all that apply and rank them based on the most frequently used method. Table 29 shows the count and the percentage of the responses for each option for each item. Note that the data for the sixth option "I am not familiar with the concept of predatory journals" is not presented because lack of awareness suggest they have no strategies to identify predatory journals.

The data presented in Table 29 shows the preference of respondents for different strategies calculated as a percentage. The results show the following approaches, in order:



1. Searching information on journal indexes and directories (38.56%).
2. Searching information on the Internet (25.92%).
3. Asking colleagues about the journal's reputation (23.65%).
4. Checking government or institutional lists of predatory journals (18.00%).
5. Looking closely at the journal's website (7.12%).

Table 29 Researchers' strategies in identifying predatory journals (Q16, n=420)

Strategies	1		2		3		4		5		6		Total Count
	%	f	%	f	%	f	%	f	%	f	%	f	
Asking colleagues about the journal's reputation	23.65%	79	11.68%	39	22.16%	74	15.27%	51	25.45%	85	1.80%	6	334
Searching information on the Internet	25.92%	92	29.30%	104	21.13%	75	17.18%	61	6.48%	23	0.00%	0	355
Searching information on journal indexes and directories such as Scopus, Scimago, and DOAJ	38.56%	145	29.52%	111	19.95%	75	6.12%	23	5.05%	19	0.80%	3	376
Checking government or institutional lists of predatory journals	18.00%	63	28.29%	99	27.43%	96	18.00%	63	7.71%	27	0.57%	2	350
Looking closely at the journal's website	7.12%	22	17.48%	54	23.30%	72	23.30%	72	26.54%	82	2.27%	7	309

In Question 17, respondents were asked to rate their level of agreement or disagreement with payment of an APC to support publishing costs by choosing a number from 1 to 5, where 1 means "strongly disagree" and 5 means "strongly agree" ( $n = 427$ ). Table 30 shows that 39.34% disagreed with the use of an APC (77 respondents disagreed and 91 strongly disagreed). A similar proportion (163 researchers or 38.17%) chose the middle ranking. Conversely, 22.48% of the researchers agreed with the APC (72 agreed and 24 strongly agreed).

Table 30 Researchers' agreement with the use of an article processing charge (APC) to support publishing costs of journals (Q17)

Level of agreement	%	Count
<b>Strongly disagree 1</b>	21.31	91
<b>2</b>	18.03	77
<b>3</b>	38.17	163
<b>4</b>	16.86	72
<b>Strongly agree 5</b>	5.62	24
<b>Total</b>	100	427

When asked about the maximum APC amount they were willing to pay (Question 18,  $n = 427$ ), as shown in Table 31, 43.09% would accept a payment between AUD 50 (IDR 500,000) and AUD 300 (IDR 3,000,000). Nearly the same number of respondents (42.15%) would only accept an APC fee of less than AUD 50.

*Table 31 Maximum article processing charge (APC) researchers would be prepared to pay (Q18)*

Maximum APC amount	%	Count
<b>Less than IDR 500,000</b>	42.15	180
<b>IDR 500,000 to IDR 3,000,000</b>	43.09	184
<b>More than IDR 3,000,000 IDR to IDR 10,000,000</b>	6.09	26
<b>More than IDR 10,000,000</b>	1.41	6
<b>Other</b>	7.26	31
<b>Total</b>	100	427

Those indicating the “other” option in Question 18 frequently suggested “no payment,” with 14 out of 31 respondents indicating in this way that they would not be prepared to pay an APC at all (see Table 32). Other researchers specified their views in various ways. Five indicated that they would accept an APC of “less than IDR 1,000,000.” Three researchers specified “less than IDR 2,000,000,” four provided a “don’t know” response, three said “it depends on the journal quality,” one proposed that the APC should be “paid by the author’s institution” and another stated that “it depends on the service offered.”

*Table 32 Researchers’ opinions about maximum APC amount other than options provided in Q18*

Maximum APC amount	%	Count
<b>No payment</b>	45.16	14
<b>Do not know</b>	12.90	4
<b>Paid by the author’s institution</b>	3.23	1
<b>Less than IDR 1,000,000</b>	16.129	5
<b>Less than IDR 2,000,000</b>	9.677	3
<b>It depends on the journal quality/peer review/Q rank</b>	9.677	3
<b>It depends on the service offered</b>	3.23	1
<b>Total</b>	100.00	31

Figure 12 shows the cross tabulation (crosstab) of Q18, which asked the respondents about the maximum article processing charge (APC) they would be prepared to pay and Q25, which asked their discipline background. The findings of the study indicate that a significant proportion of the participants expressed their preference to pay an amount equivalent to or less than AUD 300. The data suggests that Humanities scholars have more varied perspectives, with many being very price sensitive, while others are more open to higher APCs than other disciplines. Specifically, the former group exhibited a tendency to pay no more than AUD 50, whereas the latter group demonstrated a willingness to pay within the range of AUD 50 to AUD 300.

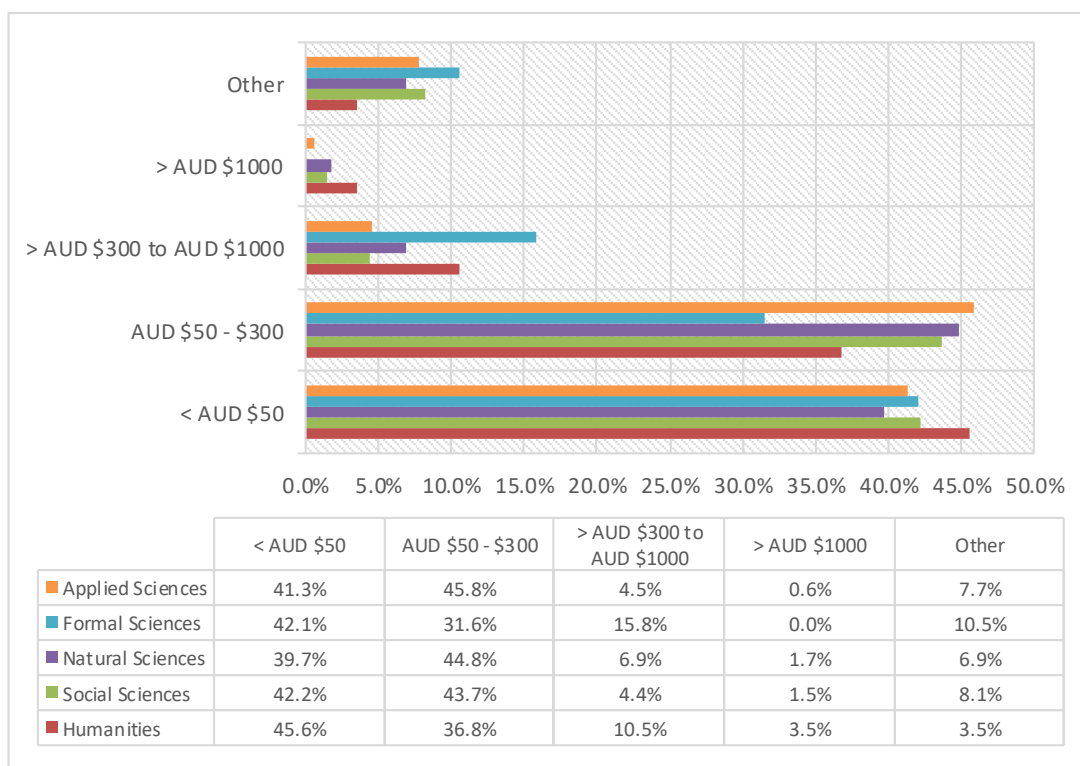


Figure 12 Crosstab Q18-Q25: Maximum APC respondents would be prepared to pay based on their discipline areas

Question 19 asked about the researchers' familiarity with their intellectual property rights in relation to their published articles. Respondents were asked to choose a number from 1 to 5 to indicate their familiarity, with 1 indicating "not familiar at all," and 5 indicating "very familiar." The results (Table 33) show that of 425 respondents, 147 stated that they were "very familiar," and a further 149 selected number 4, also implying familiarity. In contrast, eight researchers (1.88%) indicated that they are "not familiar at all" with their rights and 34 researchers (8.00%) opted

for number 2, also indicating a lack of familiarity. Finally, 87 respondents (20.47%) selected number 3, the middle number, which indicated that they were unsure.

*Table 33 Researchers' familiarity with their intellectual property rights (e.g., copyright) in relation to their published articles (Q19)*

Level of familiarity	%	Count
<b>Not familiar at all 1</b>	1.88	8
<b>2</b>	8.00	34
<b>3</b>	20.47	87
<b>4</b>	35.06	149
<b>Very familiar 5</b>	34.59	147
<b>Total</b>	100	425

Question 20 asked the researchers to indicate the importance for an article author to retain the right to distribution of an article, by choosing a number from 1 to 5 with 1 indicating “not important at all” and 5 indicating “very important” ( $n = 426$ ). The results (Table 34) show that 186 researchers (43.66%) chose number 5, the “very important” option. Also, the number of respondents opted for number 4, 37.56% (160 researchers) indicates a view that distribution rights are important. Conversely, only seven researchers (1.64%) did not see the right as important at all. Another 18 researchers (4.23%) also indicated their view that this issue was unimportant by choosing a ranking of 2, and 55 researchers (12.91%) indicated a moderate position by choosing a rank of 3.

*Table 34 Researchers' opinions on the importance of authors retaining the right to distribute an article (Q20)*

Importance rankings	%	Count
<b>Not important at all 1</b>	1.64	7
<b>2</b>	4.23	18
<b>3</b>	12.91	55
<b>4</b>	37.56	160
<b>Very important 5</b>	43.66	186
<b>Total</b>	100	426

Question 21 asked about the researchers' familiarity with Creative Commons (CC) licensing. Creative Commons, mentioned briefly in earlier chapters, is an American non-profit organisation devoted to expanding the range of creative works available for others to build upon legally and to share. The organisation has released several

copyright licenses, known as CC licenses, free of charge to the public (*Creative Commons*, 2022). The respondents were requested to show the level of their familiarity with this type of licensing by choosing a number from 1 to 5, where 1 represents “not familiar at all,” and 5 “very familiar.” The results (Table 35) show that many respondents, 177 (41.45%) out of 427 researchers, were “not familiar at all” with CC licensing. Another 75 researchers also indicated their unfamiliarity with CC licensing by choosing number 2. On the other hand, 32 researchers (7.49%) stated that they were “very familiar” with CC licensing. Likewise, 58 researchers (13.58%) showed their familiarity by choosing number 4. The remaining respondents, 85 researchers (19.91%), took the middle (number 3) position.

*Table 35 Researchers’ familiarity with Creative Commons licensing (Q21)*

Level of familiarity	%	Count
<b>Not familiar at all 1</b>	41.45	177
<b>2</b>	17.56	75
<b>3</b>	19.91	85
<b>4</b>	13.58	58
<b>Very familiar 5</b>	7.49	32
<b>Total</b>	100	427

Question 22 explored researchers’ familiarity with CC licensing further. Respondents were asked to indicate their familiarity with the CC attributes (e.g., CC-BY, CC-BY-SA, CC-BY-NC) by selecting a number from 1 to 5 where 1 represents “not familiar at all” and 5 “very familiar.” The results (Table 37) show that 43.66% of the respondents (186 out of 426 researchers) indicated that they were “not familiar at all” with the attributes. Other respondents (83 researchers) also showed their unfamiliarity by indicating a ranking of 2. In contrast, 25 respondents indicated they were “very familiar” with the CC attributes. Similarly, a few other respondents (46 researchers, 10.80%) indicated their familiarity with such attributes by indicating a ranking of 4. The remaining respondents (86 researchers, 20.19%) chose the middle response of 3.

*Table 36 Researchers’ familiarity with the Creative Commons attributes (Q22)*

Level of familiarity	%	Count
<b>Not familiar at all 1</b>	43.66	186
<b>2</b>	19.48	83
<b>3</b>	20.19	86

	<b>4</b>	10.80	46
	<b>Very familiar 5</b>	5.87	25
	<b>Total</b>	100	426

Note: The Creative Commons attributes, for example, CC-BY, CC-BY-SA, CC-BY-NC, etc.

## 5.2 The Editor Survey

The survey for journal editors was intended to explore the hindrances they encountered in journal management and their opinion about the impact of OA. The survey was conducted by distributing an online questionnaire to the OA journal editor community.

The survey was conducted between April and October 2018. The invitations were distributed through email and social media (WhatsApp and Facebook). A total of 1,710 invitations were sent via email (1,068 to editors-in-chief and 742 to supporting editors) while the number of editors contacted through social media was unknown since the invitations distributed in this way used a snowball sampling technique and there was no feasible way to track how many editors had received the invitation.

Based on the available Qualtrics data, 390 editors accessed the questionnaire. Of these, 295 completed it, 54 editors answered partially, and the remainder (41 respondents) provided no responses. The findings presentation includes partially completed questionnaires.

The questionnaire consisted of 30 questions. Of these, 23 items asked about respondents' experiences in managing their journals, including their familiarity with OA and its impact on journal publishing. The rest of the questions collected demographic details. The questions consisted of multiple-choice questions with a single selection or multiple selections, rank order questions with "other" open options to provide opportunities for other responses, and matrix tables with a Likert-type options. The demographic questions were asked at the end (see Appendix C for the editor questionnaire).

The following description of the survey results presents the demographic data before moving on to the main section focused on the editors' experience in journal management and their opinions about the impact of OA.

### 5.2.1 Demographic Data

The demographic data findings included seven data elements: the respondents' main occupation (Q24), the province of their workplace location (Q25), the type of institution where they work (Q26), their discipline background (Q27), academic qualification (Q28), the length of time engaged in editing activities (Q29), and whether or not their journal was registered in DOAJ (Q30).

Question 24 asked about the respondents' main occupations (see Table 37). Out of 295 respondents, 256 worked as lecturers (87.78%), and only 4.75% worked as professional researchers. A final group of respondents (25 editors) had various other occupations, as shown in Table 37.

*Table 37 Editors' main occupations (Q24)*

Answer	%	Count
<b>Lecturer</b>	86.78	256
<b>Researcher</b>	4.75	14
<b>Other</b>	8.47	25
<b>Total</b>	100	295

Table 38 shows that among the 25 respondents who chose "other" for Question 24, eight were technical support staff, six were editors, five worked as librarians, four were students, and the last two respondents worked as a lab staff member and a graphic designer.

*Table 38 Editors' other professions*

Answer	%	Count
<b>Student</b>	16.00	4
<b>Editor</b>	24.00	6
<b>Librarian</b>	20.00	5
<b>Lab staff</b>	4.00	1
<b>Graphic designer</b>	4.00	1
<b>Technical support</b>	32.00	8
<b>Total</b>	100	25

Question 25, asked respondents to identify their work location, and 294 responses were received. The results (Table 39) show that the editors were mostly from the

Java island group (204 editors, 69.38%), followed by Sumatera (34 editors, 11.56%), Sulawesi (9%, 29 editors), Nusa Tenggara (4.08%, 12 editors), Kalimantan (3.40%, 10 editors), Maluku (1.36%, 4 editors), and Papua (0.34%, 1 editor). Eight out of 34 provinces (italicised in Table 39) had no respondents (see Figure 2 for a map of Indonesian provinces).

Table 39. Editors' distribution based on the province where they work (Q25)

Island	Answer	%	Count
<b>Sumatera</b>	Aceh	2.38	7
	Sumatera Utara	1.02	3
	Sumatera Barat	2.38	7
	Riau	2.04	6
	<i>Kepulauan Riau</i>	0.00	0
	Jambi	0.68	2
	Sumatera Selatan	0.34	1
	<i>Bangka Belitung</i>	0.00	0
	<i>Bengkulu</i>	0.00	0
	Lampung	2.72	8
<b>Jawa</b>	DKI Jakarta	4.42	13
	Jawa Barat	11.90	35
	Banten	2.38	7
	Jawa Tengah	19.73	58
	DI Yogyakarta	8.84	26
	Jawa Timur	22.11	65
<b>Nusa Tenggara</b>	Bali	2.72	8
	Nusa Tenggara Barat	1.36	4
	<i>Nusa Tenggara Timur</i>	0.00	0
<b>Kalimantan</b>	Kalimantan Barat	0.68	2
	Kalimantan Tengah	0.34	1
	Kalimantan Selatan	1.70	5
	Kalimantan Timur	0.68	2
	<i>Kalimantan Utara</i>	0.00	0
<b>Sulawesi</b>	Sulawesi Utara	0.34	1
	Sulawesi Barat	1.02	3
	<i>Sulawesi Tengah</i>	0.00	0
	Sulawesi Tenggara	0.68	2
	Sulawesi Selatan	7.82	23
	<i>Gorontalo</i>	0.00	0
<b>Maluku</b>	Maluku	1.36	4
	<i>Maluku Utara</i>	0.00	0
<b>Papua</b>	Papua Barat	0.34	1
	<i>Papua</i>	0.00	0
<b>Total</b>		100	294

Table 40 shows that almost all respondents (95.90% of 293 editors) worked in academic institutions, while the remainder (4.10%, 12 editors) worked in non-academic institutions.



Table 40 Type of workplace institution (Q26)

Answer	%	Count
<b>Academic institution</b>	95.90	281
<b>Non-academic institution</b>	4.10	12
<b>Total</b>	100	293

Question 27 asked about the editors' educational background; 295 editors responded to the question. The discipline grouping used in Table 41 is based on the appendix of the Decision of *Ristekdikti* Minister No. 257/M/KPT/2017 about the nomenclature for bachelor's, master's, and doctoral study programs. The most common educational background of the editors was applied sciences (34.92%) and social sciences (95 editors, 32.20%), followed by humanities (49 editors, 16.61%), natural sciences (26 editors, 8.81%) and formal sciences (22 editors, 7.46%).

Table 41 Editors' educational background (Q27)

Answer	%	Count
<b>Humanities (Art, Philosophy, Linguistics, History, Literature, Language, etc.)</b>	16.61	49
<b>Social Sciences (Anthropology, Archaeology, Agama, Economics, Psychology, Politics, etc.)</b>	32.20	95
<b>Natural Sciences (Chemistry, Biology, Physics, Geology, Geophysics, Astronomy, etc.)</b>	8.81	26
<b>Formal sciences (Computer, Mathematics, Statistics, etc.)</b>	7.46	22
<b>Applied Science (Agriculture, Education, Library and Information Science, Law, Medicine, Engineering, Environment, etc.)</b>	34.92	103
<b>Total</b>	100	295

Question 28 asked about the editors' highest level of education and received 293 responses. Table 43 shows that the majority had a master's degree (65.53%) while 30% held a PhD. The remaining respondents (13 editors, 4.44%) had a bachelor's degree.

Table 42 Editors' highest level of education (Q28)

Answer	%	Count
<b>Bachelor's degree</b>	4.44	13
<b>Master's degree</b>	65.53	192
<b>PhD</b>	30.03	88
<b>Total</b>	100	293

In Q29, respondents were asked how long they had been engaged in editing. As Table 43 shows, they were mostly new to journal editing, with less than 5 years'

experience (62.71% of 295 editors) while 10.51% had experience of more than 10 and up to 20 years. Only four respondents (1.36%) had been involved in editing for more than 20 years.

*Table 43 Length of experience as an editor (Q29)*

Answer	%	Count
<b>Less than 5 years</b>	62.71	185
<b>5–10 years</b>	25.42	75
<b>More than 10 to 20 years</b>	10.51	31
<b>More than 20 years</b>	1.36	4
<b>Total</b>	100	295

In the last demographic question, Q30, the respondents were asked to specify whether or not their journal had been registered in the DOAJ (see Table 44). Out of 295 responses, 248 editors (84.07%) reported that their journal had been listed in the DOAJ. The remaining respondents' journals were not listed at the time they were filling in the questionnaire (April–October 2018).

*Table 44 Listing of editors' journals in the DOAJ (Q30)*

Answer	%	Count
<b>Yes</b>	84.07	248
<b>No</b>	15.93	47
<b>Total</b>	100	295

To summarize, nearly all the editors were lecturers, and a small number worked as professional researchers. Other respondents had various professions, such as librarian or a technical support role. Most of them had a master's degree, while the remainder had a doctoral degree, with backgrounds mainly in applied sciences and social sciences. A few had backgrounds in humanities, natural sciences, and formal sciences. Editors' educational backgrounds were mostly related to the subject of their journals.

Nearly all respondents worked in academic institutions and, as shown in Figure 13, were mostly located in the Java island group, followed by those in Sumatera and Sulawesi. Less than 10% were from Nusa Tenggara, Kalimantan, Maluku, or Papua. As previously noted, Java is the most populated island where most Indonesian universities are located. The distribution of the respondents is more or less similar to

the distribution of Internet users in Indonesia, where more than 50% are from Java, followed by Sumatera and Sulawesi (Choiri, 2019).

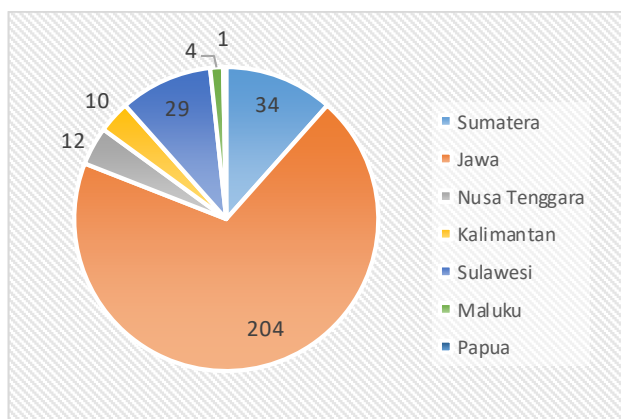


Figure 13 Editors' distribution based on the province where they work

### 5.2.2 Editing Experience and Impact of Open Access

This subsection presents the results of Questions 1 to 23, which related to the editors' experience of journal management, including the types of support they received (Q12) and the level of hindrances faced (Q13) in doing their job. The questions also explored their opinions about the impact of OA (Q7 and Q8).

Question 1 (Q1) asked whether the editors' educational background was related to the subject of their journal ( $n = 348$ ). Respondents were asked to rate the extent to which the two were related by choosing a number between 1 and 5, with 1 meaning "not related at all" and 5 meaning "very related." The results (Table 45) show the majority of respondents (239, 68.68%) indicated that their educational background was closely related to the subject of their journal. Likewise, 57 respondents (16.38%) also indicated relatedness by choosing a rank of 4. In contrast, 16 respondents (4.60%) indicated that their background was not related to their journal area by choosing the second lowest ranking of 2, and eight respondents (2.30%) chose the lowest number (1), means their background was "not related at all" to their journal subject. Finally, 28 editors (8.05%) chose the middle ranking.

Table 45 Relatedness of editors' educational background with the subject of their journal (Q1)

#	Answer	%	Count
1	Not related at all 1	2.30	8
2	2	4.60	16
3	3	8.05	28
4	4	16.38	57
5	Very related 5	68.68	239
	Total	100	348

Question 2 asked about the editors' own publishing experience by asking them to indicate how many times they had published in a scholarly journal ( $n = 331$ ). As shown in Table 46, most (56.5%) had published between one and 10 times. This was followed by those who had published more than 10 times and up to 20 times (70 editors, 21.15%). Some (63 editors, 19.03%) indicated that they had published more than 20 times. Conversely, 11 respondents (3.32%) indicated that they had never published.

Table 46. How many times have you published in a scholarly journal? (Q2)

Answer	%	Count
<b>Never</b>	3.32	11
<b>1–10 times</b>	56.50	187
<b>11–20 times</b>	21.15	70
<b>More than 20 times</b>	19.03	63
<b>Total</b>	100	331

Q3 asked the respondents to specify their responsibilities by choosing all the responsibility options that applied ( $n = 330$ , total choices = 1,277).

The results (Table 47) show that the top three responsibilities of the editors were evaluating articles (73.63% of 1277 respondents), giving final approval on which articles to publish (69.39%), and setting up a panel of reviewers/referees (63.33%). Their jobs also included copy-editing (55.75%), creating editorial boards (55.15%), layout (37.27%), and IT-related work such as software installation and server maintenance (8.18%).

Table 47. Responsibilities as a journal editor (Q3, n=330)

	Answer	%	Count
	<b>Evaluating articles</b>	73.63	243
	<b>Copy-editing articles</b>	55.75	184
	<b>Creating editorial boards</b>	55.15	182
	<b>Set up a panel of reviewers/referees</b>	63.63	210
	<b>Giving final approval on which article to publish</b>	69.39	229
	<b>IT related work such as software installation and server maintenance</b>	29.93	79
	<b>Layout</b>	37.27	123
	<b>Other</b>	8.18	27
	<b>Total</b>		1277

Note: respondents were asked to tick all choices that apply

Of the 27 editors who chose the option “other” in Q3, Table 48 shows that five specified that they do all or almost all jobs in the publishing process. Other editors described several other non-editing extra jobs, such as dealing with administrative matters, technical tasks, promotion, and marketing.

Table 48 Other responsibilities of editors (Q3)

	Answer	Count
	<b>Doing all or most of the publishing process</b>	5
	<b>Administrative tasks</b>	2
	<b>Editor-in-chief</b>	2
	<b>Correspondence</b>	2
	<b>Proofreading</b>	2
	<b>Call for papers, printing, and marketing</b>	1
	<b>Directing editing standards, deciding edition topics</b>	1
	<b>Looking for articles</b>	2
	<b>Accreditation affairs</b>	1
	<b>Draft/manuscript control</b>	1
	<b>Technical tasks</b>	1
	<b>Managing journal</b>	1
	<b>Controlling the publishing process in OJS</b>	1
	<b>Managing editing</b>	1
	<b>Budgeting and advertising</b>	1
	<b>Editing</b>	1
	<b>Networking</b>	1
	<b>Uploading articles</b>	1
	<b>Total</b>	27

Note: OJS= Open Journal System

Q4 asked the editors about the skills needed as a journal editor. The respondents were asked to tick all items that applied and rank them by number (e.g., 1. copy-editing, 2. graphic design, 3. international languages), with number 1 indicating the most necessary skill.

Table 49 shows the choices count and percentage ( $n=305$ ). Based on the percentage of total participants, the top three skills selected by the most respondents in the first ranking are discipline-related skills (34.43%), IT-related skills such as OJS installation and maintenance (24.92%), and copy-editing (16.39%). Other skills editors considered important were including international language skills (11.48%) and research skills (10.82%).

Table 49 Skills needed as a journal editor (Q4,  $n=305$ )

Question	1		2		3		4		5		6		7		Total Count
	%	f	%	f	%	f	%	f	%	f	%	f	%	f	
<b>IT related skills such as OJS installation and maintenance</b>	24.92	76	11.48	35	7.87	24	14.43	44	16.07	49	2.62	8	0.33	1	237
<b>International languages (English, Arabic, etc.)</b>	11.48	35	18.36	56	21.64	66	20.00	61	11.15	34	0.98	3	0.00	0	255
<b>Graphic design</b>	0.66	2	2.95	9	3.28	10	2.62	8	7.87	24	22.62	69	1.64	5	127
<b>Copy-editing</b>	16.39	50	18.36	56	21.64	66	19.34	59	8.85	27	2.95	9	0.00	0	267
<b>Discipline/subject related skills</b>	34.43	105	19.67	60	20.98	64	11.15	34	5.25	16	0.98	3	0.00	0	282
<b>Research skills</b>	10.82	33	27.87	85	18.36	56	12.13	37	7.21	22	3.93	12	0.00	0	245
<b>Other</b>	1.31	4	0.00	0	2.30	7	0.33	1	1.97	6	1.64	5	2.30	7	30

Q5 asked respondents whether or not they received a financial incentive ( $n = 310$ ). Three options were offered: “yes, I receive a salary”; “yes, I receive an honorarium”; and “no.” Table 50 shows that only a few editors (35, 11.29%) received a salary for their work while just over half (173, 55.81%) received only an honorarium. A third of respondents (102, 32.90%) were not financially rewarded at all.

Table 50 Financial compensation received by editors (Q5)

#	Answer	%	Count
<b>1</b>	Receive a salary	11.29	35
<b>2</b>	Receive an honorarium	55.81	173
<b>3</b>	No financial incentive received	32.90	102
	Total	100	310

Q6 asked about the editors' motivation for maintaining their journals. The respondents were asked to choose all options that applied and rank them by number, with a rank of 1 indicating the primary motivating factor. The count and percentages of the responses are presented in Table 51. The main motivations of the editors are listed consecutively as follows (based on the percentages of the 1<sup>st</sup> ranking choices):

1. Discipline/subject development (40.59%)
2. It is part of my duty (33.66%)
3. Personal satisfaction (17.16%)
4. Personal reputation (4.29%)
5. For tenure and promotion (0.33%)

*Table 51 Editors' primary motivation in maintaining the journal (Q6, n=303)*

Question	1		2		3		4		5		6		Total Count
	%	f	%	f	%	f	%	f	%	f	%	f	
<b>It is part of my duty</b>	33.66	102	18.48	56	10.56	32	5.94	18	3.30	10	0.33	1	219
<b>Personal satisfaction</b>	17.16	52	26.73	81	20.46	62	3.96	12	3.96	12	0.33	1	220
<b>For tenure and promotion</b>	0.33	1	6.93	21	7.59	23	10.23	31	9.24	28	0.66	2	106
<b>Personal reputation</b>	4.29	13	14.19	43	17.16	52	13.20	40	6.27	19	0.00	0	167
<b>Discipline/subject development</b>	40.59	123	24.75	75	12.54	38	6.60	20	0.99	3	0.00	0	259
<b>Other</b>	3.96	12	0.99	3	1.32	4	2.31	7	0.33	1	0.99	3	30

Those who chose "other" option in Q6 (30 editors) gave various responses about their motivations. Among these motivations (shown in Table 52) are duty (30%), doing good (20%), institutional reputation (13.33%), networking (10%), learning (6.66%), and assisting authors or young researchers (6.66%). Other motivations mentioned were recognition/appreciation, personal satisfaction, journal accreditation, and data (one respondent each, 3.33%).

*Table 52 Editors' other motivations for maintaining the journal (Q6)*

Answer	%	Count
<b>Duty</b>	30	9
<b>Doing good</b>	20	6
<b>Institutional reputation</b>	13.33	4

<b>Networking</b>	10	3
<b>Learning</b>	6.66	2
<b>Assisting authors/young researchers</b>	6.66	2
<b>Appreciation/recognition</b>	3.33	1
<b>Personal satisfaction</b>	3.33	1
<b>Journal accreditation</b>	3.33	1
<b>Data</b>	3.33	1
<b>Total</b>	99.97	30

Q7 asked for the respondents' opinion on the impact of editing a journal on four items: the personal reputation, institution's reputation, the journal's discipline, and the country. The respondents were requested to give each item a ranking from 1 to 5, with 1 meaning "negative impact" and 5 meaning "positive impact." Table 53 shows the count and the percentage of the responses for each option for each item; Table 54 shows the mean scores of the results.

*Table 53 Impact of editing a journal: Frequency of ratings for four items (Q7)*

Question	Negative impact 1	2	3	4	Positive impact 5	Total
<b>Personal reputation</b>	0.00% 0	2.93% 9	15.31% 47	28.34% 87	53.42% 164	307
<b>Institution's reputation</b>	0.00% 0	0.65% 2	6.49% 20	25.97% 80	66.88% 206	308
<b>Discipline</b>	0.00% 0	0.97% 3	8.74% 27	35.92% 111	54.37% 168	309
<b>Country</b>	0.00% 0	2.28% 7	19.54% 60	31.27% 96	46.91% 144	307

The mean scores in Table 54 are all close to 5, which indicates a positive impact in all areas. The highest mean score (4.59) was for the "discipline" item, followed by "institution's reputation" (4.44), "personal reputation" (4.32), and "country" (4.23).

*Table 54 Impact of editing a journal: Mean scores for four items (Q7)*

Field	Min	Max	Mean	Std Dev	Var	Count
<b>Personal reputation</b>	2	5	4.32	0.84	0.7	307
<b>Institution's reputation</b>	2	5	4.59	0.64	0.41	308
<b>Discipline</b>	2	5	4.44	0.69	0.48	309
<b>Country</b>	2	5	4.23	0.84	0.7	307

Q8 asks the respondents about the impact of OA on nine items:



1. easy access for readers
2. emergence of predatory journals
3. high-quality peer review
4. journal prestige
5. citation rates
6. rapid availability
7. APC (article processing charge)
8. easy publication for authors
9. international audience

The respondents were asked to give each items a ranking of 1 to 5, with 1 indicating “negative impact” and 5 indicating “positive impact” (the question is a little ambiguous, as evidenced by the fact that the findings might not be reliable). Table 55 shows the count and the percentage of the responses for each option for each item; Table 56 shows the mean scores of the results.

*Table 55 Editors’ opinions of the impact of open access on specified items: Frequency of ratings (Q8)*

Question	Negative impact 1		2		3		4		Positive impact 5		Total
	%	f	%	f	%	f	%	f	%	f	
<b>Easy access for readers</b>	0.00	0	0.66	2	0.99	3	14.14	43	84.21	256	304
<b>Emergence of predatory journals</b>	18.52	55	22.90	68	31.31	93	17.17	51	10.10	30	297
<b>High-quality peer review</b>	0.00	0	1.00	3	18.27	55	43.85	132	36.88	111	301
<b>Journal prestige</b>	0.00	0	1.32	4	13.25	40	39.74	120	45.70	138	302
<b>Citation rates</b>	0.00	0	0.33	1	6.62	20	29.47	89	63.58	192	302
<b>Rapid availability</b>	0.00	0	0.66	2	7.26	22	23.43	71	68.65	208	303
<b>APC (article processing charge)</b>	4.97	15	9.27	28	31.46	95	32.12	97	22.19	67	302
<b>Easy publication for authors</b>	0.33	1	1.98	6	18.15	55	33.66	102	45.87	139	303
<b>International audience</b>	0.00	0	0.99	3	3.96	12	18.15	55	76.90	233	303

In Table 56, the closer the mean score is to number 5, the more positive the perceived impact. The results show that four items had mean scores close to 5: easy access for readers (mean = 4.82), the international audience (4.71), rapid availability

(4.6), and citation rates (4.56). Other items with mean scores of more than four were journal prestige (4.3), easy publication for authors (4.23), and high-quality peer review (4.17). On the other hand, the “emergence of predatory journals” item received the lowest mean score (2.77), followed by “article processing charge” (3.57).

*Table 56 Editors’ opinions of the impact of open access on specified items: Mean scores (Q8)*

Question	Min	Max	Mean	SD	Var	Count
<b>Easy access for readers</b>	2	5	4.82	0.46	0.21	304
<b>Emergence of predatory journals</b>	1	5	2.77	1.22	1.49	297
<b>High-quality peer review</b>	2	5	4.17	0.75	0.56	301
<b>Journal prestige</b>	2	5	4.3	0.74	0.55	302
<b>Citation rates</b>	2	5	4.56	0.63	0.4	302
<b>Rapid availability</b>	2	5	4.6	0.65	0.42	303
<b>APC (article processing charge)</b>	1	5	3.57	1.08	1.17	302
<b>Easy publication for authors</b>	1	5	4.23	0.84	0.7	303
<b>International audience</b>	2	5	4.71	0.59	0.34	303

Q9 asked about the average time delay for article publication in the respondents’ journals ( $n = 303$ ). The results (Table 60) show that the most commonly reported average publishing delay is between 4 and 12 weeks (55.12%, 167 editors). A quarter of the editors (24.75%, 75 editors) stated that the delay was more than 12 weeks to 24 weeks. Only 14.52% of respondents (44 editors) reported a faster publishing process of less than 4 weeks.

*Table 57 Average time delay for article publication (Q9)*

Answer	%	Count
<b>Less than 4 weeks</b>	14.52	44
<b>Between 4 weeks and 12 weeks</b>	55.12	167
<b>More than 12 weeks to 24 weeks</b>	24.75	75
<b>More than 24 weeks</b>	5.61	17
<b>Total</b>	100	303

Q10 asked about the factors that delay publication. Respondents were asked to identify three factors that may delay the publishing process and rank them from 1 to 3, with 1 indicating the most influential factor.

Table 58 shows the percentages and frequencies of the responses (n=298). The results indicated that the top three factors that delay publication are peer reviewing (56.71%), the number of articles submitted (24.16%), and editing (15.10%). Additional factors specified by the respondents who chose the “other” option are shown in Table 59.

*Table 58 Three factors identified by editors as most important in publication delays: Frequency of responses (Q10, n=298)*

Question	1		2		3		Total
	%	f	%	f	%	f	
<b>Editing</b>	15.10	45	37.92	113	36.24	108	266
<b>Peer reviewing</b>	56.71	169	33.89	101	8.72	26	296
<b>Number of articles submitted</b>	24.16	72	20.91	62	24.50	73	207
<b>Layout</b>	1.01	3	3.02	9	23.49	70	82
<b>Other</b>	3.02	9	4.36	13	7.05	21	43

Table 59 shows factors identified by respondents’ who selected the “other” option for Q10. Some respondents suggested that revisions from authors (45.23%, 19 editors) and article quality (21.42%, 9 editors) were among the top factors that impede publication. Various other responses were received, including reviewers’ feedback (2), lack of funding (2), copy-editing (1), lack of human resources (1), continuity (1), inviting reviewers (1), APC (1), team collaboration (1), work overload (1), unfamiliarity of the authors with OJS (1), referencing style (1), and technical matters (1).

*Table 59 Factors specified by respondents who chose the “other” option in Q10*

Answer	%	Count
<b>Peer reviewing: author revision</b>	44.18	19
<b>Article quality</b>	23.26	10
<b>Peer reviewing: reviewers’ feedback</b>	4.65	2
<b>Lack of funding</b>	4.65	2
<b>Technical matters</b>	2.32	1
<b>Copy-editing</b>	2.32	1
<b>Lack of human resources</b>	2.32	1
<b>Continuity</b>	2.32	1
<b>Inviting reviewers</b>	2.32	1
<b>Article processing charge (APC)</b>	2.32	1
<b>Team collaboration</b>	2.32	1
<b>Extra jobs/work overload</b>	2.32	1
<b>Author unfamiliarity with OJS</b>	2.32	1

<b>Referencing style</b>	2.32	1
<b>Total</b>	100	43

Q11 asked about the reviewers' financial expectations for reviewing articles ( $n = 302$ ). Table 60 shows that most respondents (48.68%) reported that some reviewers expected to be financially rewarded for each article they reviewed, while 51 respondents (16.89%) indicated that most reviewers expected a reward. A few editors (2.65%, 8 editors) reported that all reviewers expect this. In contrast, 96 editors (31.79%) indicated that no reviewers expected a financial reward.

*Table 60 Editors' experience of reviewers' expectations of payment for reviewing (Q11)*

Answer	%	Count
<b>All reviewers expect payment</b>	2.65	8
<b>Most reviewers expect payment</b>	16.89	51
<b>Some reviewers expect payment</b>	48.68	147
<b>No reviewers expect payment</b>	31.79	96
<b>Total</b>	100	302

Q12 asked respondents to indicate the level of support provided to OA journal publishing by five specified elements, giving each item a rank of 1–5, with 1 meaning “not supportive at all” and 5 meaning “very supportive.” The listed elements were:

1. government regulation
2. government financial support
3. institutional support
4. free e-journal applications such as OJS
5. editor peer support (e.g., RJI, ADEI)

Table 61 shows the percentages and frequencies of the responses; Table 62 shows the mean scores of the results. The closer the mean score is to 5, the higher the level of support provided by an element. The results show that the three elements identified as providing the highest support, with mean scores of more than 4, were: free e-journal applications such as OJS (mean = 4.53), government regulation (mean =

4.1), and editor peer support (mean = 4.09). Institutional support and government financial support had mean scores of 3.58 and 3.1, respectively.

*Table 61 Level of support provided by specified elements to OA journal publishing: Frequency of responses (Q12)*

Question	Not supportive at all 1		2		3		4		Very supportive 5		Total
	%	f	%	f	%	f	%	f	%	f	
<b>Government regulation</b>	1.67	5	5.35	16	17.73	53	31.77	95	43.48	130	299
<b>Government financial support</b>	13.47	40	15.15	45	35.02	104	20.54	61	15.82	47	297
<b>Institutional support</b>	5.37	16	12.08	36	29.19	87	25.84	77	27.52	82	298
<b>Free e-journal applications such as OJS</b>	0.67	2	1.34	4	6.38	19	27.18	81	64.43	192	298
<b>Editor peer support (e.g., RJI, ADEI)</b>	1.01	3	3.36	10	21.81	65	32.89	98	40.94	122	298

*Table 62 Level of support provided by specified elements to OA journal publishing: Mean scores (Q12)*

Question	Min	Max	Mean	SD	Var	Count
<b>Government regulation</b>	1	5	4.1	0.98	0.97	299
<b>Government financial support</b>	1	5	3.1	1.23	1.52	297
<b>Institutional support</b>	1	5	3.58	1.17	1.36	298
<b>Free e-journal applications such as OJS</b>	1	5	4.53	0.73	0.54	298
<b>Editor peer support (e.g., RJI, ADEI)</b>	1	5	4.09	0.92	0.84	298

Q13 asked the respondents to rate the level of hindrance presented by five specified factors faced by the editors in OA journal publishing. Respondents were asked to rate each factor with a number from 1 to 5, with 1 indicating “no hindrance” and 5 indicating “severe hindrance.” The five factors specified were: finding authors to publish their article, finding peer reviewers, the editorial process, reviewers’ punctuality, and adherence to the accreditation standard.

Table 63 shows the percentages and frequencies of the responses. Mean scores of these results are shown in Table 64; the closer a mean score to 5, the more severe the impact of the factor, The results in Table 64 show that the mean scores were generally in the middle of the range (around 3) except for “reviewers’ punctuality,” which was closer to 4 (mean = 3.78).

Table 63 Hindrance level of specified factors faced by editors in open access journal publishing: Frequency of responses (Q13)

Question	1 No hindrance		2		3		4		5 Severe hindrance		Total
	%	f	%	f	%	f	%	f	%	f	
<b>Finding authors to publish their article</b>	9.18	27	21.77	64	27.21	80	26.19	77	15.65	46	294
<b>Finding peer reviewers</b>	7.85	23	18.77	55	33.11	97	29.01	85	11.26	33	293
<b>Editorial process</b>	10.20	30	18.71	55	37.41	110	23.47	69	10.20	30	294
<b>Reviewers' punctuality</b>	4.39	13	8.11	24	21.62	64	36.82	109	29.05	86	296
<b>Adherence to accreditation standard</b>	11.22	33	13.27	39	30.61	90	29.59	87	15.31	45	294

Table 64 Hindrance level of specified factors faced by editors in open access journal publishing: Mean scores (Q13)

Question	Min	Max	Mean	SD	Variance	Count
<b>Finding authors to publish their article</b>	1	5	3.17	1.2	1.44	294
<b>Finding peer reviewers</b>	1	5	3.17	1.1	1.21	293
<b>Editorial process</b>	1	5	3.05	1.11	1.24	294
<b>Reviewers' punctuality</b>	1	5	3.78	1.09	1.18	296
<b>Adherence to accreditation standard</b>	1	5	3.24	1.2	1.43	294

In Q14, the respondents were asked to indicate their level of familiarity with the following journal publishing institutions and resources:

- DOAJ (Directory of Open Access Journals)
- COPE (Committee on Publication Ethics)
- PERK (Publishing Ethics Resource Kit), a publishing ethics resource launched by Elsevier
- SPARC (Scholarly Publishing and Academic Resources Coalition), an OA coalition of academics and libraries
- SHERPA/ROMEO, a database of copyright and OA self-archiving policies of academic journals
- LOCKSS (Lots of Copies Keep Stuff Safe), a digital preservation service

Mean score results (Table 66) show that the closest mean score to 5, meaning “very familiar,” was for the DOAJ item (mean = 4.6). All other items had mean scores of less than 3: LOCKSS (mean = 2.71), COPE (mean = 2.66), SHERPA/RoMEO (mean = 2.6), SPARC (mean = 1.95), PERK (mean = 1.91).

*Table 65 Editors’ familiarity with specified journal publishing resources and institutions: Frequency of responses (Q14)*

Question	1 Not familiar		2		3		4		5 Very familiar		Total
	%	f	%	f	%	f	%	f	%	f	
<b>DOAJ</b>	0.34	1	1.36	4	6.44	19	21.36	63	70.51	208	295
<b>COPE</b>	28.47	82	20.83	60	20.83	60	15.63	45	14.24	41	288
<b>PERK</b>	45.23	128	26.50	75	22.26	63	3.89	11	2.12	6	283
<b>SPARC</b>	43.62	123	28.72	81	19.15	54	5.67	16	2.84	8	282
<b>SHERPA/ ROMEO</b>	30.04	85	23.32	66	20.49	58	8.83	25	17.31	49	283
<b>LOCKSS</b>	24.91	72	21.45	62	26.64	77	12.11	35	14.88	43	289

*Table 66 Editors’ familiarity with specified journal publishing resources and institutions: Mean scores (Q14)*

Field	Min	Max	Mean	Std Dev	Var	Count
<b>DOAJ</b>	1	5	4.6	0.7	0.49	295
<b>COPE</b>	1	5	2.66	1.4	1.96	288
<b>PERK</b>	1	5	1.91	1.01	1.01	283
<b>SPARC</b>	1	5	1.95	1.05	1.11	282
<b>SHERPA/ROMEO</b>	1	5	2.6	1.43	2.06	283
<b>LOCKSS</b>	1	5	2.71	1.36	1.84	289

When respondents ( $n = 299$ ) were asked in Q15 whether or not they received annual funds from their institution for journal maintenance, the majority (73.58%, 220 editors) reported that they received such annual funds (see Table 67).

*Table 67 Availability of annual funds from editors’ institutions for journal maintenance (Q15)*

Answer	%	Count
<b>Yes</b>	73.58	220
<b>No</b>	26.42	79
<b>Total</b>	100	299

Those who answered “yes” to Q15 were asked to answer an additional question (Q16). They were asked to choose the total amount of annual funding (specified in ranges) they usually received, as follows:

1. less than IDR 10,000,000 (AUD 1,000)
2. IDR 10,000,000 – IDR 30,000,000 (AUD 3,000)
3. more than IDR 30,000,000 – IDR 60,000,000 (AUD 6,000)
4. more than IDR 60,000,000 – IDR 100,000,000 (AUD 10,000)
5. more than IDR 100,000,000

The results (Table 68,  $n = 219$ ) show that half of the editors who received maintenance funding (51.60%, 113 editors) reported that amount of funding they received annually was less than IDR 10,000,000 IDR (about AUD 1,000).

*Table 68 Usual amount of annual funding received for journal maintenance (Q16)*

Answer	%	Count
<b>Less than IDR 10,000,000</b>	51.60	113
<b>IDR 10,000,000 – IDR 30,000,000</b>	30.14	66
<b>More than IDR 30,000,000 – IDR 60,000,000</b>	10.96	24
<b>More than IDR 60,000,000 – IDR 100,000,000</b>	5.02	11
<b>More than IDR 100,000,000</b>	2.28	5
<b>Total</b>	100	219

Q17 asked about the average cost of one issue of the journal ( $n = 298$ ). The results (Table 69) show that more than half of the respondents (184, 61.74%) reported that the average cost of publishing one issue of the journal was less than IDR 10,000,000 (about AUD 1,000). Some other editors (95, 31.88%) reported higher costs of about IDR 10,000,000 – IDR 30,000,000, IDR 30,000,000 – IDR 60,000,000 (13, 4.36%), and more than IDR 60,000,000 – IDR 100,000,000 (4, 1.34%). Two editors reported even higher costs of more than IDR 100,000,000 (more than AUD 10,000).

*Table 69 Average cost of publishing one issue of the journal (Q17)*

Answer	%	Count
<b>Less than IDR 10,000,000</b>	61.74	184
<b>IDR 10,000,000 – IDR 30,000,000</b>	31.88	95
<b>More than IDR 30,000,000 – IDR 60,000,000</b>	4.36	13
<b>More than IDR 60,000,000 – IDR 100,000,000</b>	1.34	4
<b>More than IDR 100,000,000</b>	0.67	2
<b>Total</b>	100	298



Q18 asked the editors to rate their level of agreement on the application of an article processing charge (APC) by providing a ranking of 1–5, with 1 representing “strongly disagree” and 5 meaning “strongly agree” ( $n = 298$ ). The results (Table 70) show that 85 of the respondents chose number 5, indicating strong agreement with the imposition of an APC, with a further 69 respondents choosing a rank of 4, thus also indicating agreement with an APC. Some editors (82, 27.25%) selected a middle ranking of 3. In contrast, a smaller number of editors disagreed with an APC, with 28 editors (9.40%) giving a ranking of 1, and 34 (11.41%) selecting a rank of 2.

*Table 70 Editors’ attitudes to imposing an article processing charge (APC) on authors to support journal publishing costs (Q18)*

Answer	%	Count
<b>Strongly disagree 1</b>	9.40	28
<b>2</b>	11.41	34
<b>3</b>	27.52	82
<b>4</b>	23.15	69
<b>Strongly agree 5</b>	28.52	85
<b>Total</b>	100	298

Table 71 shows the results for Q19, which asked respondents for their views on the maximum APC that an author should be asked to pay ( $n = 290$ ). Half the respondents (50.34%, 146 editors) considered the maximum APC should be more than IDR 500,000 (AUD 50) to IDR 3,000,000 (AUD 300), while the remainder (48.97%, 142 editors) believed that the payment should be less than IDR 500,000. Only two editors (0.69%) suggested a cost range of less than IDR 3,000,000 to IDR 10,000,000 (AUD 1,000).

*Table 71 Maximum APC an author should be asked to pay (Q19)*

Answer	%	Count
<b>Less than IDR 500,000</b>	48.97	142
<b>IDR 500,000 to IDR 3,000,000</b>	50.34	146
<b>Less than IDR 3,000,000 to IDR 10,000,000</b>	0.69	2
<b>More than IDR 10,000,000</b>	0.00	0
<b>Total</b>	100	290

In Q20, respondents were asked to rate their familiarity with the intellectual property rights to the articles published in their journal by choosing a number from 1 to 5, where 1 indicates “not familiar at all” while 5 indicates “very familiar” ( $n = 297$ ).

The results (Table 72) show that the majority of respondents considered themselves either “very familiar” with these rights (40.40%, 120 editors) or, as indicated by a rating of 4, familiar with them (37.37%, 111 editors). A few other respondents (15.49%, 46 editors) chose the middle ranking, with only very small proportions selecting the options 1 (“not familiar at all”) or 2 (1.35% and 5.39%, respectively).

*Table 72 Editors’ familiarity with intellectual property rights (e.g., copyright) to the articles published in the journal they edit (Q20)*

Answer	%	Count
<b>Not familiar at all 1</b>	1.35	4
<b>2</b>	5.39	16
<b>3</b>	15.49	46
<b>4</b>	37.37	111
<b>Very familiar 5</b>	40.40	120
<b>Total</b>	100	297

Q21 asked the editors to rate their familiarity with Creative Commons licensing by choosing a number from 1 to 5, where 1 means “not familiar at all” and 5 means “very familiar” ( $n = 296$ ).

The results (Table 73) show that just under one third of the editors (30.07%, 89) reported that they were “very familiar” with Creative Commons licensing, followed by a further group (23.31%, 69) who chose a rating of 4, also indicating familiarity. Around one quarter of respondents (24.32%, 72) selected the middle ranking. On the other hand, a few respondents admitted that they were “not familiar at all” with such licensing (12.16%, 36) with an additional 30 editors (10.14%) also indicating their unfamiliarity by selecting a ranking of 2.

*Table 73 Editors' familiarity with Creative Commons licensing (Q21)*

Answer	%	Count
<b>Not familiar at all 1</b>	12.16	36
<b>2</b>	10.14	30
<b>3</b>	24.32	72
<b>4</b>	23.31	69
<b>Very familiar 5</b>	30.07	89
<b>Total</b>	100	296

Q22 asked about the editors' familiarity with the Creative Commons attributes, such as CC-BY, CC-BY-SA, and CC-BY-NC. Respondents were asked to rate their familiarity by choosing a number 1 from to 5, where 1 means "not familiar at all" and 5 means "very familiar" ( $n = 291$ ).

The results (Table 74) show that 79 editors (27.15%) indicated that they were "very familiar" with the attributes, followed by a further 63 editors (21.63%) who chose a ranking of 4, which also indicated familiarity. Other respondents (60 editors, 20.62%) selected a middle ranking. In contrast, 43 editors (14.78%) admitted that they were "not familiar at all" with the attributes while the remaining respondents (46 editors, 15.81%) also indicated their unfamiliarity by selecting a ranking of 2.

*Table 74 Editors' familiarity with the Creative Commons attributes (Q22)*

Answer	%	Count
<b>Not familiar at all 1</b>	14.78	43
<b>2</b>	15.81	46
<b>3</b>	20.62	60
<b>4</b>	21.65	63
<b>Very familiar 5</b>	27.15	79
<b>Total</b>	100	291

Lastly, the editors were asked to rate the importance of authors retaining the right of distribution of an article by choosing a number from 1 to 5, where 1 indicates "not important at all" and 5 indicates "very important" ( $n = 296$ ).

The results (Table 75) show that 81 respondents (27.36%) considered it "very important" for an author to retain the right of distribution. A similar opinion was also indicated by a further 71 respondents (23.99%) who selected a ranking of 4. The same number of respondents (23.99%) selected the middle option. In contrast, 35

editors (11.82%) considered the retention of distribution rights by authors not important at all. The remaining respondents (38 editors, 12.84%) indicated a similar opinion by choosing a ranking of 2.

*Table 75 Editors' opinion of the importance of authors retaining the right of distribution of an article (Q23)*

Answer	%	Count
<b>Not important at all 1</b>	11.82	35
<b>2</b>	12.84	38
<b>3</b>	23.99	71
<b>4</b>	23.99	71
<b>Very important 5</b>	27.36	81
<b>Total</b>	100	296

To summarise, this chapter has presented the findings of two online surveys of researchers and editors. The findings of the researcher survey indicated that respondents were generally aware of their role in scholarly communication and believed that OA has a positive impact. Likewise, the editors also believed that OA has a positive impact on readership and the extent of a journal's audience. The survey found that most editors were academics, with the extra task of managing a journal. The findings are explored in more detail in the discussion chapter. Before this discussion, the next chapter will address the results of the three other studies conducted as part of this research project: government regulation analysis, interviews with policymakers, and OA journal metadata analysis.

## Chapter 6 Government Regulations, Policymakers' Efforts, and Indonesian OA Journal Publishing Trends

This chapter addresses the research findings of three studies undertaken to achieve the research objectives. The first section addresses the findings of content analysis on Indonesian government regulations related to scholarly journal publishing in Indonesia (Objective 1). The second section presents the results of interviews to identify the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia (Objective 4). The third section presents the results of metadata content analysis aimed at analysing trends in OA journal publishing in Indonesia in the period 2017–2019 (Objective 5).

### 6.1 Government Regulations (Objective 1)

A total of 41 governmental regulations related to scholarly communication were found after reviewing websites sources listed in the methodology section. The documents were analysed and coded into five categories: registration, certification, dissemination, preservation, and evaluation. The coded data is provided in Appendix G. Regulations were allocated into either a single category or multiple categories depending on the language used within the regulation itself.

Table 76 shows that the majority of regulations were related to the dissemination function, with 28 regulations, followed by the certification function with 20 regulations. The registration function was associated with 15 regulations while the evaluation function was linked to 13 regulations. The preservation function has been of least concern in regulations, with only seven regulations associated with it.

*Table 76 Number of regulations related to scholarly publishing assigned to each category*

Category	Number of regulations
<b>Registration (R)</b>	15
<b>Certification (C)</b>	20
<b>Dissemination (D)</b>	28
<b>Preservation (P)</b>	7
<b>Evaluation (E)</b>	13

As Table 77 shows, most of the regulations were issued in the form of circular letters, with 15 items, and ministry regulations, with 13 items. Complete details of the regulations are provided in Appendix G.

*Table 77 Number of regulations related to scholarly publishing based on the regulation classification*

Regulation classification	Total regulations
<b>Law (UU)</b>	4
<b>Governmental Regulation (PP)</b>	1
<b>Presidential Regulation (<i>Perpres</i>)</b>	1
<b>Ministry Regulation (<i>Permen</i>)</b>	13
<b>Head of Non-Ministry Government Institution Regulation (<i>Perka</i>)</b>	3
<b>Circular Letter (SE)</b>	15
<b>Director General Regulation (<i>Perdirjen</i>)</b>	3
<b>Decision Letter of Director General (<i>SK Dirjen</i>)</b>	1
<b>Total</b>	41

Note: UU= *Undang-undang*, PP =*Peraturan Pemerintah*, *Perpres*= *Peraturan Presiden*, *Permen* = *Peraturan Menteri*, *Perka*= *Peraturan Kepala*, SE= *Surat Edaran*, *Perdirjen*, SK *Dirjen* = *Surat Keputusan Direktur Jenderal*

In the Ministry of Research regulation, *Permenristekdikti* No.9 Tahun 2018, on national journal accreditation, the scholarly journal functions are defined in Chapter 1 Section 3 of the regulation, as follows:

1. Registering scholarly activities
2. Archiving the outputs of scholarly activities
3. Recognising the outputs that meet scholarly qualifications
4. Disseminating the outputs of the scholarly activities
5. Disseminating the outputs of community engagement services
6. Protecting the scholarly outputs

These journal functions defined in the regulation closely line up with the scholarly communication functions defined in this research. Function number 3 in the regulation has the same context as the certification function. Meanwhile, the last function in the list above is associated with copyright protection, and is assumed to be related to copyright transfer agreement (CTA), which requires authors to transfer their copyright to the journal publishers (*Dirjen Risbang*, 2018, p. 9).

### 6.1.1 Registration

The registration function of scholarly communication confirms that an individual or a group of scholars has created a specific scholarly work at a certain time. Regarding the regulations, any regulation that encourages the creation of scholarly work, including scholarly articles and any other activity that may improve the quantity of scholarly publication, was identified in the content analysis as being related to the registration function. This content analysis of Indonesian regulations issued from 1999 to 2020 found 15 out of 41 regulations related to the registration function. Doing research, writing, and publishing the research outputs are among the major requirements for lecturers to achieve promotion in Indonesia. All researchers are required to write and publish. Researchers here include lecturers, professional researchers, and other professionals.

A regulation issued by the Coordinating Ministry of Development Supervision and Administrative Reform (Menkowasbang PAN) in 1999 created a scoring system for research activities (see Appendix J List of Regulations #1), which includes editing, peer-reviewing, and publishing. This regulation can be associated with both the registration and certification functions because it contains requirements to research and publish as well as requirements for editing and peer reviewing. Law No. 20 of 2003 regarding the National Education System states that higher education institutions have to do research (“*UU RI tentang sistem pendidikan nasional*,” 2003); this requirement is related to the registration function. The law states further that the research results must be distributed widely, which supports the dissemination function.

In 2012, the central government issued Law No. 12 of 2012, concerning higher education. At Section 46 point 2, it states that “Research outputs must be disseminated through ... publications,” and in the next point, it mentions that “The Academic Civitas’ Research Output published in an international journal, patented for use by industries, appropriate technology and/or books as the source of study may be given a meaningful award by the Government” (“*UU RI tentang pendidikan tinggi*,” 2012). This point accentuates that research outputs from the academic civitas (lecturers and students, the academic community) must be published, and if they are published internationally, the researchers will be rewarded. This regulation would be

expected to indirectly promote an increased number of publications through both the requirements to publish the research outputs and the award incentive. The Indonesian Ministry of State Apparatus Utilisation and Bureaucratic Reform (MSAUBR=*PANRB*) followed up the law by issuing ministry regulation, Permenpan No. 17 Tahun 2013, concerning lecturers' academic position classification and detailing promotion credit scores. It included scoring levels for writing and publishing in national/international journals as requirements for higher positions. A regulation issued by the Ministry of Education and Culture (MEC) in 2014, Permendikbud No. 49 Tahun 2014, about the National Standard of Higher Education (NSHE) again requires that all research outputs must be published and disseminated. Higher education institutions were mandated to provide financial support and incentives for research activities and scholarly publication. In 2015, a new NSHE was issued with a similar emphasis on scholarly publishing. The latest NSHE, issued in January 2020, highlights the same points and states that the previous standard is no longer valid.

The requirements to publish for research students have been highly emphasised in regulations, such as a circular letter dated 8 February 2012, SE Dirjen Dikti 152/E/T/2012, about the publication of scholarly outputs. This letter specified that all students from undergraduate to doctoral students were required to publish. Master's students were encouraged to publish in a national journal (preferably an accredited journal), while it recommended that doctoral students publish in an international scholarly journal. A current circular letter, SE Dirjen Belmawa B/323/B.B1/SE/2019, about scholarly publication in bachelor's, master's, and doctoral degree programs, again requires all students to publish.

Furthermore, in the NSHE 2014 regulation mentioned earlier, higher education institutions were required to provide financial support and incentives for research and scholarly publication. At the end of that year, the Ministry of Religious Affairs instructed all religious higher education institutions, through PMA No. 55 Year 2014, to financially facilitate publication of research outputs ("*PMA RI tentang penelitian dan pengabdian kepada masyarakat di perguruan tinggi keagamaan,*" 2014). The same requirement was repeated in the NSHE 2020. Financial support and incentives encourage the quantity of research and publication, which means that this regulation supports the registration function. The need for financial support and



incentives lines up with the policymakers' statements in the interviews that the main hindrance they face is funding support (see interview findings p. 144–145).

### **6.1.2 Certification**

The regulations that are assumed to affect the “certification” of journals are related to the two journal accreditation standards released by *Ristekdikti* and LIPI.

Accreditation is important because it provides a form of official recognition of scholarly journals' quality assurance by assessing the manuscript screening fairness, the journal management appropriateness, and the publishing timeliness.

The accreditation process involves the evaluation of publishing management. For example, a journal should regularly and continuously publish at least five articles per issue, have an editorial board, and involve peer reviewers. A journal publisher's registration requirements include holding the CVs of editors and peer reviewers, and providing samples of correspondence letters containing their comments and corrections to the authors.

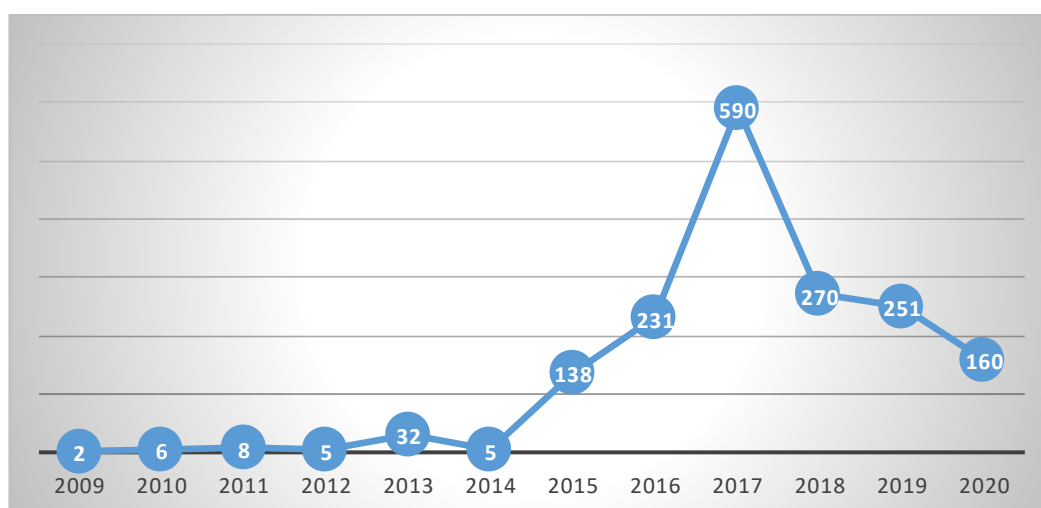
Based on the accreditation guidelines, journal quality is mainly associated with editing and management, and article substance. Accreditation includes evaluating the title, publishing institution, editing and publishing management, article substance, referencing style, layout, publishing period, and distribution. The editing and management component includes an evaluation of the qualifications of peer reviewers and editors. A high score for management is awarded if peer reviewing and editing are fully conducted online. Evaluation of article substance includes measurement of the impact factor, h-index, originality, subject specificity, contribution, and current state of the references (*“Perdirjen Dikti Kemdikbud RI tentang pedoman akreditasi terbitan berkala ilmiah,”* 2014; *“Perka LIPI tentang akreditasi terbitan berkala ilmiah,”* 2014).

As an effort to improve the quality of scholarly output, the Ministry of National Education in August 2010 released a regulation regarding prevention and mitigation of plagiarism (*“Permendiknas RI tentang pencegahan dan penanggulangan plagiat di perguruan tinggi,”* 2010) followed by two DGHE circular letters (*“SE Dijen Dikti tentang pencegahan dan penanggulangan plagiat,”* 2010; *“SE Dirjen Dikti Kemdikbud RI tentang kebijakan unggah karya ilmiah dan jurnal,”* 2011). This

regulation requires that scholarly outputs must be widely distributed online by uploading them to GARUDA (a repository launched by DGHE in 2010) or other online repositories to avoid plagiarism. This regulation is considered an attempt to improve quality (in this case, through preventing plagiarism) by improving scholarly outputs' online visibility.

### 6.1.3 Dissemination

The dissemination function of scholarly communication is to make scholarly works accessible and visible. Any regulations that encourage accessibility and visibility were categorised in the content analysis as dissemination regulations. Regulations that encourage journals to be registered and listed in indexing databases, such as the DOAJ, are associated with the dissemination function. Indonesia is currently leading the list of countries of OA journal publishers in the DOAJ, with 1,698 registered journals. Figure 9 shows the number of journals added each year from 2009 through 2020.



Source: <http://doaj.org>, retrieved July 22, 2020

*Figure 14 Number of Indonesian journals added each year to the DOAJ based on "added on" date*

As seen in Figure 14, the proliferation of Indonesia OA journals started in 2015. If this fact is linked to the issuing of regulations, then the regulations that were likely to have had a strong impact on the increase of the journal number were those released in 2014 onwards. Out of 41 regulations, 23 regulations were issued from 2014 to 2020, and 15 of these are related to the dissemination function of scholarly

communication (see Table 78). All registration regulations are also related to dissemination.

*Table 78 List of regulations issued 2014–2020*

#	Regulation Number	Source	Title	Codes
1	PERMENDIKBUD NO. 49 TAHUN 2014	Ministry Regulation	National Standard of Higher Education	R7 D13 E5
2	PERDIRJEN DIKTI NO. 1 TAHUN 2014	Directorate Regulation	Accreditation Standard for Scholarly Journals	C13 D14 P2
3	PERKA LIPI NO.3 TAHUN 2014	Institutional Regulation	Accreditation Standard for Scholarly Journals	C14 D15 P3
4	PERKA LIPI NO. 5 TAHUN 2014	Institutional Regulation	Scholarly Publication Ethics	C15
5	PERMENAG NO. 55 TAHUN 2014	Ministry Regulation	Research and Community Services at Religious Higher Educational Institution (RHEI)	R8 D16 E6
6	SE DIRJEN RISBANG NO. 193/E/SEXII/2015	Circular Letter	Accreditation of Scholarly Journals	D17 C16 E7
7	PERMENRISTEKDIKTI NO.44 TAHUN 2015	Ministry Regulation	National Standard of Higher Education	R9 D18
8	PERKA LIPI NO. 12 TAHUN 2016	Institutional Regulation	Repository and Depository of LIPI	D19 P4
9	PERMENRISTEKDIKTI NO.20 TAHUN 2017	Ministry Regulation	The Granting of Professional Allowance for Lecturers and Honorary Allowance for Professors	R10 D20 E8
10	SE DIRJEN RISBANG NO. 227/E/IV/2017	Circular Letter	Self-registration of Lecturers and Researchers in SINTA (Science and Technology Index) Portal	D21 E9
11	SK DIRJEN PENDIS No. 227/2017	Decision Letter	Plagiarism Mitigation	C17
12	SE DIRJEN RISBANG NO. 101/E5.2/SE/2018	Circular Letter	Accreditation of Electronic Scholarly Journals 2018	C18
13	PERMENRISTEKDIKTI NO.9 TAHUN 2018	Ministry Regulation	National Journal Accreditation	C19 P5
14	PERMENRISTEKDIKTI NO.20 TAHUN 2018	Ministry Regulation	Research	R11 D22
15	PERDIRJEN DIKTI NO. 19 TAHUN 2018	Directorate Regulation	Journal Accreditation Guidelines	C20 E10
16	SE DIRJEN RISBANG No. 4830/E5.2/SE/2018	Circular Letter	Financial Support for Electronic Journal Management Year 2019	D23
17	UU NO. 13/2018	Law	Legal Deposit of Printed and Recorded Works	D24 P6
18	SE DIRJEN BELMAWA B/323/B.B1/SE/2019	Circular Letter	Scholarly Publication of Bachelor, Master, and Doctoral Degree Programs	R12 D25
19	UU NO. 11/2019	Law	National System of Science and Technology	D26 P7
20	PERPRES NO. 63/2019	Presidential Regulation	The Use of Bahasa Indonesia	--
21	SE DIRJEN SUMBER DAYA IPTEK DIKTI B/4917/D.D2/KK.01.00/2019	Circular Letter	Operational Guidelines for Credit Scoring Assessment of Lecturers' Promotion	R13 D27 E11

22	PERMENDIKBUD No. 3/2020	Ministry Regulation	National Standard for Higher Education	R14 D28 E12
23	SE DIRJEN DIKTI NO. 638/E.E4/KP/2020	Circular Letter	Implementation of Operational Guidance on Credit Score Assessment for Functional Position/Lecturer	R15 D29 E13

Note: R= registration, C= certification, D= dissemination, P= preservation, E= evaluation. The number following the letter codes represent the order number.

Table 78 includes regulations issued from 2014 to 2020. The first regulation was issued by the Religious Higher Education Directorate under MORA and, therefore, was distributed only to RHEIs (religious higher education institutions). The next two regulations, *Perdirjen Dikti* No.1 Year 2014 and *Perka LIPI* No.3 Year 2014, were revisions to the previous accreditation guidelines. Both regulations required publishing institutions to transform their journals from print to electronic format. After 31 March 2016, as stated in the regulations, all print-only journals lost accreditation. In turn, articles published in those journals were not accredited or approved for tenure and promotion requirements. According to Lukman (2018), these regulations have impacted the proliferation of OA journals in DOAJ since 2015 and reach its peak in 2017 as can be seen in Figure 14).

Another regulation that is likely to be the strong driver of the significant increase of the DOAJ registered journals is *Permenristekdikti* (MRTHE) regulation No. 20 Year 2017 (see Table 78), which is about on the granting of professional allowances for lecturers and honorary allowances for professors. The regulation states that associate professors and professors should publish in an international journal; otherwise, their allowance will not be paid. The rule states that a national journal accredited at the B level (good) and indexed in the DOAJ with a “Green tick” and published in one of the UN languages will be considered an international journal (*“Permenristekdikti RI tentang pemberian tunjangan profesi dosen dan tunjangan kehormatan profesor,”* 2017). This regulation pushes researchers to disseminate their papers wider (globally) by encouraging publication in journals registered by international indexing databases, such as the DOAJ, and registering scholarly publishing in OA indexing databases improves their visibility and readership.

While some Indonesian authors mention the implementation of OA (Lukman & Kustantyana, 2012; Lukman et al., 2012), there is no single regulation that specifically sets out the government’s policy on OA. The only regulation associated with OA is the MRTHE Regulation Number 20/2017 where the DOAJ is considered

an international indexing database, so that an Indonesian journal listed there is classified as an international journal.

#### **6.1.4 Preservation**

The preservation function is concerned with ensuring that scholarly works are preserved for the long term. Any regulations that encourage the long archiving of research outputs were categorised in the content analysis as supporting the preservation function. The Indonesian government has issued regulations that mandate researchers and research institutions to deposit their works for long-term preservation. Out of 41 regulations issued from 1999 to 2020, seven address preservation. Those regulations are as follows:

1. Perdirjen Dikti No.49/Dikti/Kep/2011 on Accreditation Guidelines for Scholarly Journals
2. Perdirjen Dikti No. 1 Tahun 2014 on Accreditation Standard for Scholarly Journals
3. Perka LIPI No.3 Tahun 2014 on Accreditation Standard for Scholarly Journals
4. Perka LIPI No. 12 Tahun 2016, the Head of LIPI Regulation on Repository and Depository of LIPI
5. Permenristekdikti No.9 Tahun 2018, the Ministry of Research, Ristekdikti on National Journal Accreditation
6. UU NO. 13/2018 the Indonesian Law on Legal Deposit of Printed and Recorded Works
7. UU NO. 11/2019 the Indonesian Law on National System of Science and Technology

The previous standards for National Journal Accreditation, which were issued by *Ristekdikti* and LIPI in 2014, mandated the legal deposit of journal articles. The current standard, issued in 2018, which integrates both previous standards (from RISTEK and LIPI) into one accreditation standard, no longer mandates article deposit. The mandatory requirement is lowered to just an optional one.

The Head of LIPI regulation issued in 2016 on Repository and Depository of LIPI controls the preservation of scholarly outputs (repository) and primary data (depository) of research conducted by LIPI and other parties collaborating with LIPI. Unfortunately, this regulation is only effective for research units under LIPI.

Law No. 18 Year 2018 was issued to substitute for the previous legal deposit law, Law No. 4 Year 1990, because the latter had become outdated and inappropriate with technological advancement. However, there is no wording or terminology in the regulation that clearly defines digital text, such as online articles and electronic books. This regulation mandates the National Library as the depository for all intellectual and cultural works. Another, later regulation, issued in 2019, regarding the National System of Science and Technology (Law No. 11 Year 2019 (UU No. 11/2019)) states that research outputs and development must be published (Chapter 21, p. 14) and all research outputs and primary data must be deposited (Chapter 40, pp. 21–22).

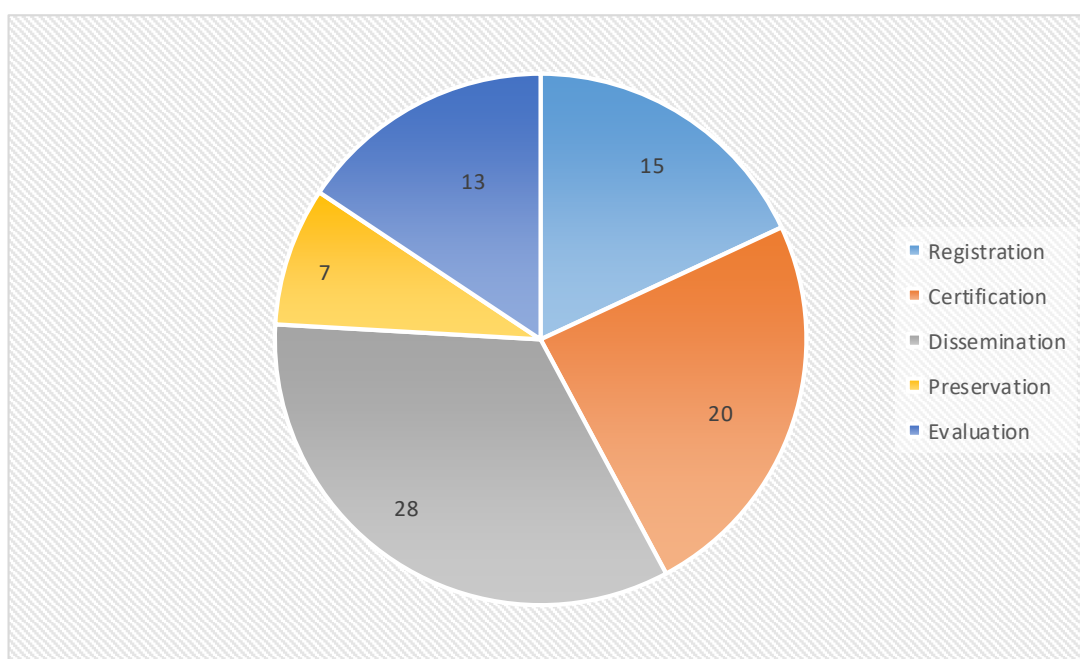
### **6.1.5 Evaluation**

The evaluation function is closely related to the certification function. It is an additional scholarly communication function based on the need to build a mechanism that can measure the merits or significance of research. While regulations do not directly address evaluation, those that are put in place for other purposes also achieve this to some extent. Regulations related to research measurement and encouragement of publication improve prestige and institutional rankings, such as encouraging publication in reputable or high-ranking journals. The accreditation guideline issued in 2018 states that “a scientific journal accredited 2nd to 6th rank, if it is indexed in a reputable international indexer such as Scopus or the Web of Science (SCI / SCIE), has the right to get the 1st rank of accreditation status” (Dirjen Risbang, 2018, p. 3). This statement means that once a reputable international indexer indexes a journal, its ranking will rocket to SINTA’s top rank.

### **6.1.6 Conclusion**

In conclusion, although the regulations have supported all five functions of scholarly communication, the preservation function has received less attention (see Figure 15). The preservation function is important for digital documents because they are

vulnerable and may disappear online if their archiving is not deliberately maintained. In contrast, the dissemination function has the highest number of related regulations. The high number of regulations associated with this function indicates that the government is more seriously concerned about the visibility of research outputs. The effort to increase visibility implies that the government wishes to improve national pride by having a higher number of scholarly publications. This assumption is based on the nature of the evaluation-related regulations, where the government applies a “carrot and stick” approach within a “publish or perish” policy that requires academics and researchers to publish in reputable journals indexed by Scopus and Web of Science.



*Figure 15 Indonesian regulations related to scholarly communication functions*

The findings shown in Figure 15 demonstrate that regulations related to “dissemination” are the most frequent, followed by certification-related regulation. As noted in the discussion, some regulations address more than one function. These findings align with an earlier conference paper that concluded that regulations on visibility have had the most impact in triggering the proliferation of OA journals in Indonesia (White & Kiramang, 2018).

## 6.2 Interviews with Policymakers (Objective 4)

The interviews with the policymakers were intended to identify the efforts made and hindrances encountered by the government in developing scholarly journal publishing. Five policymakers were interviewed in May 2018. They were from three government institutions that have major influences on the development of journal publishing in Indonesia: the Ministry of Research, Technology, and Higher Education (*Ristekdikti*); the Ministry of Religious Affairs (MORA), and Indonesian Institute of Sciences (LIPI). To ensure confidentiality, the identities of participants in the following discussion are indicated by codes A, B, C, D, and E, with no affiliations to their respective institutions provided. In cases where participant quotes contain information or words that may compromise their anonymity, the participant code will not be disclosed, thereby safeguarding the confidentiality of respondents.

Interview times ranged from 15 minutes to one hour. As discussed in Chapter 4, the interview questions were semi-structured. Five main questions were asked, but not necessarily in sequence so as to maintain the natural flow of the interview. The main questions were:

1. What is your role and area of responsibility regarding scholarly journal publishing?
2.
  - a. What is Open Access (OA) from your point of view?
  - b. What do you think is the benefit of OA, especially in developing countries such as Indonesia?
3.
  - a. What efforts have been made to encourage the development of journal publishing in Indonesia?
  - b. Is there any effort to improve the international readership of Indonesian journals, such as improving scholars' international language skills?
4. What are the main hindrances in enhancing journal publishing in Indonesia?
5. What is the plan for the future development of scholarly journal publishing in Indonesia?

During the interview sessions, whenever the answers were considered not clear or not specific, detailed questions were asked for confirmation and to seek further



explanation. To encourage responses, the interviewer also added some interjections such as “yes,” “uh-huh,” and “okay.” This section presents the results of the thematic analysis of the interview transcripts (see Appendix F for the coding guide). The themes of the analysis are categorised into three areas – OA definition, efforts, and hindrances – which are discussed in the following subsections.

### 6.2.1 Open Access Definition

The policymakers were asked about their definition of “open access” to find out whether or not their decisions and policies were driven by an intention to promote OA. The codes that were extracted from the transcripts are grouped into four themes:

- free access
- easy access
- international audience
- quality articles

Table 79 shows that all policymakers defined OA as “free access.” Participant E replied, “as the name implies, open access, means ‘open’ to access.” This participant explained further that “all research outputs funded by the government must be ‘open’ to the public.” According to C, “Open access in my view, is excellent. To me it is excellent because ... all people can access ....”

*Table 79 OA definition codes*

Themes	The interviewees that mentioned the codes				
	A	B	C	D	E
<b>Free access</b>	x	x	x	x	x
<b>Easy access</b>		x			
<b>International audience</b>				x	
<b>Quality articles</b>				x	

One of the interviewees defined OA as not only free but also “easy access,” while another suggested that OA also implies “quality articles” and an “international audience.” Participant B stated that “Open access is ... a system that enables all people to access freely and easily,” while D said that OA also means “international

and interesting content.” Participant D elaborated further, stating that “open access is not merely about free access, but we have to take care about the content as well. So, we have to make some effort in order that our journal has a certain quality ... the content quality must be improved.”

### **6.2.2 Efforts**

Efforts are defined here as all attempts that the government or policymakers have made to develop journal publishing. The efforts themes extracted from the policymakers were categorised into two groups: what has been done and what will be done. Themes related to “what has been done” are:

- Support: including financial support, infrastructure support, publishing assistance (mentoring, coaching, and training), and motivation/encouragement provided by the government.
- Quantity, quality, and visibility improvement: any efforts or activities by the government to improve quantity, quality, and visibility of scholarly publications.
- Regulations: official rules or directions from the government related to scholarly communication activities and specifically those on scholarly publication.
- Collaboration: any activities or processes that involve two or more people or institutions working together in scholarly communication activities.

The themes related to “what will be done” are:

- International indexing database: the government plans to develop an indexing database for journal articles.
- International metrics database: the government plans to develop a metrics database for research measurement based on impact factor or citation data.
- Article quality: plans for improving article quality.
- Reviewer reward: a plan to give rewards to reviewers.
- Editor reward: a plan to provide rewards to editors.
- International collaboration: collaboration with international institutions to improve scholarly publications and related activities.
- ASEAN leader: a plan to have highest achievement in scholarly communication activities among ASEAN countries (Indonesia, Malaysia,

Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, and Cambodia).

- Improving quality.
- Improving quantity.
- Prestige.

These coding results are presented in tables, showing the themes and the frequency of times each code was mentioned by the interviewees. Table 80 shows the codes related to the efforts that have already been made by the government in enhancing journal publishing.

*Table 80 Effort codes: What has been done*

Themes	The interviewees that mentioned the codes				
	A	B	C	D	E
<b>Motivation/encouragement</b>	x	x	x	x	x
<b>Publishing assistance</b>	x	x	x	x	x
<b>Regulations</b>	x	x			x
<b>Quality improvement</b>	x		x		x
<b>Financial support</b>	x		x	x	
<b>Infrastructure support</b>	x	x			x
<b>Collaboration</b>	x		x		x
<b>Quantity improvement</b>	x				x
<b>Visibility improvement</b>	x			x	

To motivate and encourage scholarly publishing, according to all policymakers, the government has offered financial incentives or awards for journal administrators, editors, authors, and reviewers, and the institutions or publishers. Incentives are also given in the form of appreciation and credit points (scores) for tenure and promotion.

To enhance the development of scholarly publication, the government has provided mentorship to editors and authors as well as reviewers. All policymakers mentioned several activities to assist those involved in journal publishing, such as workshops, training, coaching, journal clinics, and meeting with journal administrators. One

policymaker also mentioned the founding of an editors' association to facilitate collaboration among journal publishers.

As previously discussed, the government has established a number of regulations related to journal publishing. Three policymakers emphasised that regulations influenced the development of journal publishing. For example, participant A said that "all these achievements were supported by regulations," and B noted that "we have sent a circular letter to all rectors and heads of research institutions to support the journal administrators." Among those regulations mentioned were the requirements for publishers to have ISSNs (International Standard Serial Numbers) and to identify their articles with DOIs (Digital Object Identifiers).

In terms of journals' quantity and quality improvement, participant A stated that "the quantity must be improved" and "the quality should also be improved." The policymakers noted that the government has set up a quality assurance process to enhance journals' quality improvement by issuing a quality assessment standard (i.e., a journal accreditation standard), which was formulated by *Ristekdikti* in collaboration with LIPI. The government has also created indexing databases and metrics systems to measure the research performance of authors: SINTA by *Ristekdikti*, INASTI by LIPI (discontinued since 2019) and MORAREF by MORA. According to one of the policymakers, the journal accreditation standard has been revised, and the frequency of journal evaluation has been improved to increase the number of nationally accredited journals. Another policymaker said that LIPI has been issuing ISSNs for a long time.

The policymakers confirmed that the government had provided financial support for research funding and journal publishing. The financial supports were in the form of "grants," "rewards," and "honorariums." They also provided infrastructure support, such as a cloud server for publishers that do not have their own server.

The policymakers also discussed some collaborations that they had arranged to encourage journal publishing. Two of the participants from different institutions confirmed that collaboration between their institutions had been developed to formulate a journal accreditation standard as well as to provide a cloud server for journal publishing. One of the policymakers (A) said that the indexing database was the result of collaboration with universities. This participant further said that the

government has set up a collaboration with a new editors association to accredit journals independently: “if we are the regulator, they are the independent commission.” Another policymaker (C) said that to assist journal publishing, they have arranged for an “international journal clinic” and “co-sharing with international journals.” Participant C explained further that the clinic is intended to facilitate and assists the quality improvement of low grade journals, while the co-sharing with international journals is the co-sharing of resources, such as funding support and infrastructure.

To improve the visibility of journal publishing, according to one of the policymakers, the government has encouraged the use of OJS (Online Journal System) as an online publishing platform, the creation of a scholarly works portal and local indexing databases, such as SINTA, INASTI, and MORAREF, and the use of international indexing databases, such as DOAJ, and Scopus. To improve readability, the government encourages the use of English for article writing by requiring bilingual abstracts and giving incentives to journals published in English.

In describing their efforts, the policymakers also explained what they plan to do in the future. Table 81 shows the codes extracted from the interview transcripts related to objectives participants plan to achieve and what they will do in the future to enhance scholarly publishing.

*Table 81 Effort codes: What will be done*

Themes	The interviewees that mentioned the codes				
	A	B	C	D	E
<b>International indexing database</b>	x	x		x	
<b>Solutions</b>		x	x		x
<b>Editor rewards</b>	x	x			
<b>Metrics database</b>	x	x			x
<b>ASEAN leader</b>	x	x			
<b>Improving quality</b>		x	x		
<b>Improving quantity</b>	x	x			
<b>Reviewer rewards</b>		x			
<b>International collaboration</b>	x				
<b>Prestige</b>					x

Participants A and B have a plan to make Indonesia the leader among ASEAN countries in publication. Among the plans to turn this idea into reality is undertaking an international collaboration to create an international metric and an indexing database. In regard to the metric, B said the government would develop a multidimensional metric to include book publishing, intellectual property rights (patents), and community service research (community service research is a research-based program or a series of activities carried out to assist the community in solving their problems). In addition, A said that the government would collaborate with ASEAN countries to create a joint indexing database. Participant A and B both mentioned the collaboration with several indexing and metrics databases, such as Scopus and Web of Science. Participant D explained that the future target of their institution was to have an international indexing database for a particular subject that the institution represented.

Policymaker C asserted that improving quality is a must. Journal articles must have novel content and make a contribution to knowledge. Participant B said that the current target is to improve quality as much as possible. In this participant's view, "journal quantity is now adequate and the spirit to publish is excellent, so it is time to improve quality." However, this statement does not mean that policymakers will abandon quantity improvement. Participant A said that the government would boost the journal registration in DOAJ to reach 7,000 journals in 2019.

As one of the solutions to the challenges encountered, according to A and B, the government also plans to provide rewards to editors and reviewers. Participant B specifically mentioned the use of Publons portfolio to track reviewer's record. The rewards will be either in terms of recognition or financial compensation. This appreciation is expected to increase editors' and reviewers' "passion", which, according to C and E, is an essential factor in the maintenance of journal publishing. In addition to this solution, participant A emphasised the importance of funding improvement to develop the SINTA metric. Internal collaboration among the units within universities is also seen as a solution. Participant A gave an example of collaboration with a language centre or language faculty to overcome foreign language problems.

### 6.2.3 Hindrances

Hindrances are defined here as anything that obstructs or delays the process of journal publishing development. In this section, information about how the policymakers interviewed are addressing the hindrances that have obstructed and decelerated scholarly publishing development. The hindrances codes are as follows:

- human resource problems
- insufficient funding
- poor management
- sectoral ego
- foreign language issues
- lack of quality articles

Table 82 shows how often each of these codes was mentioned by interviewees.

*Table 82 Hindrances codes*

Themes	The interviewees that mentioned the codes				
	A	B	C	D	E
<b>Human resource problems</b>		x	x		x
<b>Poor management</b>	x	x			x
<b>Insufficient funding</b>	x	x		x	
<b>Sectoral ego</b>	x	x			x
<b>Foreign language issues</b>		x			x
<b>Lack of quality articles</b>		x			

The policymakers stated that problems related to human resources are among the hindrances faced in developing journal publishing. A lack of people to organise scholarly publishing management is one of these problems. Participant E described this as “no one there. GARUDA has collapsed once because of no staff to handle it.” This participant gave a further example of a few delegations sent by publishers or institutions to attend journal publishing training who were administrators and who were not even very familiar with what a journal was. Another problem mentioned by the policymakers is the lack of motivation, or, as participant C termed this, a “lack of passion.” This participant gave an example of the reluctance of some people to be a

reviewer: “because it is only an additional job, unrecognised, and lacking compensation or even having no financial incentive at all, no credit.”

In deliberating about the hindrances, A said that “the main hindrance is funding. Our fund is still limited; we need more support ....” Likewise, B stated that “funding becomes the main concern” and wished that there would be more funding for publishing management, specifically for SINTA’s journal ranking and research performance metric. Participant C also clarified that insufficient funding is “truly our main hindrance,” insisting further that “it needs much funding. The money that we have now is insufficient to manage good journals.”

The policymakers considered poor management to be another hindrance. Participant A referred to their own working experience in a journal database where, with colleagues, they had to work hard to maintain the database. They had to scan the printed version of a journal and then input the data manually. The participant realised that this process could be more efficient by using an interoperable system, OJS (Online Journal System). Furthermore, B insisted on the importance of university leaders’ attention to journal publishing. Participant B also noted that:

many people in Indonesia take journals for granted, [they just] exist ... they do not think that managing a journal is so hard, needs funding, needs facilities, and they likely think there have been so many journals out there that Indonesia does not need to have one ....

Similarly, E noted the importance of management. In discussing this factor, E said the quality of a journal should not be measured merely by the number of citations (the impact factor), but also by its management. However, E did not propose any practical solution for overcoming the problem.

Three policymakers pointed out “sectoral ego” (or the silo effect) as one of the critical hindrances. They referred to journal accreditation as an example where this was once being handled by two institutions. Fortunately, this has been overcome by letting it be handled by one institution only. As a result of this, some policies overlapped. An example of this, noted above, was the previous handling of the journal accreditation standard by two parties.



The policymakers mentioned that foreign language mastery among researchers is also one of the hindrances. Participant B stated that the lack of language skills makes researchers reluctant to read in English and therefore makes them reluctant to write in English. Participant E said that “several articles that might have good quality were unreadable to the international community just because they were not written in English.” Another hindrance mentioned by A and C is the lack of quality articles. They both agreed that one of the solutions for this is to improve research quality. This can be done by increasing research funding to support research skills training.

### **6.3 Journal Metadata Analysis (Objective 5)**

This section presents results of the content analysis of journal metadata. The datasets were downloaded on 19 March 2017 and 6 March 2019. The number of journals in 2017 was 543 while in 2019 there were 1,409 journals.

The aim of the content analysis was to assess the progress of Indonesian journals listed in the DOAJ over a 2-year period: 2017 to 2019. To facilitate the analysis, the metadata were grouped into seven categories of data, as follows.

1. Basic information
  - a. ISSN (International Standard Serial Number)
  - b. Publishing platform (e.g., OJS)
  - c. “Added on” date
  - d. Full-text language
2. Publisher categories
3. Publishing charges
  - a. APC
  - b. Submission fee
4. Archiving
  - a. First calendar year of online OA content
  - b. Permanent article ID (DOI)
  - c. Digital archiving policy
5. Peer review types
6. Publishing delay

7. Openness
  - a. Compliance with BOAI
  - b. Copyright transfer
  - c. Publishing rights
  - d. Full-text crawl permission
  - e. Deposit policy

Analysis of each of these categories is provided in the subsections below.

### 6.3.1 Basic Information

Basic information is related to management and registration data, including ISSN, the platform, “added on” date, and the full-text language.

#### *ISSN*

An ISSN is an eight-digit number which is used to uniquely identify a serial publication. Any substantial change in layout or publishing mode may require a new ISSN. Some journals have ISSNs for their print version only, some have only an online ISSN, and some have both. In Indonesia, an ISSN is assigned by LIPI (Indonesian Institute of Sciences).

Table 83 shows three types of journal ISSN registration: journals with print-only ISSN, online-only, and those with both types of ISSN. As noted above, between 2017 and 2019 the number of journals increased considerably, from 543 to 1,409 journals. However, the table shows the percentage of journals registered with print-only ISSNs decreased from 37.02% of total journals in 2017 to 18.74% of total journals in 2019. There was an increase in the number of journals having online-only ISSNs (born-online journals) and those with both types of ISSNs (320 journals, 58.93% of 543 total journals in 2017 to 1,036 journals or 73.53% of 1,409 journals in 2019).

*Table 83 Types of journal ISSN, 2017 and 2019*

ISSN Type	2017		2019	
	F	%	F	%
<b>Print only</b>	201	37.02	264	18.74
<b>Online only</b>	22	4.05	109	7.74
<b>Both</b>	320	58.93	1036	73.53
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

Note: F= Frequency

### *Publishing Platform*

The publishing platform here means a system that facilitates the management of online journal publishing. The most common publishing platform used by OA journals is OJS (Open Journal System) released by the Public Knowledge Project.

Table 84 shows the type of platform publishers use in publishing their journals. The number of OJS journals increased over the 2-year period, in line with overall increase in journal numbers, from 528 to 1,363 journals. However, OJS journals as a percentage of all journals was similar in both years, changing from 97.24% to 96.74%.

*Table 84 Platform type of journals, 2017 and 2019*

Platform	2017		2019	
Type	F1	%	F2	%
OJS	528	97.24	1363	96.74
In-house Platform	12	2.20	10	0.71
CMS	3	0.56	1	0.07
Blank	0	0	35	2.48
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### *Added on Date*

The “added on” date is the date when the journal was first accepted and listed in the DOAJ. Table 85 shows the first year the journals were added to the DOAJ. The data reveals that Indonesian journals were first added to the DOAJ in 2009, with two journals only. Numbers began to increase rapidly from 2015 with 154 journals added in that year based on the 2017 DOAJ metadata and 149 journals added based on the

2019 DOAJ metadata. The largest number of journals added to the DOAJ, as recorded in the 2019 metadata, was in 2017, when 619 journals were added.

The decreasing number of journals added annually in the 2019 data compared to those in 2017 data indicate that some journals listed in 2017 have been discontinued or unlisted from DOAJ in 2019. The total number of the journals unlisted is 37.

*Table 85 Number of Indonesian journals added to the DOAJ, by year*

	2017		2019
Year	F1	F2	Unlisted
2009	2	2	
2010	6	6	
2011	8	8	
2012	7	5	2
2013	46	36	10
2014	9	8	1
2015	154	149	5
2016	263	244	19
2017	48	619	
2018		279	
2019		53	
	<b>543</b>	<b>1409</b>	<b>37</b>

Note: Data for 2017 and 2019 reflect DOAJ records as of 19 March 2017 and 6 March 2019, respectively. F=Frequency.

### *Language*

Language in this analysis refers to the language used in the full text of the journal articles. Table 86 shows that the languages most commonly used in the journals were English or Indonesian or a combination of these with other languages, including Arabic, Chinese, French, Japanese, and Malay. Bilingual English-Indonesian journals were the largest group, with 233 journals in 2017 and 482 in 2019, but the percentage represented by this group decreased from 42.91% in 2017 to 34.12% in 2019.

The number of journals in English only was 112 in 2017 and increased to 248 in 2019. However, the percentage slightly decreased from 20.63% of 543 journals in 2017 to 17.60% of 1,409 journals in 2019. In contrast, journals in Indonesian only increased in percentage terms from 30.39% in 2017 to 42.09% in 2019.

Table 86 Full-text language of journal articles, 2017 and 2019

Type	2017		2019	
	F1	%	F2	%
Arabic English	4	0.74	8	0.57
Arabic English Indonesian	14	2.58	54	3.83
Arabic Indonesian	6	1.10	16	1.14
Chinese English Indonesian	1	0.18	1	0.07
English	112	20.63	248	17.60
English French	0	0	1	0.07
English Indonesian	233	42.91	482	34.21
English Indonesian Japanese	2	0.37	2	0.14
English Indonesian Malay	1	0.18	3	0.21
Indonesian	165	30.39	593	42.09
Indonesian Malay	0	0	1	0.07
Blank	5	0.92		
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### 6.3.2 Publisher Categories

The type of publisher in this analysis is divided into four categories: RISTEK (HEIs under Ministry of Research, Technology, and Higher Education), MORA (HEIs under Ministry of Religious Affairs), LIPI (R&D units/institutions under Indonesian Institute of Sciences), and NGO (professional/non-government organisations).

Table 87 shows the percentage of journal publishers from each of these four groups: RISTEK, MORA, LIPI, and NGO. RISTEK journals increased from 400 to 1,082 journals across the 2-year period, and MORA journals increased from 82 to 215 journals. The number of journals published by R&D units/institutions under LIPI and NGOs also increased from 38 to 73 and from 23 to 39 journals, respectively. However, the percentage of journals from these publisher categories decreased between 2017 and 2019 from 7% to 5.18% (for LIPI) and from 4.24% to 2.77% (for NGOs).

Table 87 Number of journals by publisher category, 2017 and 2019

Publishers	2017		2019	
	F1	%	F2	%
RISTEK	400	73.66	1082	76.79
MORA	82	15.10	215	15.26
LIPI	38	7.00	73	5.18
NGO	23	4.24	39	2.77
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### 6.3.3 Publishing Charges

The publishing charge is the fee that publishers charge to compensate them for publishing costs. The fee is commonly charged after a paper is accepted. However, some publishers also ask for a submission fee, which is paid before publication.

#### *APC (Article Processing Charge)*

An APC is the fee that authors pay if their paper has been accepted. This fee may also be paid by the author's institution or the research funder. The APC is a business model strategy for OA journal publishing to shift the burden of payment from readers to authors (as discussed earlier).

Table 88 shows the percentage of journals with an APC and those without an APC. The number of journals collecting an APC increased from 133 (24.49% of 543 journals in 2017) to 375 journals (26.61% of 1,409 journals in 2019). The number of journals without an APC also increased from 391 to 1,033 journals, in line with the total increase in journal numbers. Nevertheless, the percentages were relatively stable, from 72.01% (391 journals) with no APC in 2017 to 73.31% (1,033 journals) in 2019.

*Table 88 Journals collecting an APC (article processing charge), 2017 and 2019*

APC	2017		2019	
	F1	%	F2	%
APC	133	24.49	375	26.61
No APC	391	72.01	1033	73.31
No information	19	3.50	1	0.07
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

Findings (not shown in the table) also revealed that 17 journals in 2017 and 28 journals with an APC in 2019 also collected a submission fee. It is also noteworthy that 28 journals in 2017 and 68 journals in 2019 *without* an APC stated that they have an APC waiver policy.

### 6.3.4 Archiving

The data presented here relate to journals' archiving policy, including national library archiving and the use of a permanent identifier. The application form of the DOAJ implies that DOAJ assumes local journal articles are archived by the national library of each country. The National Library of Indonesia does not archive articles in Indonesian journals; PDII-LIPI does this through the ISJD database.

#### *Digital Archiving Policy*

Table 89 shows that most journals – 95.58% (519 journals) in 2017 and 82.47% (1162 journals) in 2019 – answered “no policy” when asked about the name of the database where they archive their articles. Other journals mentioned other databases/institutions which are not a national library. Among the institutions that they mentioned were IPI (Indonesian Publication Index) or Portal GARUDA (now run by RISTEK under Kemdikbud), and ISJD (Indonesian Scientific Journal Database), which was run by LIPI. Only less than 1% of journals in both 2017 and 2019 stated that their articles were archived in the National Library of Indonesia.

*Table 89 Digital archiving policy of journals, 2017 and 2019*

Type	2017		2019	
	F1	%	F2	%
National Library	1	0.18	9	0.64
Other	23	4.24	238	16.89
Blank	519	95.58	1162	82.47
	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

#### *Permanent Identifier*

A permanent or persistent identifier (PI or PID) is a unique string of codes that identify a digital object, such as an online article, in a long-lasting or permanent way. The most common identifier is the DOI (Digital Object Identifier) released by the International DOI Foundation (IDF, <https://www.doi.org/>).

Table 90 shows the type of permanent identifier that the journals included in this analysis applied to their articles. The metadata revealed that most of the journals did

not apply a permanent identifier (indicated by this field being left blank): 402 journals (74.03%) in 2017 and 890 journals (63.17%) in 2019. The remaining journals – 25.78% (140 journals) in 2017 and 36.76% (518 journals) in 2019 – used a DOI while only one used the ARK during either period.

Table 90 Permanent identifier use, 2017 and 2019

Type	2017		2019	
	F	%	F2	%
DOI	140	25.78	518	36.76
ARK	1	0.18	1	0.07
Blank	402	74.03	890	63.17
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

*First calendar year the journal provided online OA content*

Figure 16 shows the first calendar year the journal displayed online full-text articles (with Table 91 providing the detailed data underlying the figure). These data show the earliest date of *archived* articles (back issues) that can be accessed online, and may not necessarily indicate the first year the journal published online OA content. The earliest year of the full-text articles displayed online was provided by one journal listed in 2019 was dated 1969, while the earliest one listed in 2017 was dated 1970.

Table 91 First calendar year journal provided online open access content

First Online Year	2017 F1	2019 F2
1969		1
1970	1	1
1971		1
1972		
1973	1	1
1974		
1975		
1976		
1977		
1978		
1979		
1980		
1981		
1982		
1983		
1984	1	1
1985	1	

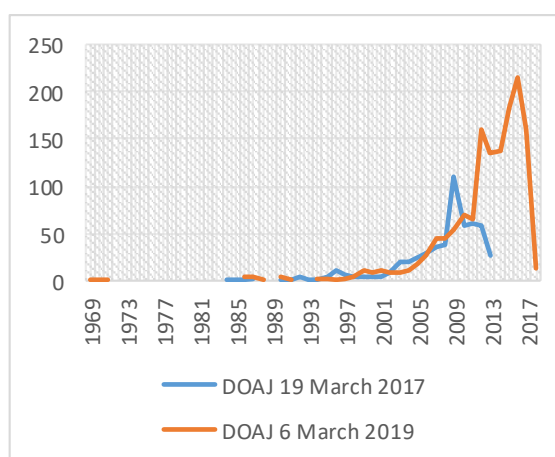


Figure 16 The oldest calendar year of any OA content now available online



1986	1	3
1987	2	3
1988		1
1989		
1990	1	3
1991	1	1
1992	3	
1993	1	
1994	1	2
1995	4	2
1996	11	1
1997	6	2
1998	5	4
1999	4	12
2000	5	8
2001	4	12
2002	9	8
2003	19	8
2004	21	11
2005	24	17
2006	30	26
2007	36	44
2008	37	44
2009	110	53
2010	59	70
2011	61	66
2012	58	161
2013	26	134
2014		138
2015		182
2016		215
2017		159
2018		14
<b>Total</b>	<b>543</b>	<b>1409</b>

### 6.3.5 Openness

The following data are related to the openness of journals. The data presented in this section relate to compliance with the unrestricted reuse required in the BOAI (Budapest Open Access Initiative) definition of open access, the rights licence of the journals, the journals' approval of the authors' holding publishing rights and copyright without restrictions, and the full-text crawl permission of the journals.

It should be noted that the data and the field names used here are based on the old datasets and application form before 2020. Since November 2020, the new application form of DOAJ no longer refers to compliance with BOAI definition. This decision was chosen after the DOAJ realized that there are different levels of permission barriers (DOAJ, 2020).

### *Unrestricted Reuse Based on BOAI*

According to Budapest Open Access Initiative (2002, para. 3), users should be allowed

to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.

Table 92 shows the journals' responses to the question of whether or not they allow unrestricted reuse of their articles based on the definition of OA. Almost all journals answered "Yes": 95.95% (521 journals) in 2017 and 98.72% (1,391 journals) in 2019. The remainder (22 journals in 2017 and 18 journals in 2019) left the question unanswered (indicated with blanks). A deeper check to the dataset found (in the data field "Tick: Accepted after March 2014) that the 17 out of 22 journals in 2017 with the blank reply did not reapply (indicated with "No") to DOAJ by the limit March 2014. However, a similar check to the 18 journals in 2019 with the blanks found that they had reapply (indicated with "Yes").

*Table 92 Unrestricted reuse based on BOAI definition, 2017 and 2019*

	2017		2019	
Answer	F1	%	F2	%
Yes	521	95.95	1391	98.72
Blank	22	4.05	18	1.28
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### *License Attributes*

The most common rights licence used by the OA community is Creative Commons (CC). CC has seven licence attributes with different restrictions ([see page 16](#)).

Table 93 and Figure 18 show that CC BY was the most favoured rights attribute attached by the journals to their articles, with 261 journals (48.25% out 543 journals) in 2017 and 557 journals (39.53% of 1,409 journals) in 2019. This position was followed by CC BY-SA with 162 journals (29.83%) in 2017 and 467 journals (33.14%) in 2019. Two other fairly frequently preferred attributes were CC BY-NC-SA and CC BY-NC with 41 journals in 2017 and 177 journals in 2019 and 42 journals in 2017 and 159 journals in 2019, respectively. CC BY-ND was preferred by only 10 journals in 2019 and seven journals in 2017.

*Table 93 Journal licence attributes, 2017 and 2019*

CC Licence	2017		2019	
	%	f	%	f
CC BY	48.25	262	39.53	557
CC BY-SA	29.83	162	33.14	467
CC BY-ND	1.29	7	0.71	10
CC BY-NC	7.73	42	11.28	159
CC BY-NC-SA	7.55	41	12.56	177
CC BY-NC-ND	2.76	15	2.63	37
Own licence	0.18	1	0.07	1
Blank	2.39	13	0.07	1
	<b>100</b>	<b>543</b>	<b>100</b>	<b>1409</b>

#### *Authors' Copyright without Restriction for Journals with Various Rights Attributes*

The presented tables display cross-tabulations of data regarding the selection of CC attribution type by academic journals and their stance on the extent of author's copyright ownership of their articles. Specifically, if the journal allows the author(s) to retain unrestricted copyright ownership, it implies that the license attribute assigned to the article should be either CC BY or CC BY-SA, which represent the second and third most unrestricted options available under the Creative Commons framework.

Table 94 shows a cross-tabulation of the journals' choice of rights attributes and their approval of authors holding copyright without restriction in 2017. Most journals (483, 88.95% out of 543 journals) answered "no" (coded as "false" in the dataset) to the question whether or not they "allow the author(s) to hold the copyright without

restrictions” (Question 52 of the DOAJ’s journal application form (DOAJ, 2017)), while the remaining 54 journals (12.52%) responded “yes.” Journals with CC BY attributes (42.73%, 232 journals) represented the highest proportion of “no” responses to the author copyright question, followed by those with CC BY-SA (27.07%, 147 journals).

*Table 94 Cross-tab of Authors’ copyright and Creative Commons attributes in 2017*

2017 Allowing Authors to Hold Copyright							
CC License	NO	%	YES	%	Blank	%	Total
CC BY	232	42.73	29	5.34	1	0.18	262
CC BY-SA	147	27.07	15	2.76	0	0	162
CC BY-ND	7	1.29	0	0	0	0	7
CC BY-NC	33	6.08	6	1.10	3	0.55	42
CC BY-NC-SA	38	7.00	3	0.55	0	0	41
CC BY-NC-ND	12	2.21	1	2.76	2	0.37	15
Own licence	1	0.18	0	0	0	0	1
Blank	13	2.39	0	0	0	0	13
<b>Total</b>	<b>483</b>	<b>88.95</b>	<b>54</b>	<b>12.52</b>	<b>6</b>	<b>1.10</b>	<b>543</b>

Table 95 shows the cross-tabulation of the journals’ choice of right attributes and their approval of authors holding copyright without restrictions in 2019. There were 1,093 journals (77.57% out of 1409 journals) that replied “no” to the question whether or not they “allow the author(s) to hold the copyright without restrictions” (Question 52 of the DOAJ’s journal application form, (DOAJ, 2017)), while 315 journals (22.36%) answered “yes” to the question.

The journals with CC BY represented the highest proportion of “no” responses to the author copyright question (462 journals or 32.79%), followed by those with CC BY-SA (368 journals or 26.12%). Only 95 journals with CC BY (6.74%) and 99 with CC BY-SA (7.03%) responded “yes” (true) to the question.

*Table 95 Cross-tab of Authors’ copyright and Creative Commons attributes in 2019*

2019 Allowing Authors to Hold Copyright							
CC License	NO	%	YES	%	Blank	%	Total
CC BY	462	32.79	95	6.74	0	0	557
CC BY-SA	368	26.12	99	7.03	0	0	467
CC BY-ND	10	0.71	0	0	0	0	10
CC BY-NC	97	6.88	62	4.40	0	0	159
CC BY-NC-SA	124	8.80	53	3.76	0	0	177

<b>CC BY-NC-ND</b>	31	2.20	6	0.43	0	0	37
<b>Own licence</b>	1	0.07	0	0	0	0	1
<b>Blank</b>	0	0	0	0	1	0.07	1
<b>Total</b>	<b>1093</b>	<b>77.57</b>	<b>315</b>	<b>22.36</b>	<b>1</b>	<b>0.07</b>	<b>1409</b>

*Authors' Publishing Rights Restrictions for Journals with Various Rights Attributes*

The tables show how the journals choose to attribute Creative Commons (CC) licenses based on their stance on authors' publishing rights. When a journal allows authors to retain complete publishing rights, they tend to use CC BY or CC BY-SA licenses, which are among the most unrestricted licenses offered by Creative Commons. This is a paradox. They choose either CC BY or CC BY-SA licenses, but do not permit authors to retain copyright and publishing right.

Table 96 shows the cross-tabulation of the journals' choice of rights attributes and their approval of authors' publishing rights without restrictions in 2017. There were 485 journals (89.32% of 543 journals) that responded "no" to the question whether or not they "allow the author(s) to retain publishing rights without restrictions" (Question 54 of the DOAJ's journal application form: "Will the journal allow the author(s) to retain publishing rights without restrictions?" (DOAJ, 2017)). This question was changed after 2019 with the one before it and reworded to "Does the author(s) or their institution retain both full, unrestricted copyright and publishing rights?" (<https://blog.doaj.org/2020/03/09/our-application-form-is-changing/>). The other 52 journals (9.58%) replied "yes" (true) to the question.

The journals with CC BY were the highest proportion of the "no" responses (234 journals or 43.09% of the total journals), followed by those with CC BY-SA (147 journals or 27.07%). Only 27 journals with CC BY (4.97%) and 15 journals with CC BY-SA (2.76%) responded "yes" (true) to the question.

*Table 96 Cross-tab of Authors' publishing rights and Creative Commons attributes in 2017*

2017 Allowing Authors to Hold Publishing Right							
CC License	NO	%	YES	%	Blank	%	Total
<b>CC BY</b>	234	43.09	27	4.97	1	0.18	262
<b>CC BY-SA</b>	147	27.07	15	2.76	0	0	162
<b>CC BY-ND</b>	7	1.29	0	0	0	0	7
<b>CC BY-NC</b>	33	6.08	6	1.10	3	0.55	42

<b>CC BY-NC-SA</b>	38	7.00	3	0.55	0	0	41
<b>CC BY-NC-ND</b>	12	2.21	1	0.18	2	0.37	15
<b>Own license</b>	1	0.18	0	0	0	0	1
<b>Blank</b>	13	2.39	0	0	0	0	13
<b>Total</b>	<b>485</b>	<b>89.32</b>	<b>52</b>	<b>9.58</b>	<b>6</b>	<b>1.10</b>	<b>543</b>

Table 97 shows the cross-tabulation of the journals' choice of rights attributes and their approval of authors' publishing rights without restrictions in 2019. There were 1,102 journals (78.14% of 1,409 journals) that responded "no" to the question whether or not they "allow the author(s) to retain publishing rights without restrictions" (Question 54 of the DOAJ's journal application form: "Will the journal allow the author(s) to retain publishing rights without restrictions?")

<https://web.archive.org/web/20170702101421/https://doaj.org/application/new>)

while 307 journals (21.79%) replied "yes" (true) to the question.

The journals with CC BY were the largest group of journals replying "no" (false) to the question (464 journals or 32.93%), followed by those with CC BY-SA with 367 journals (26.05%). Only 93 journals with CC BY (6.60%) and 100 journals with CC BY-SA (7.10%) responded "yes" (true) to the question.

The findings indicate that many academic journals do not allow author(s) to hold copyright and publishing right without restriction. However, it is surprising to find that some publishers of these journals use the CC BY or CC BY-SA licence attribution, which suggests a potential lack of comprehension or misunderstanding of the implications of such attributes.

*Table 97 Authors' publishing rights and Creative Commons attributes in 2019*

2019 Allowing Authors to Hold Publishing Right							
CC License	NO	%	YES	%	Blank	%	Total
<b>CC BY</b>	464	32.93	93	6.60	0	0	557
<b>CC BY-SA</b>	367	26.05	100	7.10	0	0	467
<b>CC BY-ND</b>	10	0.71	0	0.00	0	0	10
<b>CC BY-NC</b>	101	7.17	58	4.12	0	0	159
<b>CC BY-NC-SA</b>	127	9.01	50	3.55	0	0	177
<b>CC BY-NC-ND</b>	31	2.20	6	0.43	0	0	37
<b>Own license</b>	1	0.07	0	0.00	0	0	1
<b>Blank</b>	0	0.00	0	0.00	1	0.07	1
<b>Total</b>	<b>1101</b>	<b>78.14</b>	<b>307</b>	<b>21.79</b>	<b>1</b>	<b>0.07</b>	<b>1409</b>

Table 98 shows that the majority of the journals (87.11% in 2017 and 88.29% in 2019) allowed full-text crawl of their database. The remaining journals (12.89% in 2017 and 11.71% in 2019) did not indicate whether they provided this permission.

*Table 98 Full-text crawl permission, 2017 and 2019*

	2017		2019	
Answer	F1	%	F2	%
Yes	473	87.11	1244	88.29
Blank	70	12.89	165	11.71
	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### *Deposit Policy*

Table 99 shows that more than 90% of the journals do not register their deposit policy with a third party, such as SHERPA/RoMEO. SHERPA/RoMEO (<https://v2.sherpa.ac.uk/romeo/>) is a service run by Jisc (<https://www.jisc.ac.uk/>) to show the copyright and OA self-archiving policies of academic journals. The number of journals using SHERPA/RoMEO to declare their deposit policy was small: only 34 journals (6.26%) in 2017 and 36 (2.25%) in 2019.

One or two journals mentioned Crossref and SWORD as the place where they declare their deposit policy. Crossref and SWORD do not analyse the deposit policy of a journal as SHERPA/RoMEO does. Crossref is an official Digital Object Identifier (DOI) Registration Agency of the International DOI Foundation (Liu, 2021) and SWORD (Simple Web-service Offering Repository Deposit) is an interoperability standard or protocol that allows digital repositories to accept the deposit of content from multiple sources in different formats (Allinson et al., 2008).

*Table 99 Journals' deposit policy, 2017 and 2019*

	2017		2019	
Type	F	%	F2	%
SHERPA/RoMEO	34	6.26	36	2.56
Crossref	1	0.18	2	0.14
SWORD	1	0.18	1	0.07
None	507	93.37	1370	97.23
<b>Total</b>	<b>543</b>	<b>100</b>	<b>1409</b>	<b>100</b>

### 6.3.6 Peer Review

Peer review is the evaluation of scholarly work conducted by scholars with similar competence in the subject area as the authors of the work.

Table 100 shows the peer-reviewing models applied by the journals that were part of this analysis. In 2017, peer review was the primary type of reviewing identified (48.07%, or 261 out of 543 journals) while in 2019 double-blind peer review was the most frequently preferred model of reviewing (40.24%, or 567 out of 1,409 journals). Double-blind peer review was the second most common peer review method in 2017 (26.70%, 145 journals) followed by the blind peer review model (21.73%, 118 journals). The position was slightly changed in 2019 when standard peer review was the second most common model of reviewing (35.98%, 507 journals) and blind peer review was in the third position (23.49%, 331 journals). Two journals preferred editorial review in 2019 while another journal preferred open peer review. Nineteen journals (3.50%) did not choose any peer review type in 2017, while only one journal in 2019 did not mention any type of review.

*Table 100 Peer review type, 2017 and 2019*

Type	2017		2019	
	F	%	F	%
<b>Blind peer review</b>	118	21.73	331	23.49
<b>Double-blind peer review</b>	145	26.70	567	40.24
<b>Peer review</b>	261	48.07	507	35.98
<b>Editorial review</b>	0	0	2	0.14
<b>Open peer review</b>	0	0	1	0.07
<b>Blank</b>	19	3.50	1	0.07
	<b>543</b>	100.00	<b>1409</b>	100.00

### 6.3.7 Publishing Delay

Table 101 shows that the most common publishing delay between article submission and publication reported by journals was between 21 and 30 weeks, followed by 1–10 weeks and 11–20 weeks.



*Table 101 Publishing delay between article submission and publication in weeks, 2017 and 2019*

Delay in weeks	2017		2019	
	F	%	F	%
<b>01–10</b>	189	36.14	439	31.18
<b>11–20</b>	137	26.20	424	30.11
<b>21–30</b>	193	36.90	528	37.50
<b>31–40</b>	3	0.57	7	0.50
<b>41–50</b>	0	0	8	0.57
<b>51–53</b>	1	0.19	2	0.14
	<b>523</b>	100.00	<b>1408</b>	100.00

The publishing delay data above ends this results chapter. In all, the findings show that there was a substantial increase in the quantity of Indonesian OA journals listed in the DOAJ between 2017 and 2019.

#### **6.4 Conclusion**

In conclusion, the regulation analysis presented in this chapter revealed that the government has encouraged the quantity of scholarly publishing through regulation. Interviews with policymakers revealed their view that insufficient funding is the main hindrance to journal publishing. The number of OA journals also increased dramatically between 2017 and 2019. Discussion about the findings related to each objective will be provided in the next chapter.

## Chapter 7 Discussion

This chapter presents data interpretations and discussions of the research findings. The data were collected to determine the answer to the research question: “To what extent do current conditions supporting Open Access journal publishing in Indonesia reflect the potential for its future role in scholarly communication?” To answer this question, five research objectives were identified:

1. To evaluate the government regulations related to scholarly journal publishing in Indonesia and their alignment with scholarly communication functions.
2. To assess Indonesian researchers’ awareness of scholarly communication and the impact of OA on scholarly journal publishing.
3. To explore editors’ experiences with and awareness of scholarly communication and the impact of OA on scholarly journal publishing.
4. To discover the type of efforts made and hindrances faced by policymakers in the management of OA journal publishing in Indonesia.
5. To analyse the trends in OA journal publishing in Indonesia across a period of 2 years (2017–2019).

Five studies were conducted based on the research objectives. The complete research findings are presented in Chapter 5, which addressed the results related to objectives 2 and 3, and Chapter 6, which dealt with the results related to Objectives 1, 4, and 5.

The discussions are divided into five sections based on the scholarly communication functions. As explained in Chapter 3 (Literature Review, p. 34) and Chapter 4 (Methodology, p. 60), the scholarly communication functions are:

1. Registration
2. Certification
3. Dissemination
4. Preservation
5. Evaluation

The first four of these functions are traditional functions that have been in place since the 1700s. The final function, evaluation, was introduced in the 1970s when research funders and institutions started to measure research impact using a bibliographic tool based on citations (Guédon et al., 2019).

The final section of the discussion will outline the potential of current conditions for OA journal publishing to enhance scholarly communication in Indonesia. This section will employ the commons theory, popularized by Ostrom, as a lens to guide the governance of OA journal publishing. Scholarly communication is considered a commons and should be governed as a knowledge commons. As such, it emphasizes the need for all actors involved to act collaboratively and responsibly to ensure equitable access and sustainable management of scholarly knowledge.

### **7.1 Registration**

This section discusses the findings from five studies (Objectives 1-5) pertaining to the registration function in scholarly communication. The registration function serves the purpose of establishing proof that a scholarly work was produced at a particular time by either an individual scholar or a collective of scholars. Enhancing the registration function has the potential to increase the quantity of research outputs.

The findings show that numerous laws and regulations have been released by the government regarding the registration function. The writing and publication of research findings in reputable international journals is encouraged. By adopting a "carrot and stick" system to compel scholars, particularly those employed by universities, to publish scientific articles at a global level, the government clearly upholds the "publish or perish" philosophy. It has been demonstrated that this effort encourages researchers to produce more scholarly materials. One of the most important prerequisites for lecturers to get promoted in Indonesia is to undertake research, write, and publish the outcomes of that research. It is expected that all researchers will contribute to the literature. This category of researchers includes professors, academic researchers, and other professionals. Academics (lecturers and students, the academic community) are required by law to publish their research results, and if they are published globally, they will be rewarded. This rule will indirectly drive additional publications by mandating and incentivizing the

publication of research results. A series of legislation enacted by two ministries, MSAUBR and MEC, require writing and publication in national and international journals with a specific grade as conditions for higher positions, as well as the dissemination and distribution of all research results.

The above regulations have an impact on the motivation of researchers in publishing articles. The survey results show that besides discipline development, the main motivation of researchers is for career development and promotion. The survey findings revealed that researchers were primarily motivated to publish for three reasons: "contribution to the field," "promoting research careers," and "tenure and promotion," in that order (see Table 17, p.104). While the first response suggests a dedication to advancing knowledge, the latter two indicate that researchers may be driven by personal achievement. It is worth noting that the fourth reason given was "personal prestige," which could be seen as closely linked to both "promoting research careers" and "tenure and promotion." Thus, the findings suggest that personal motivations may play a larger role in researchers' decision to publish than their desire to contribute to the field.

In the National Standard for Higher Education 2020, the government insist on HEIs to provide financial support and incentives for scholarly research and publication. This is in line with the argument made by Fuchs and Sandoval (2013) that public funding should support Diamond OA publishing. Diamond OA publishing is a type of OA publishing that is supported by public funding, in which the costs of publishing are covered by public funds, and the resulting publications are made freely available online to the public (Elsabry, 2017).

Government policies on open access (OA) emphasize the economic benefits of OA. By opening access to information, knowledge is seen as a public good that the government must provide (Anomaly, 2015; Puehringer et al., 2021; Samuelson, 1955).

In regulations, the need for research students to publish was emphasised strongly. Master's students were urged to publish in a national journal (ideally an accredited journal), while doctorate students were advised to publish in a prestigious international journal. This law supports the registration function since financial

support and incentives stimulate the quantity of research and publication. The requirement for financial support and incentives is consistent with the policymakers' assertions in the interviews that budgetary support is their primary obstacle (see interview findings with policy makers). This is also consistent with Alta's suggestions (Alta, 2020) in their report, which recommends that the government offer financial incentives if they have the resources available. Another possible approach is to provide performance-based incentives. These two models of incentives have been put into effect to some extent, such as providing grants to individuals who have published in top-tier journals (Q1 and Q2). Performance-based incentives are offered through point-based systems that assess the productivity and scientific citations of researchers over the preceding three-year period (Fry et al., 2023)

The researcher survey results show that the majority of researchers read scholarly journals, often on a daily or weekly basis (Table 11, p.102). This good reading habit was supported by their response that scholarly reading is very important (Table 13). More respondents read OA journals more regularly than non-OA journals. This finding aligns with their familiarity with OA journals. Reading scholarly articles is one of the preliminary steps in the research cycle, where researchers gather more knowledge and information to support their own research.

Although publishing is a kind of dissemination activity, it is also associated with the claiming and timestamping of researchers' scholarly outputs or innovations (i.e., registration). Almost all researchers believed that publishing articles is important, and this data is correlated with their publishing experiences. However, their numbers of publications were still low. Most had published relatively little: between one and 10 times. The media that the researchers had used for their articles were mainly print journals and OA journals. Institutional repositories and commercial e-journals were the next most preferred outlets, with personal websites and blogs the least preferred outlets.

The top three factors that influenced the researchers' choice of publishing outlets were journal ranking or status, speed of publishing process and likelihood of acceptance of article, in that order. The first of these responses indicates that researchers consider journal ranking important. In addition, government regulations

require them to publish in reputable international journals for career promotion. As noted in the discussion of regulations, researchers are also rewarded for publishing in these high-ranked journals. For example, for an article published in a journal with a Q1 rank, the highest journal rank in Scimago Journal Rangking (SJR), an author would be awarded about AUD 5,000 (Ristekbrin, 2020, p. 8), which may equal five times their monthly salary. This finding implies that monetary incentive motivate researchers to publish in high-ranking journals. A recent study on Indonesian researchers also support this personal motivation (Fry et al., 2023).

The registration function is also related to publishing activities. Considering that editors' main job is managing publishing, their job automatically supports the registration function of scholarly communication. The survey findings revealed that one of the editors' most important responsibilities is "giving final approval on which article to publish." Meanwhile, their responses also showed that they have conducted other activities related to the registration function. Most of them confirmed that they had published articles themselves between one and 10 times, and a few had published more than 20 articles. This finding is relevant to the demographic data showing that the main job of most editors was as a lecturer. Based on Indonesian regulations, lecturers are required to write up and publish their research outputs.

The government has released a series of regulations requiring publications for tenure and promotion, for receiving a monthly professional allowance, for getting master's and doctoral degrees, and for study accreditation for HEIs. The government also requires that all articles and scientific papers should be accessible online and that all articles must have permanent digital identifiers, such as a DOI.

All policymakers confirmed that the main problem they faced was "insufficient funding." The second most important problems identified were related to human resource issues: "lack of people," "heavy workloads," and "double burden" as a lecturer, an editor, and an administrator at the same time. Since the publishing job is, for the majority, voluntary or receives a small honorarium (Table 50, p.131), a "work continuity" problem arises when a dedicated editor, for example, moves to a new or higher position. This condition is problematic since reliance on volunteers is unsustainable (Grove, 2021). Another problem identified by policymakers was administrators' and editors' "lack of passion" to manage the publishing of a journal

without any compensation, and their “lack of skills/knowledge” about publishing causing poor management. Regarding the lack of passion, it is interesting to find that the second rank motivation in editing a journal A “lack of articles” was also identified as a problem. It sometimes happens that an HEI has several journals, but they struggle with a lack of articles submitted, or they may have a number of articles submitted which are of poor quality or not suitable for the journal.

Two interviewees emphasise “sectoral ego” problem, which is also known as the silo effect. Sectoral ego is associated with lack of coordination or collaboration among ministries and government institutions. For example, the journal publishing standard, which was formulated by two parties, was changed by one institution/ministry without confirmation with the other. The interviewee gave an example of these changes as the legal deposit of journal articles being downgraded from compulsory to optional only. The Indonesian President, Joko Widodo’s, mandate at several events to put aside sectoral ego indicates that this silo effect has been a common bureaucratic problem in Indonesia ("Indonesia: Get rid of sectoral ego in managing transportation: President," 2019; "Indonesia: President Jokowi Calls for Elimination of 'Sectoral Ego'," 2019).

The content analysis results on Indonesian journals’ metadata showed a substantial increase in the number of Indonesian journals from 2017 to 2019. This quantity development proves that Indonesia has been successful in supporting the registration function of scholarly communication. By March 2019, the total number of Indonesian journals listed in the DOAJ was 1,409. This increase almost tripled the number of journals (543) that existed in 2017. The most up-to-date data from the DOAJ shows that Indonesia is currently occupying the world’s highest rank in terms of the number of OA journals, with 1,778 journals (as of 29 March 2021). This number is about a sixth of the 11,777 journals with more than one million articles (as of 29 March 2021) listed in GARUDA, a national indexing database for Indonesian scholarly outputs (<https://garuda.kemdikbud.go.id/>). Data from ROAD (Directory of Open Access Scholarly Resources, <https://road.issn.org/>) is also of interest. This database of ISSNs lists 11,101 online OA journals of Indonesia as of 29 March 2021.

Overall, policymakers, researchers, and editors have supported the registration of scholarly communication, resulting in more open access journals in Indonesia.

However, some researchers and editors prioritize personal gain over contributions to their field. To address this, policies can incentivize contributions, while grassroots engagement fosters collaboration and collective work towards the creation of a knowledge commons. The government can facilitate this with infrastructure. Collaborative efforts will ensure sustainable growth of open access journals as a knowledge commons, advancing scholarly communication in and beyond Indonesia.

## **7.2 Certification**

This section discusses the findings from five studies (Objectives 1-5) pertaining to the certification function in scholarly communication. Certification is an integral part of the reviewing procedure that ensures the quality of the final product. This function is associated with all tasks performed to acknowledge and enhance the quality of researchers' work, such as peer reviewing and editing.

Dikti's criteria for journal accreditation (*see* regulation #12, Table 78) is seen to be the most significant legislation affecting journal certification. Accreditation is significant because it provides official acknowledgement of the quality assurance of scholarly journals by evaluating the fairness of manuscript screening, the appropriateness of journal management, and the timeliness of publication. The accreditation process involves the evaluation of publishing management. For example, a journal should regularly and continuously publish at least five articles per issue, have an editorial board, and involve peer reviewers.

According to the accreditation guideline, the quality of a journal is primarily determined by its editing, management, and article content. Accreditation involves analysing the title, publisher, editing and publishing management, article content, referencing style, layout, publication duration, and distribution. The editing and management component includes a peer reviewer and editor qualification evaluation. A high score is awarded for management if all peer reviewing and editing is handled online. Measuring the impact factor, h-index, originality, subject specialisation, contribution, and current status of the references constitutes evaluation of the article's substance. Each journal is evaluated by two assessors for management issues and two assessors for content-related matters.



The Indonesian government employs the SINTA system to evaluate and rank the quality of scholarly journals in the country. This system utilizes six levels of criteria, denoted as S1 through S6, to assess the journals (Fry et al., 2023; Lukman et al., 2018). Although the system has faced criticism (Irawan et al., 2021), its accreditation and ranking procedures are designed to enhance the overall quality of the journals.

Another effort to improve the quality of scholarly output is the issuance of regulation regarding prevention and mitigation of plagiarism. This regulation requires that scholarly outputs must be widely distributed online by uploading them to online repositories such as GARUDA (a repository launched by DGHE in 2010) or other online repositories to avoid plagiarism. This regulation is considered an attempt to improve quality (in this case, through preventing plagiarism) by improving scholarly outputs' online visibility. Enhancing an article's online visibility can help to minimise and prevent plagiarism. Readers can quickly determine whether an article is similar to other online documents. Any similarity between an article and previously published articles can be quickly found using automatic plagiarism checkers.

The data showed that researchers, apart from carrying out research-related activities, also carry out activities related to this certification function. Peer reviewing and editing of journals are popular activities, as well as attending conferences. This data aligns with the editor survey findings which indicated that almost all editors were also lecturers or researchers. This fact shows that researchers also support and care about scholarly communication activities related to the certification function.

In selecting publishing outlets, the researchers identified “journal ranking” as one of the most important factors influencing their choice, followed by “speed of publishing” and “likelihood of acceptance of article”.

The certification function is the function that assures the quality of research outputs. In general, the whole gamut of editors' activities mainly focus on this function. Therefore, the general activities of editors are related to the certification. More than half the editors had less than 5 years' experience in journal editing, while a small number had spent more than 10 years as an editor. Even though their experience is still low, most of their journals have already been listed in DOAJ. This shows that

they have sufficient capacity and commitment in supporting the scholarly communication certification function.

Based on the survey findings, the top three responsibilities of the editors were evaluating an article, giving final approval on which articles to publish, and setting up panels of reviewers/referees. Furthermore, the survey found that the top three skills they needed to maintain a scholarly journal were discipline- or subject-related skills, research skills, and copy-editing. Other skills that they considered as crucial were (in order): IT-related skills, such as OJS installation and maintenance, foreign language skills, writing skills, managerial skills, communication and networking, and graphic design.

Most of the editors received an honorarium, while one third were not financially rewarded at all. Their primary motivations for doing the job were discipline/subject development, as part of the duty, and for personal satisfaction. The last two responses indicate personal reasons. They do the editing because they are required and for satisfaction. They also believed that editing a journal would positively impact their institution's reputation and their personal reputation. About half the editors reported that many reviewers expected a financial reward for every article they reviewed. In contrast, about a third of the respondents reported that reviewers had no reward expectation.

The top three contributors identified by editors as providing high-level support for their work were free journal applications, such as OJS; government regulation; and editor peer support. As noted earlier, a community of Indonesian journal editors that is considered active in assisting journal managers and editors in maintaining journal publishing in Indonesia is RJI (*Relawan Jurnal Indonesia* or Indonesian Journal Volunteers). This NGO was initially founded in 2016. Another association was initiated on 28 July 2017, of Indonesian Editorial Board Association (ADEI). On 26 January 2018, the name was changed to Indonesian Association of Scientific Journal Editors (HEBII). This association, which is based in Bogor in West Java, certifies professional editing, and holds training for editing, reviewing, and journal management (HEBII, 2020).

Conversely, the findings showed that the top three hindrances identified by editors were reviewers' punctuality, adherence to accreditation standards, and finding authors. Financial barrier is also identified. The majority of the editors reported that they received annual funds for journal maintenance and publishing costs. Most revealed that the amount of funding they received was less than AUD 1,000 per year, while 30.14% stated that they received between AUD 1,000 to AUD 3,000. About 15% of the editors mentioned a higher amount, including five (2.28%) who reported receiving more than AUD 10,000 annually.

About half the respondents agreed that authors should pay an APC to support publishing costs, while a quarter were in a neutral position. In contrast, a few disagreed with burdening authors with a publishing charge. Nearly half the respondents stated that the maximum APC should be less than AUD 50, while the other half suggested that an author should be prepared to pay between AUD 50 and AUD 300 (Table 31).

In terms of the certification function, the metadata revealed the nature of journals' peer-reviewing activities. In 2019, the percentage of journals using "double-blind peer review" increased to nearly twice that of the previous, 2017, period. Peer review is supposed to function as quality assurance for a published article. Reviewers make recommendations to editors about the quality of the articles submitted. The Guidelines for Scholarly Journal Accreditation 2018 recommend "single blind" or "double-blind" peer review to avoid bias or unfairness (Dirjen Risbang, 2018, p. 6).

### **7.3 Dissemination**

This section discusses the findings from five studies (Objectives 1-5) pertaining to the dissemination function in scholarly communication. The dissemination function of scholarly communication encompasses a set of activities that aim to facilitate the distribution of knowledge, making scholarly works accessible and visible. Such activities include publishing scholarly articles, engaging with academic literature, attending conferences, acquiring proficiency in international languages, and participating in the broader research community to remain up-to-date with the latest findings of peers.

Regulations that enhance and support visibility and accessibility of research outputs. Any regulations that encourage accessibility and visibility were categorised in the content analysis as dissemination regulations. Regulations that encourage journals to be registered and listed in indexing databases, such as the DOAJ, are associated with the dissemination function. Indonesia currently has the largest number of journals in the DOAJ.

2015 marked the beginning of an explosion in the number of open access journals published in Indonesia. If this fact is linked to the issuance of rules, then the regulations that were likely to have had a substantial impact on the increase in the journal number were those that were introduced in 2014 and onwards. Data from 2018 about the 10 countries that had the most ISSNs showed that Indonesia was the most productive country in publishing serials with 4,920 registered ISSNs (ISSN International Centre, 2019, p. 14). Indonesia was in the lead, in 2019, with 7,400 resources, followed by India, the United States of America, Turkey, the United Kingdom, and Iran, each with about 2,000 resources. In addition, the top 10 countries together account for 62% of the open-access resources in the ISSN Register (22,771 records) (ISSN International Centre, 2020, p. 16).

The accrediting criteria established in 2014 by the Directorate General of Dikti and the Head of LIPI mandated publishing institutions to convert their journals from print to electronic format (see regulation numbers 2 and 3 in Table 78). According to the regulations, all print-only journals lost accreditation after March 31, 2016. As a result, research outputs published in certain journals were not accredited or accepted for tenure or promotion. According to Lukman (personal communication, January 23, 2018), since 2015, these laws have had an impact on the dissemination of Indonesian OA journals.

OA publication fosters the dissemination of intellectual works by facilitating access without a price and granting certain reuse rights. The government, on the other hand, has no explicit policies addressing OA. The only rule related to OA is MRTHE Regulation 20/2017, which stipulates that the DOAJ is considered an international indexing database. Consequently, an Indonesian publication that is included in the DOAJ is considered an international journal. This policy encourages researchers to

publish in DOAJ-registered journals worldwide and thereby facilitating their dissemination.

Among the scholarly activities that researchers engage in, attending national and international conferences emerged as the most popular, according to the findings. The researchers' responses regarding the extent of their scholarly community varied, with some indicating that their network was limited to Indonesia, their institution, or their province. In contrast, a few reported that their academic connections extended beyond their country's borders. By attending conferences, scholars can broaden their reach and engage with colleagues beyond their immediate environment, thereby supporting the dissemination function of scholarly communication.

Awareness among researchers about OA and its impact is crucial since it is closely linked to and reinforces the dissemination function of scholarly communication. OA is a vehicle for promoting and facilitating access to scholarly papers, and it enhances their discoverability by enabling search engines to freely and openly index these papers. Although over half of the respondents reported being familiar with the concept of OA, many exhibited uncertainty or had limited knowledge about it. In fact, a few respondents admitted to being entirely unfamiliar with it. Academic librarians can play a vital role in promoting awareness of OA among researchers, with greater collaboration among community members at HEIs serving to enhance efforts in this regard.

The survey data indicated that researchers believed OA journals positively impact their disciplines, while commercial journals positively impacted institutional and personal reputation. The researchers indicated that among the positive impacts of OA were the ease of access for readers, the attraction of an international audience, and rapid availability of papers. In contrast, their responses indicated that the emergence of predatory journals, the imposition of an APC (article processing charge), and lower quality peer review were among OA's negative impacts. This final response indicated their association of OA with poor quality peer review, while APC's implementation is sometimes accused of triggering the emergence of predatory journals by opening the chance for publishers to accept more articles, and thus gain more profit, by disregarding a rigorous review process (Berger, 2021). The lack of a rigorous peer-reviewing process is not the only reason associated with the poor

quality of OA journals. This prejudice brings OA publishing into disrepute and makes researchers avoid publishing in OA journals.

In responding to questions about the author-pays model (APC) of publishing, most researchers disagreed with it, while many were unsure. However, a small number agreed with payment of a publishing charge. When asked about the maximum APC amount they were willing to pay, nearly half the respondents indicated a payment between IDR 500,000 (about AUD 50 with a currency ratio AUD 1 = IDR 10,000) and IDR 3,000,000 (about AUD 300) would be acceptable. In contrast, the same number of respondents would only tolerate an APC fee of less than AUD 50. As a comparison, a mid-career researcher's salary is about IDR 8,000,000 per month. Asking authors to pay for publishing is quite problematic, especially for low and middle-income countries. Unlike researchers in high-income countries, where the APC is commonly paid by research funders or the researcher's institution or library (Willinsky & Rusk, 2019), researchers in these countries sometimes have to pay the APC themselves (Nobes & Harris, 2019). In addition, the APC does not solve the price problem (affordability), which has been claimed to have been a trigger for the OA movement. Instead, this business model just moves the price burden from the readers' side to the authors' side. It should be noted that authors are readers of journals as well, and thus either way essentially the same group of people may be bearing the cost burden.

About half the editors believed that it is important for authors to retain distribution rights for their articles, while around a quarter (24.66%) thought that authors keeping these rights was not important. It should be noted again here that the Indonesian journal accreditation guideline recommends that authors sign a copyright transfer to local publishers. Each article should have a copyright transfer agreement document attached (Dirjen Risbang, 2018, p. 9). A more recent regulation: the Decision of Director Generale of Dikti Ristek, number 134/E/KPT/2021, which is issued by Dirjen Dikti Ristek and not covered in the analysis, has been revised. It states that the authors should transfer their publishing right while they still can maintain the copyright of their works.

When asked about the impact of OA, editors' responses were similar to those of the researchers. Their responses suggested that the top three positive impacts of OA are

ease of access for readers, an international audience, and rapid availability. Conversely, their responses indicated that the emergence of predatory journals and the imposition of an APC are the negative impacts of OA.

Most of the editors were lecturers, and their institutions assigned them their editing job with low incentives, with some not even financially rewarded. The editing is an extra workload for them, but they kept doing it because of their passion for the work. The editors also revealed that reviewers' punctuality was the most severe hindrance they encountered, and that finding reviewers was not an easy task since most reviewers expect financial rewards.

The extension of readership is also supported by the fact that nearly all researchers consider the mastery of international languages as very important. Studies have found that writing in international languages, especially English, helps broaden the distribution of scholarly work. Articles written in international languages are accessible to a wider audience (Di Bitetti & Ferreras, 2017; MoChridhe, 2019; Moed et al., 2020). International language mastery will expand the communication range of scholars, especially at the global level, and will increase their awareness of the research findings of other researchers from various parts of the world. Therefore, the researchers' awareness of the importance of international language mastery aligns with the dissemination function of scholarly communication.

The findings revealed that policymakers identified "foreign language" problems, such as low mastery of reading and writing in English, as still being a big challenge. It is undeniable that English is the dominant language of scholarly communication (Liu, 2017). Several studies have also established that non-English articles have low citation rates (Dahler-Larsen, 2018; Di Bitetti & Ferreras, 2017; Liang et al., 2013; Liu et al., 2018). One solution to this foreign language problem proposed by the policymakers is to encourage intensive collaboration with university language centres. The majority of universities in Indonesia have a language centre.

In contrast, the President's regulation issued in 2019, Perpres No. 63/2019, states that all scholarly papers published in Indonesia must be written in Bahasa Indonesia. Those published in foreign languages must be accompanied with translation in Bahasa Indonesia. This regulation is in opposite with other regulations, such as

Permenristekdikti No.20 Tahun 2017, that encourage to publish in international journals and to use UN official languages for scholarly publication. The opposing positions of these policies indicates the existence of sectoral ego.

In the metadata analysis, the journal features associated with the dissemination function are the full-text language used, publishing delays, publisher categories, publishing charges, and author publishing rights. The journals' language was mostly in Indonesian, with this number almost being equalled by the number of bilingual English-Indonesian journals. Half of the journals were written in English only. A few multilingual journals were also available, such as some in Arabic-English-Indonesian, Chinese-English-Indonesian, Japanese-English-Indonesian, and Malay-English-Indonesian. The use of international languages supports the dissemination function by reaching a wider audience (MoChridhe, 2019). One study revealed that 46.86% of OA journals listed in the DOAJ use English. Interestingly, that study showed Indonesian as the third most popular language (4.86%), while bilingual English-Indonesian was in the sixth position (3.85%) (Siler & Frenken, 2020, p. 58).

One of important issues in dissemination function is publishing delay. It refers to the time elapsed between manuscript submission and publication. This issue is a significant concern in scholarly communication, as new research findings are expected to disseminate immediately. The importance of timely publication is highlighted by survey results from researchers, who ranked it as the second most important factor in selecting publishing outlets (as shown in Table 17). In both 2017 and 2019, the most commonly reported delay period was approximately six months, or 24 weeks, while the shortest delay was one week, and the longest was approximately one year, or 53 weeks. Editors, however, mostly reported a shorter average delay period ranging from four to twelve weeks between subscription and publication (Table 57, p.132). These periods are notably shorter compared to the average delay periods ranging from 11 to 20 weeks observed in most journals listed in the Directory of Open Access Journals (DOAJ) in 2018, as noted in a study conducted by Gul et al. (2019). The primary factors that contribute to publication delay, according to editor survey, include peer review/author revisions, volume of articles submitted, and layout (Table 58, p. 133). These findings suggest that several factors may impede the immediate dissemination of new research outputs.



The metadata analysis showed that publishers are from academic institutions, R&D units, and professional organisations. More than 70% of the publishers were from academic institutions under RISTEK (the Ministry of Research, Technology, and Higher Education, and which, since 2020, have been under *Kemdikbud*, the Ministry of Education and Culture). A quarter were from academic institutions under MORA (the Ministry of Religious Affairs). About 10% were from R&D units and non-government organisations.

Publishing does incur costs, and therefore a publisher should have stable financial resources. Universities and government R&D units publish the majority of journals and most of their operational funding is from the government. The majority of journals did not require an APC in either 2017 or 2019. Only a quarter of the journals required an APC, with the highest APC cost reported as USD 500, and the lowest as USD 4. As shown in Table 31 (p. 118), approximately 95% of respondents were only willing to pay less than IDR 3,000,000 (approximately AUD 300), while only 1.46% were willing to pay more than IDR 10,000,000 (approximately AUD 1,000).

The majority of journals in both 2017 and 2019 had both printed and online versions of their ISSNs. This finding indicates that most of the journals were originally printed. More than 90% of all journals use OJS (Open Journal System) as their publishing platform. The “added on” date revealed that Indonesia was first listed as a publisher's country in 2009, with two journals only. The use of OJS is recommended by the government through a regulation, SE Dirjen Risbang No. 193/E/SEXII/2015, to facilitate the management of online journal publishing.

The right to reuse the content, in line with the BOAI, and the issue of authors' copyright and publishing rights are related to the dissemination function. Regarding the right to reuse the content (question #50 of the DOAJ form), almost all journals reported their compliance with the “unrestricted reuse” embedded in the BOAI. According to the BOAI, as previously noted, users should be allowed

to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining

access to the Internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited. (Budapest Open Access Initiative, 2002, para 3)

Meanwhile, the DOAJ recommends using Creative Commons (CC) attribution to manage the copyright of the content. Creative Commons has seven licence attributes with different restrictions (see page 16). With regard to the BOAI right to reuse mentioned earlier, the most appropriate CC category that fits well with this recommendation is CC BY. However, the metadata showed that practice is in contrast to compliance with BOAI. The results showed that less than half of the journals preferred CC attributes other than CC BY. A number of them preferred CC BY-SA, CC BY-NC, and CC BY-NC-SA.

The same discrepancies occurred in regard to authors' copyright statements. The majority of the journals stated that their authors hold "copyright without restrictions." This means that the articles of the authors should be attributed in line with the CC BY category. However, less than half of the journals in 2017 and only a third in 2019 applied CC BY attributes. Any CC attributes other than CC BY imply that there is a restriction on reusing the articles. There are two possible reasons for this inconsistency. First, the editors may not have fully understood the meaning of the question and/or the BOAI reuse definition. Second, they may not have fully understood the meaning and the consequence of their choice of the CC attribute. The latter assumption is supported by the findings of the editors' online survey, which showed that only half the editors reported that they were familiar with the CC attributes.

Another aspect of the data provided by journals that looks inconsistent with the BOAI declaration is in relation to the authors' publishing rights. The metadata analysis showed that the majority of journals state that they do not "allow the author(s) to retain publishing rights without restrictions." In contrast, about half the journals that "do not allow the authors to retain publishing rights without restrictions" chose CC BY, which means having no restrictions, as their copyright attribute. The results of the editor survey provide further evidence of this

contradiction. Only half the editors completing the survey thought it was important for authors to retain distribution rights for their articles.

#### **7.4 Preservation**

This section discusses the findings from five studies (Objectives 1-5) pertaining to the preservation function in scholarly communication. The preservation function is concerned with ensuring that scholarly works are preserved for the long term.

Any regulations that encourage the long archiving of research outputs were categorised in the content analysis as supporting the preservation function. The Indonesian government has issued regulations that mandate researchers and research institutions to deposit their works for long-term preservation.

However, these regulations have not been effectively implemented. The legal deposit law states that the National Library should deposit all works of Indonesian authors. In practice, scholarly papers are deposited by LIPI. Indonesia has a kind of preservation database for scholarly articles, the Indonesian Scientific Journal Database (ISJD), maintained by LIPI with free access. Journal publishers are required to send the full-text files of their journals to ISJD. This requirement is signed up to when they register to get an ISSN number (Pusat Nasional ISSN Indonesia, n.d.). However, publishers may be hesitant to deposit copies of their articles due to fears that doing so may lead to fewer readers accessing their journal online. The number of visits to the journal's website is one of journal accreditation's scoring elements (Dirjen Risbang, 2018, p. 23). This problem could be solved by restricting access to the ISJD database to publishers only and making it a long-term preservation database.

Another preservation database, RIN (a data repository), is dedicated to primary research data or raw data. It is maintained by LIPI in collaboration with Dataverse of Harvard University. As mentioned earlier, the Law on National System of Science and Technology ((Law No. 11 Year 2019 (UU No. 11/2019)) requires all primary research data be deposited. However, this law has not been implemented comprehensively by higher education institutions, waiting for further legal instruction at the ministry level.

The Ministry of Research (*Ristekbrin*) has created the RAMA repository as the national repository. However, this functions more as an indexing database of HEIs' institutional repositories than as a national repository. Thus, practically, Indonesia does not have a proper preservation system for scholarly publishing while the available preservation databases seem to overlap with each other. It seems that institutions compete with each other to show their achievements in order to win more funding. Without having long-term preservation, journal articles are potentially lost forever. A study has proved that hundreds of online articles lost as the journals disappeared from the Internet. The study consulted journals on several international indexes, such as Scopus and DOAJ. The researchers found that 174 journals between 2000 and 2019 had disappeared (Laakso et al., 2021). Although a similar study has not been conducted on Indonesian journals, this kind of journal disappearance may also happen in Indonesia if the preservation function is not addressed.

The potential to lose online articles also increases if articles do not have a permanent identifier such as DOI (Digital Object Identifier). The Indonesian government has mitigated this potential risk by requiring, through regulation, that journal publishers use a DOI. The regulation *Permenristekdikti No.9 Tahun 2018* about national journal accreditation, which sets up minimum requirements for a journal, includes the requirement to have a DOI for each article. Failure to assign DOIs may result in no accreditation for the journal. However, the finding shows that 63% of Indonesian journals in DOAJ do not have a permanent identifier (Table 90, p.171). This violates the regulation requiring articles to have a DOI.

The preservation function is related to activities that support the long-term maintenance of research outputs. Retaining distribution rights allows authors to deposit their work in their institutional repositories or other archiving repositories. The contribution of researchers to this function is through uploading their papers in a repository with a long-term storage system. Disseminating articles through a repository can only be performed legitimately if the authors retain the distribution rights.

Among the researcher survey findings was the researchers' opinion on the importance of retaining the right to distribute their articles. Nearly all respondents believed that it is essential to maintain the distribution rights for their papers.

Unfortunately, most Indonesian journals do not allow authors to retain these rights (see the findings of the journal metadata analysis, p. 168-169) instead requiring them to sign copyright transfer forms when their articles are accepted. If authors do not retain their distribution rights but rather transfer these to publishers, they will not have the freedom to independently disseminate their articles to repositories or to their blogs or personal websites. This problem diminishes the potential to spread scholarship more extensively.

When asked about their familiarity with Creative Commons (CC) licensing, most researcher were not familiar with it. Most (63.14%) were also not familiar with the CC attributes (e.g., CC BY, CC BY-SA, CC BY-NC). Authors' familiarity with CC attributes may help preservation services to avoid conflict with authors and other parties that may happen around the reuse of their scholarly works. As noted earlier, Creative Commons is an American non-profit organisation devoted to expanding the range of creative works available for others to build upon legally and to share. The organisation has released several copyright licences, known as Creative Commons licenses, free of charge (Creative Commons, 2019). These licenses are commonly used for OA articles.

One of a journal's functions is to preserve knowledge, and journal editors can be considered as making contributions to knowledge maintenance, or the preservation function of scholarly communication. Long-term preservation of knowledge is important because, in this way, scholars and other people in need of information may follow the development of knowledge. The survey findings showed that the editors were relatively unfamiliar with Lots of Copies Keep Stuff Safe (LOCKSS), a digital preservation service that provides support in deep archiving of journal articles. LOCKSS is a popular preservation database used by librarians or journal publishers to preserve scholarly articles. As noted previously, almost all Indonesian journals use OJS as a publishing platform. OJS is open software produced by Public Knowledge Project (PKP), based in Canada. PKP recommends the use of LOCKSS and provides a free archiving service, which is supported by LOCKSS. Journal editors should become familiar with this archiving service since preservation is crucial in scholarly communication.

As one of a journal's roles is to support the preservation function of scholarly communication, every journal should have a long-term deep archiving system. In the DOAJ registration form, question number 25 asks, "What digital archiving policy does the journal use?" (DOAJ, 2017). The findings indicated that almost all journals do not have digital archiving. While most of the journals indicated no archiving, a few mentioned some national indexing databases, such as IPI (Indonesian Publication Index), which is maintained by an NGO, or Portal GARUDA, which is now run by RISTEK. ISJD (Indonesian Scientific Journal Database) was also mentioned. ISJD, which is managed by LIPI, does archive articles of Indonesian journals, but, unfortunately, many journals seem reluctant to deposit their articles because of a concern that this may reduce the number of visitors to their journal website. As previously noted, the number of journal website visitors is one of the scoring indicators for Indonesian journal accreditation. A possible solution for this problem is a "dark archive." End-users can only access a dark archive after certain trigger events, such as explicit notification by the journal manager or inactivity of the journal. A dark archiving service is offered by some third-party archiving databases, such as CLOCKSS, Portico, and PKP PN (Mering, 2015; Shah & Gul, 2019).

A small number of the journals responded by noting their use of LOCKSS. LOCKSS software and technical documentation is available at no cost but joining its network, Controlled LOCKSS need participation fees. For subsidised journals, preservation costs would be an additional financial burden.

There are three distinct methods for journal archiving: archiving facilitated by "local custody," where libraries employ technologies such as LOCKSS; archiving facilitated by publishers; and archiving facilitated by third-party archives. The JASPER project, a preservation initiative in partnership with DOAJ, LOCKSS, Internet Archive, Keep Registry, and PKP, is available to Indonesian journals listed in DOAJ. Local journals not listed in DOAJ may employ the first approach by utilising LOCKSS, while the government should mandate the preservation to publishers and establish a national preservation framework in collaboration with established preservation service providers such as CLOCKSS and Portico.

The data from analysis of journal metadata indicate that the preservation function has lacked attention (as shown in Table 89). This indication is matched with the findings

from the regulations content analysis, which showed that preservation has not been a concern of regulation.

One of the efforts relevant to preservation mentioned by one policymaker was the revival of Portal GARUDA, a database which was intended to be a full-text database for scholarly outputs of Indonesian scholars. However, the revival of this overlaps with the functions of the Indonesian Scientific Journal Database (ISJD) database, which also functions as a full-text database. This overlap was an example of the sectoral ego problem indicated by two policymakers.

### **7.5 Evaluation**

This section discusses the findings from five studies (Objectives 1-5) pertaining to the evaluation function in scholarly communication. The evaluation function is closely related to the certification function. It is an additional scholarly communication function based on the need to build a mechanism that can measure the merits or significance of research.

Regulations related to research measurement and encouragement of publication improve prestige and institutional rankings, such as encouraging publication in reputable or high-ranking journals. The accreditation guideline issued in 2018 states that “a scientific journal accredited 2nd to 6th rank, if it is indexed in a reputable international indexer such as Scopus or the Web of Science (SCI / SCIE), has the right to get the 1st rank of accreditation status” (Dirjen Risbang, 2018, p. 3). This statement means that once a reputable international indexer indexes a journal, its ranking will rocket to SINTA’s top rank.

The findings from the content analysis indicate that the government uses a “carrot and stick” management approach as part of a “publish or perish” policy. The government has set up a sequence of regulations to enhance the quantity of journal publishing. All lecturers and researchers, including research students, are required to publish in online national and international journals. Failure to comply with the requirement means they cannot graduate or are not eligible for tenure and promotion. Conversely, a government financial reward is available for those publishing in a reputable international journal: the author of an article published in such a journal receives a reward of around AUD 5,000 (Ristekbrin, 2020, p. 8). And the

government has successfully increased the quantity of scholarly articles. As of October 2018, Indonesia had the second largest number of journals in the DOAJ. However, since 2019, it seems that the government has started to focus intensely on quality: the accreditation process for journal quality assurance has been performed more frequently, changing from twice to six times a year.

Although scholars carry out research for the development of knowledge that brings benefits to humanity, it cannot be denied that research outputs are also part of their efforts to meet their own needs, including the need for survival and recognition. The survey results showed that “tenure and promotion” and “promoting research careers” were the runner-up motivations for publishing after “contribution to the discipline.”

Indonesian regulations require that for tenure and promotion researchers must publish in reputable journals. Reputable journals are those considered to have an international reputation with a high ranking based on the level of their journal impact factor (JIF). Researchers’ performance and the impact of their research are mainly evaluated quantitatively by using impact factors based on citation analysis.

An editor is responsible for maintaining a journal’s reputation. The notion of reputation is intricate and multifaceted, as the standing of a scholarly journal is shaped by a variety of factors, including its historical development, disciplinary conventions, and the nature of the research it disseminates, among others. One aspect of a journal’s reputation is based on its impact factor. The journal impact factor is calculated based on the number of citations received by the journal. So, editors will always improve the quality and promote their journals to be cited by the public. Several questionable practices have been adopted by editors who wish to cut corners to improve their journal ranking. One way to do this is to ask the authors who register their articles to cite their journal to increase their citation numbers (Falagas & Alexiou, 2008; Fong & Wilhite, 2017; Wilhite & Fong, 2012). The evaluation function can be seen in this light as somewhat controversial because it encourages people to play with the citation analysis system to boost a journal’s prestige.

The findings of the editors’ survey show that the editors considered journal editing would have a positive impact mostly on their “institution’s reputation.” This fact



provides a further indication that editors would be motivated to improve their journal's reputation.

The government plans in the future to focus on building the nation's pride. For example, the policymakers mentioned the ambition to become an ASEAN leader in research and publication, to build a regional metrics system, and to reinforce international collaboration between ASEAN countries as well as with indexing and metrics databases, such as Scopus and WoS (Clarivate). As the first step to realise this ambition, the government has launched the SINTA metric, which measures researchers' performance and a journal's quality based mainly on an international metrics system (Lukman et al., 2018).

The government plans to seek more funding for journal publishing development and to give financial rewards to editors and reviewers based on their performance. The editors' performance will be measured by Indonesian Journal Editor Association (HEBII= Himpunan Editor Berkala Ilmiah Indonesia), while the reviewers will be measured using a reviewers' performance measurement such as Publons. Publons is a commercial website, owned by Clarivate Analytics, that provides service for academics to track, verify, and showcase their peer review and editorial contributions for academic journals (<http://publons.com/>).

The evaluation function is associated with research measurement, and the current practice of such measurement is based on the reputation and rankings of journals. This research performance measurement practice uses the impact factor as the basis for measuring a journal's reputation. Publishing in "reputable" journals should not be considered as the main indicator of the quality of research performance. However, there is no specific data related to evaluation found in the metadata of DOAJ journals. The DOAJ is more concerned with openness and does not recognise the use of impact factors in measuring the quality of a journal. Best practice of journal openness in DOAJ is awarded with a DOAJ Seal.

Although the regulations have supported all five functions of scholarly communication, the preservation function has received less attention. The preservation function is important for digital documents because they are vulnerable and may disappear online if their archiving is not deliberately maintained. Current

regulations associated with dissemination function indicates that the government is more seriously concerned about the visibility of research outputs. The effort to increase visibility implies that the government wishes to improve national pride having a higher number of scholarly publications among other countries especially in the ASEAN region, as indicated by the interview findings (*see* p.155 & 158). This assumption is based on the nature of the evaluation-related regulations, where the government applies a “carrot and stick” approach within a “publish or perish” policy that requires academics and researchers to publish in reputable journals indexed by Scopus and Web of Science.

### **7.6 Governing OA Journal Publishing as Knowledge Commons**

Based on the current conditions of Indonesia’s OA journal publishing discussed above, this section will presents how it can be governed better. The discussion highlights three critical areas of concern that require attention. The first issue pertains to the lack of long-term preservation in many Indonesian journals. The second area of concern is sectoral ego, which poses a significant obstacle to effective program implementation and policy-setting, leading to overlapping programs and conflicting policies. The third issue relates to research performance evaluation, which is criticized for relying too heavily on metrics as the primary assessment indicator.

To address these issues, the use of commons theory can prove beneficial, considering scholarly communication as a commons. The application of Ostrom's eight principles is recommended in this context, although their full implementation may prove challenging. Some principles can be modified and applied according to the prevailing conditions.

The preservation problem can be attributed to the lack of awareness among editors regarding the significance of long-term preservation, as well as their limited knowledge of free preservation services. To address this problem, cooperation with preservation providers such as LOCKSS, Portico, and PKP PN is necessary. Journals listed in DOAJ may join the JASPER Project. For sustainable preservation, the government should collaborate with relevant parties to develop regulations and guidelines while also taking input from the university-based community. This aligns with Ostrom's third principle, which emphasizes the importance of involving community members in the establishment of regulations. Additionally, the eighth

principle of nested enterprise is applicable, highlighting the need for a central command center that can unite and connect the various communities involved.

In addressing sectoral ego, a clear division of tasks among the various parties involved is recommended. For example, Perpustakaan Nasional can preserve e-book files, Mendikbudristek can preserve journal articles in GARUDA, and papers from university institutional repositories in RAMA repository, while ISJD can become the national "dark archive" for local journals. This aligns with Ostrom's first principle, which emphasizes defining the boundaries of authority, duties, and obligations of each party.

In the context of evaluating research performance, it is recommended that Indonesian government participate in initiatives such as the San Francisco Declaration on Research Assessment (DORA) and Leiden Manifesto, which seek to promote more equitable and accurate measures of research impact. Active participation in such initiatives would help foster a global knowledge commons. Despite the fact that a number of Indonesian researchers and institutions have signed the DORA declaration, the government has not yet taken any official action to ratify it. Given the importance of governing the global knowledge commons, it is essential that Indonesia takes an active role in shaping research assessment practices.

OA journal articles are referred to by OA proponents as a public good because their use is unlimited and anyone can utilize them. However, some authors point out that OA articles are actually not pure public goods because they are cultural resources whose production requires costs and management. According to some authors, a suitable management model is the model proposed by Ostrom for managing CPRs. Ostrom argues that scholarly communication is a commons or also called knowledge commons. However, it should be noted that Ostrom's commons management principles were initially developed for the management of natural resources. The application of these principles to other contexts, such as scholarly communication, can be complex due to the inherent differences in governance structures. While self-governance is a fundamental aspect of Ostrom's principles, adapting them to the realm of scholarly communication may require careful consideration and modifications to account for the unique characteristics and dynamics of this domain.

Most Indonesian journals fall under the Diamond OA category, meaning that they do not charge authors or readers. The publishing process is mainly subsidised by the government, while the editors and publishing staff are usually researchers or university lecturers who work usually on a voluntary basis. While this economic model seems ideal, as a report by Becerril et al. (2021) revealed, it is heavily reliant on subsidies and the goodwill of editors, making it unsustainable in the long run. Changes in politics and government policy are unpredictable, and funding can be affected by sudden crisis such as the COVID-19 pandemic.

In Indonesia, the government is the primary source of funding for research activities, and sustainable funding for publishing can only be ensured if it is included as part of a long-term plan that is routinely and sustainably funded. Increasing collaboration with external funders can help to achieve this goal.

Encouraging researchers to publish their articles in prestigious journals by offering Article Processing Charge (APC) funding to meet internationalization and globalization targets may not be an optimal use of resources. Rather than incentivizing researchers to publish in traditional subscription-based journals, a more effective approach could be to allocate resources towards the development and improvement of Open Access (OA) journals. By doing so, the quality of research results may be enhanced, and the use of public funds can be minimized. To promote the adoption of OA publishing, greater incentives could be offered to researchers who successfully publish their articles in reputable OA journals. This could be in the form of increased recognition or rewards. Such measures would not only support the OA movement but also ensure that public funds are utilized efficiently.

Requiring academics to publish in reputable journals as a condition for promotion and funding may encourage them to circumvent the rules, resulting in the rise of "citation gaming" and the buying and selling of writing services for international publishing. Despite sanctions for misconduct such as self-citation and plagiarism, these practices still occur due to inadequate law enforcement.

As Chan and Costa (2005) suggests, researchers should continue to publish in international journals but they should also self-archive their publications in their institutional repositories and the national preprint database to make them accessible

to colleagues and interested readers worldwide (this is related to dissemination and preservation). In Indonesia, many HEIs have institutional repositories. Mostly function as local preservation for unpublished scholarly outputs such as papers, thesis, and other grey literature.

Researchers should continue to support local journals by serving on editorial boards, acting as reviewers as well as submitting papers for publications.

Government should encourage these activities by providing monetary and point incentives and issuing a set of regulations that mandate deposit of their manuscripts to the national preprint. Policy makers should involve researcher communities' representatives from universities in the preparing infrastructure and regulations. This is in line with the commons principles of Ostrom where commoners should take part in the setting of rules.

Governments face a challenging dilemma in breaking free from the "reputation economy" trap and pursuing impactful policies. Given its global pervasiveness, this issue can only be resolved through collaborative efforts between nations. However, cross-country collaboration is a complex task that requires a significant amount of coordination and cooperation. To address the issue of the research assessment system in Indonesia, the government should take steps to reform the system by adopting key points from global movements and declarations on research metrics, such as the San Francisco Declaration on Research Assessment (DORA) and the Leiden Manifesto. Among the key points of the declarations emphasize the importance of being transparent and fair while not merely based on impact factors as. These key points would help to ensure that the research assessment system is fair, equitable, and effective, which would ultimately lead to better research evaluation.

When scholarly publishing is primarily funded by the government, there is likely to be a higher degree of government intervention and oversight compared to a knowledge commons system, which relies on self-governance by scholarly communities. Government funding for open access publishing initiatives can provide important support for the development of open access infrastructure and the establishment of community-led open access journals. However, it can also create dependencies and power imbalances between the government and the scholarly

community, particularly if the government controls the funding and decision-making processes.

In contrast, a knowledge commons system relies on the self-governance of scholarly communities to manage the open access publishing process. This can promote greater autonomy and flexibility in academic publishing and enable more bottom-up decision-making. However, it can also create challenges in terms of funding and sustainability, as the knowledge commons system relies on the voluntary contributions of researchers, editors, and other stakeholders. Without adequate funding and support, it may be difficult to maintain the quality and integrity of open access publishing in the long term.

Overall, both government-funded open access publishing and knowledge commons systems have their advantages and challenges. The key is to find a balance between government support and community self-governance that promotes greater access, equity, and sustainability in academic publishing.

## **Chapter 8 Conclusions, Research Limitations, and Ways Forward**

The previous chapter discussed the findings of the studies in the context of scholarly communication functions. This chapter concludes and proposes several ways forward. Limitations of the research are presented in the last section.

### **8.1 Conclusions**

The number of OA scholarly journals in Indonesia has increased dramatically, by about three times, since 2017. Almost all journals are published by higher education institutions, and every study program is now likely to publish a journal. This proliferation was the result of government policy to push academics to publish. Academics were also required to publish in reputable international journals. The pressure to publish in these journals created conditions where academics considered the ranking status of a journal as the main criterion for choosing a publishing medium. The Indonesian government has issued regulations that push scholarly communities, including professional researchers, lecturers, and research students, to publish. Publishing scholarly articles in peer reviewed journals has become part of tenure and promotion evaluation and is a requirement for getting a higher education degree.

Policymakers have tried to promote a good scholarly communication climate. Of the five scholarly communication functions, the preservation function received the least serious attention. Although there have been efforts in that direction, they have not been maximised. The regulations that have been made to date are not formulated in any focused way on the preservation of electronic scientific articles. One of the main obstacles to making changes in this area is sectoral ego. This can be addressed through establishing a clear division of tasks so that the functions and program implementation of each institution do not overlap.

The government's policy to support the evaluation function by prioritising the use of bibliometrics to measure research performance is not quite as effective as it could be. The use of bibliometrics that emphasise quantification to measure the quality of research has drawn much criticism. Scientists have agreed that measurement of the quality of research performance should focus more on the substance of the research

and the real impact of the research. Measurement of impact should not only be seen in the quantity of citations received by a research output. Metrics can be used, but only as supporting indicators.

The researchers were generally aware of scholarly communication. Although their frequency in publishing articles was quite low, they believed publishing scholarly articles in their discipline is very important. Other than publishing articles, conference attendance at the national and international level was one of the most popular scholarly activities. While they were not familiar with the CC licensing attributes that are commonly used in OA publishing, they believed that retaining their article distribution rights is important. Regarding OA, they believed that the OA journals will positively impact ease of access for readers, the extent of the global audience, and speed of availability. These three elements are closely related to the dissemination function of scholarly journals. This suggests that, from the researchers' point of view, OA publishing supports the dissemination function of scholarly communication. The dissemination function is the core function of scholarly communication because it truly reflects the essence of communicating research.

Indonesian researchers are aware of their position as scholars. However, they have been forced to publish, especially in reputable international journals. This obligation is imposed by the government to increase the number of publications and thus the nation's prestige in the eyes of the world. In line with global trends, the Indonesian government tends to adhere to the principle of "publish or perish" by compelling scientists to publish in reputable journals. This kind of coercion encourages researchers, especially lecturers, to allow any means to be used to fulfil promotion requirements or to ensure students obtain degrees.

Editors, most of whom are lecturers, are aware that their job in managing journals is to carry out scholarly communication for the sake of knowledge development. Some editors still need skills and knowledge on publishing and on issues related to copyright. They are quite aware that OA has a positive impact on the development of scholarly communication, especially in increasing the visibility and accessibility of scientific papers. Increased visibility and accessibility also contribute to improving the readership of scientific papers. With a wide range of distribution and a high level



of readership, the impact of a work will also be greater. Scholarly communication and dissemination of knowledge from one community to another will flow, the transfer of knowledge from developed to developing countries, as well as between developing countries, will become easier, and research collaboration will increase.

The policymakers defined OA simply as free access. No one saw it more broadly as the freedom to reuse, modify, or redistribute as defined by the BOAI. No respondents even described it as a movement to free scholarly articles from commercial publishers' domination ((Table 79, p.158). There is a distinction to be made between *free access* (removal of price barriers) and *open access* (removal of both price and permission barriers) (Brown, 2010, p. 115). However, all the policymakers implied that research outputs funded by the government must be distributed widely without access barriers. They emphasised that all research outputs should be open to access. This argument aligns with the fundamental principle of the OA movement that knowledge is a public good and therefore must be freely disseminated.

Overall, the interview results showed that the government has made several efforts to develop journal publishing. These efforts correspond with the functions of scholarly communication. For example, editors' and reviewers' training and certification are related to the certification function, provision of an indexing database and hosting services for journals support the dissemination function, and the establishment of a research performance metrics system and database support the evaluation function. However, these efforts have not been largely driven by the OA movement. Rather, journal publishing development has been intended more to achieve high prestige. This motivation is indicated in the "Guidelines in managing scholarly journal to gain international reputation" published by the government. The guidelines state that "[T]he main objective of Kemenristekdikti is to increase the number of Indonesian journals indexed in Scopus or Web of Science" [translated from Indonesian by the author] (Lukman et al., 2017, p. 4).

The metadata related to the registration function indicates that the number of OA journals listed in the DOAJ has dramatically improved, growing almost threefold in just a 2-year period, 2017–2019. This suggests that Indonesian OA journal publishing strongly supports the dissemination function. Meanwhile, the metadata related to the dissemination function, such as rights retention and the use of Creative

Commons attributes, indicates a lack of knowledge on these matters. Data related to the preservation function also suggest that these issues need attention; most of the journals do not have long-term archiving.

The findings of this study disclose three pressing issues in scholarly communication that require immediate attention. First, there is an imperative need to improve the long-term preservation strategies for Indonesian journals, in accordance with the knowledge commons theory principles that emphasise the collective responsibility of stakeholders in protecting scholarly knowledge. Second, the presence of sectoral ego is a considerable hindrance to the efficient implementation of programmes and formulation of policies, impeding progress and contributing to conflicts. This issue can be mitigated by embracing the collaborative and shared responsibility characteristics of knowledge commons. Lastly, the limitations of relying solely on quantitative metrics for evaluating research performance are evident, necessitating a shift towards comprehensive criteria that take into account research quality, community impact, interdisciplinary collaboration, and open access dissemination. By addressing these concerns and drawing on insights from the knowledge commons theory, the landscape of scholarly communication can be enhanced.

With regard to the research question, this research concludes that the conditions supporting OA journal publishing in Indonesia do reflect promising potential for its future role in supporting scholarly communication. However, two functions of scholarly communications, the preservation and evaluation functions, need attention in order to continuously develop knowledge and scholarship in Indonesia.

## **8.2 Research Limitations**

This study used qualitative content analysis and descriptive statistical techniques to analyse Indonesian government regulations and their relationships with and impact on the number of Indonesian journals listed in the DOAJ. Government regulations are only one factor involved in scholarly communications, and other factors will be considered in future work.

The sampling used in this study does not statistically represent the population. Among the reasons for this was the difficulty in finding and contacting potential respondents since they were located in widespread archipelagic areas with an

unequal level of Internet connection quality. Inferential statistical methods are not employed in this study but could be of use to show more direct and potentially statistically significant relationships. More research using a variety of methods is needed to gain a clearer picture of Indonesian scholarly communication.

### **8.3 Ways Forward**

The results of this study on Indonesian OA journal publishing are expected to assist stakeholders in understanding how and which type of governmental policies and processes influence practice. The associated analysis should be useful for government, higher education, and research sector policymakers to formulate supportive and targeted policies and implement appropriate funding models for the ongoing development of scholarly communication. The policies will, in turn, provide the infrastructure that is necessary to further develop the Indonesian higher education and research sectors in ensuring that the benefits of Indonesian scholarship are widely and efficiently disseminated.

Several ways forward are proposed as the results of the study. Collaboration among researchers is of utmost importance in order to foster sustainable development. Policymakers should actively engage stakeholders and communities during the formulation of regulations to ensure inclusive decision-making processes. Intersectoral policy coordination is needed to eliminate sectoral ego. This coordination could be strengthened through consultation and communication among ministries and institutions. A roadmap on scholarly communication development would be useful and effective, providing a better plan and more clearly setting out future prospects.

Preservation plays a crucial role in upholding scholarly communication as a knowledge commons. In line with Ostrom's principles, which emphasize the importance of establishing clear boundaries for stakeholders involved in commons management, a well-defined division of tasks is essential for institutions engaged in preservation efforts. It is recommended that the National Library take on the responsibility of preserving monographs, while the efficient handling of journal articles and other research outputs can be entrusted to Garuda or ISJD.

When assessing research performance, it is imperative to consider multiple criteria beyond solely relying on impact factors. By adopting a holistic approach to evaluation, we can ensure a more comprehensive and accurate representation of research quality and impact. By implementing these measures, we can collectively enhance the quality and accessibility of research outputs while ensuring a collaborative and inclusive approach towards sustainable development.

In addition, to facilitate further research, it is recommended to cross-check the actual data on journals' websites, as many journals fail to update their metadata on DOAJ (Directory of Open Access Journals). However, checking the web records would require more resources and a longer period of research. A wider range of policymaker interviews could also be a useful avenue for future research.

#### **8.4 Research Implications**

This research project is the first study of OA journal publishing in Indonesia that particularly investigates government policies. The study's results cover a wide landscape of OA journal publishing in Indonesia, which could be useful for other developing countries, particularly in the South-East Asian region. The results also will hopefully inspire stakeholders to enhance OA journal publishing and promote other forms of openness to knowledge in a wider context.

The data and associated analysis from this thesis will help the government and research sector policymakers formulate supportive policies for the ongoing development of scholarly communication.

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# Appendices

## Appendix A Ethics Approval



31-Jan-2018

Name: Paul Genoni  
Department/School: Department of Information Studies  
Email: P.Genoni@curtin.edu.au

Dear Paul Genoni

RE: Ethics Office approval  
Approval number: HRE2018-0026

Thank you for submitting your application to the Human Research Ethics Office for the project **The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia**.

Your application was reviewed through the Curtin University Negligible risk review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*.

Approval is granted for a period of one year from **31-Jan-2018** to **30-Jan-2019**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role
Genoni, Paul	Supervisor
White, Hollie	Supervisor
Kirunang, Khaeruddin	Student

Approved documents:

Document

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:

- 
- proposed changes to the approved proposal or conduct of the study
  - unanticipated problems that might affect continued ethical acceptability of the project
  - major deviations from the approved proposal and/or regulatory guidelines
  - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
  4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
  5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
  6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
  7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
  8. Data and primary materials must be retained and stored in accordance with the [Western Australian University Sector Disposal Authority \(WAUSDA\)](#) and the [Curtin University Research Data and Primary Materials policy](#)
  9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
  10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
  11. Approval is dependent upon ongoing compliance of the research with the [Australian Code for the Responsible Conduct of Research](#), the [National Statement on Ethical Conduct in Human Research](#), applicable legal requirements, and with Curtin University policies, procedures and governance requirements
  12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

**Special Conditions of Approval**

None

**This letter constitutes low risk/negligible risk approval only.** This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au) or on 9266 2784.

Yours sincerely



Amy Bowater  
Acting Manager, Research Integrity

## Appendix B Researcher Questionnaire (Indonesian Version)

### KUESIONER UNTUK PENELITI

#### LEMBAR INFORMASI

**Nomor HREC Penelitian :** HRE2018-0026

**Judul Penelitian :** The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia

**Kepala Peneliti :** A/Professor Paul Genoni (Pembimbing)  
e-mail: p.genoni@curtin.edu.au, ph: +61 (8) 9266-7256

**Mahasiswa Peneliti :** Khaeruddin Kiramang  
e-mail: k.kiramang@postgrad.curtin.edu.au

#### **Penelitian ini tentang apa?**

Penelitian ini bertujuan untuk (1) mengevaluasi perkembangan penerbitan jurnal ilmiah saat ini di Indonesia; (2) mengukur sejauh mana kesadaran peneliti Indonesia tentang komunikasi ilmiah dan dampak Open Access terhadap penerbitan jurnal ilmiah; (3) menyelidiki tingkat dukungan dan hambatan yang dihadapi oleh editor dan pembuat kebijakan dalam pengelolaan penerbitan jurnal Open Access di Indonesia. Penelitian ini akan melibatkan para peneliti, editor jurnal, dan pembuat kebijakan yang berkaitan dengan komunikasi ilmiah di Indonesia.

#### **Siapa yang melakukan penelitian?**

Penelitian ini dilaksanakan oleh Khaeruddin Kiramang, mahasiswa Ph.D bidang Information studies di Curtin University, di bawah bimbingan A/Professor Paul Genoni dan Dr. Hollie White. Penelitian ini didanai oleh Kementerian Agama Republik Indonesia.

#### **Mengapa saya diundang untuk berpartisipasi dalam penelitian ini dan apa yang harus saya lakukan?**

Anda diminta untuk berpartisipasi karena Anda adalah peneliti aktif dan oleh karena itu memiliki pengetahuan yang relevan dengan topik penelitian ini. Anda akan diminta mengisi kuesioner dan akan membutuhkan waktu sekitar 10 menit untuk menyelesaikannya. Tidak akan ada biaya yang dibebankan bagi Anda dalam penelitian ini dan tidak ada dispensasi yang disediakan atas keterlibatan Anda. Kami akan mengajukan pertanyaan yang berkaitan dengan kesiagaan Anda akan kegiatan komunikasi ilmiah dan penerbitan jurnal akses terbuka.

**Apakah ada manfaatnya terlibat dalam proyek penelitian ini?** Mungkin tidak ada manfaat langsung bagi Anda untuk berpartisipasi dalam penelitian ini. Namun, Anda bisa mendapatkan laporan hasil akhir dari penelitian ini dengan memintanya melalui e-mail kepada kami. Data dan hasil analisa akan berguna bagi pemerintah dan pembuat kebijakan di bidang riset dan pendidikan tinggi dalam merumuskan kebijakan yang mendukung pengembangan komunikasi ilmiah yang sedang berlangsung.

#### **Adakah risiko, efek samping, atau ketidaknyamanan dalam penelitian ini?**

Tidak akan ada risiko yang merugikan bagi partisipan yang terlibat dalam proyek penelitian ini.

**Siapa saja yang dapat mengakses informasi yang saya berikan?** Informasi yang dikumpulkan melalui kuesioner ini tidak akan dapat dikenali (anonim). Ini berarti bahwa kami tidak perlu mengumpulkan nama partisipan atau dengan kata lain informasi yang diberikan bersifat anonim dan tidak akan menggunakan kode angka atau pun nama. Tak seorang pun, bahkan tim riset sekali pun tidak akan bisa mengidentifikasi informasi yang Anda berikan. Informasi yang kami kumpulkan dalam penelitian ini akan disimpan dengan aman di Curtin University selama 7 tahun setelah penelitian dipublikasikan. Hasil penelitian ini mungkin akan dipresentasikan pada konferensi atau dipublikasikan di jurnal profesional. Anda tidak akan diidentifikasi dalam laporan hasil yang dipublikasikan atau dipresentasikan.

**Bolehkah saya mengetahui hasil penelitiannya?** Jika Anda tertarik untuk mendapatkan ringkasan hasilnya silahkan menghubungi peneliti via e-mail. Kami akan menghubungi Anda melalui email di akhir penelitian dan memberi tahu hasilnya.

**Apakah saya harus ikut serta dalam penelitian ini?** Partisipasi dalam proyek penelitian ini sifatnya sukarela. Anda bebas menentukan pilihan untuk turut memberikan kontribusi atau tidak. Jika Anda memutuskan untuk mengambil bagian namun kemudian berubah pikiran, Anda dapat menarik diri dari penelitian ini kapan saja.

**Apa yang akan terjadi selanjutnya dan siapa yang bisa saya hubungi terkait penelitian ini?** Jika Anda memiliki pertanyaan tentang penelitian ini, silakan menghubungi saya melalui email di [k.kiramang@postgrad.curtin.edu.au](mailto:k.kiramang@postgrad.curtin.edu.au). Anda juga dapat menghubungi pembimbing saya: A/Professor Paul Genoni, e-mail: [p.genoni@curtin.edu.au](mailto:p.genoni@curtin.edu.au), telepon: +61 (8) 9266-7256; Dr. Hollie White, e-mail: [hollie.white@curtin.edu.au](mailto:hollie.white@curtin.edu.au), telepon: +61 (8) 08 9266 7631. Komite Etik Penelitian pada Manusia, Curtin University (HREC) telah menyetujui penelitian ini (Nomor HREC: HRE2018-0026).

Jika Anda ingin mendiskusikan dengan pihak yang tidak terlibat secara langsung, khususnya, hal yang berkaitan dengan masalah tentang penelitian ini atau mengenai hak Anda sebagai peserta, atau Anda ingin mengajukan keluhan yang sifatnya rahasia, Anda dapat menghubungi petugas etika melalui telepon +61 (08) 9266 9223 atau manajer Research Integrity pada +61 (08) 9266 7093 atau melalui email [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au).

## LEMBAR PERSETUJUAN

- Saya telah membaca pernyataan yang ada di Lembar Informasi dan memahami isinya.
- Saya yakin telah memahami tujuan, cakupan dan kemungkinan resiko atas keterlibatan dalam penelitian ini.
- Saya secara sukarela setuju untuk berpartisipasi dalam penelitian ini.
- Saya telah mendapatkan kesempatan untuk mengajukan pertanyaan dan puas dengan jawaban yang saya terima.
- Saya memahami bahwa penelitian ini telah disetujui oleh Komite Etik Penelitian pada Manusia, Curtin University (HREC) dan akan dilaksanakan
- sesuai dengan ketentuan yang ada dalam The National Statement on Ethical Conduct in Human Research (2007).
- Saya mengetahui bahwa saya dapat menyimpan Lembar Informasi di atas.

Partisipan,

( )

Terima kasih atas persetujuan Anda untuk berpartisipasi dalam survei ini. Angket ini membutuhkan waktu sekitar 10 menit untuk menyelesaikannya. Semua jawaban Anda akan dijaga kerahasiaannya.

Berikut adalah penjelasan atas beberapa istilah yang digunakan dalam angket ini untuk memastikan bahwa kita memiliki pemahaman yang sama terhadap istilah-istilah tersebut:

*Open Access (OA)*: mengacu pada akses bebas ke hasil penelitian atau artikel ilmiah online serta hak untuk menggunakannya secara bebas. Dengan demikian, jurnal OA adalah jurnal online yang menyediakan akses bebas untuk artikel full text serta hak untuk menggunakan ulang artikel. Sejumlah besar jurnal online di Indonesia saat ini terdaftar di DOAJ (<http://doaj.org>), sebuah direktori jurnal OA berskala internasional.

*Komunikasi ilmiah (scholarly communication)*: mengacu pada sistem atau proses di mana para ilmuwan membuat, mengevaluasi, dan menyebarkan hasil penelitian dan tulisan ilmiahnya. Termasuk dalam hal ini jalur komunikasi ilmiah formal seperti konferensi dan penerbitan jurnal maupun jalur komunikasi informal seperti blog, mailing list, dan website pribadi.

*Predatory journal*: sering disebut jurnal predator, jurnal pemangsa, atau jurnal abal-abal, adalah jurnal eksploitatif yang tujuan utamanya untuk meraup keuntungan dengan membebaskan biaya bagi penulis tanpa melakukan proses penerbitan dan editorial yang layak sebagaimana mestinya untuk jurnal ilmiah.

*Article Processing Charge (APC)*: biaya pengelolaan artikel yang biasa dibebankan kepada penulis untuk membiayai proses penerbitan sebuah tulisan agar dapat diakses secara terbuka (Open Access) oleh pembaca. Tidak semua jurnal yang memungut biaya APC adalah abal-abal. Beberapa di antaranya bahkan memiliki reputasi yang baik di lembaga pengindeks internasional.

1. Seberapa sering Anda membaca jurnal ilmiah?

- Setiap hari
- Setiap minggu
- Setiap bulan
- Jarang
- Tidak pernah

2. Apakah Anda membaca jurnal Open Access?

- Setiap hari
- Setiap minggu
- Setiap bulan
- Jarang
- Tidak pernah

3. Pilihlah angka 1-5 untuk menunjukkan seberapa penting menurut Anda membaca jurnal ilmiah di bidang ilmu Anda?

- 1 Tidak penting sama sekali
- 2
- 3
- 4
- 5 Sangat penting

4. Seberapa penting menurut Anda menerbitkan artikel ilmiah mengenai bidang ilmu Anda

- 1 Tidak penting sama sekali
- 2
- 3
- 4
- 5 Sangat penting

5 Sudah berapa kali Anda menerbitkan artikel di jurnal ilmiah?

- Tidak pernah
- 1-10 kali
- 11-20 kali



Lebih dari 20 kali

6. Media manakah berikut ini yang pernah Anda gunakan untuk mendistribusikan artikel Anda? (Pilihan boleh lebih dari satu)

- Jurnal tercetak
- E-jurnal komersial (pembaca harus bayar)
- E-jurnal Open Access (pembaca tidak perlu bayar)
- Repositori Institusional
- Website pribadi
- Blog

7. Pilihlah 3 faktor berikut dan beri angka 1-3 untuk menunjukkan urutan faktor yang paling mempengaruhi pilihan Anda dalam memilih jurnal yang cocok untuk menerbitkan artikel Anda:

- \_\_\_\_\_ Aturan pemerintah
- \_\_\_\_\_ Biaya penerbitan
- \_\_\_\_\_ Kecepatan proses terbit
- \_\_\_\_\_ Status atau ranking jurnal
- \_\_\_\_\_ Kualitas peer review
- \_\_\_\_\_ Tingkat kemudahan diterimanya artikel
- \_\_\_\_\_ Kemudahan akses bagi pembaca (open access)
- \_\_\_\_\_ Imbalan untuk penulisan artikel
- \_\_\_\_\_ Bahasa
- \_\_\_\_\_ Lain-lain, mohon disebutkan: .....

8. Pilihlah 3 hal berikut dan beri angka 1-3 pada pilihan Anda untuk menunjukkan faktor yang paling memotivasi Anda untuk menerbitkan artikel:

- \_\_\_\_\_ Pangkat dan promosi jabatan
- \_\_\_\_\_ Kontribusi untuk bidang ilmu Anda
- \_\_\_\_\_ Prestis pribadi
- \_\_\_\_\_ Prestis lembaga
- \_\_\_\_\_ Menjalin dan memelihara hubungan dengan sesama ilmuwan/peneliti
- \_\_\_\_\_ Meningkatkan karir/pengalaman sebagai peneliti
- \_\_\_\_\_ Imbalan dari penerbit
- \_\_\_\_\_ Lain-lain, mohon disebutkan:

9. Sebagai seorang ilmuwan, seberapa penting bagi Anda menguasai bahasa internasional seperti Bahasa Inggris?

- 1 Sangat tidak penting
- 2
- 3
- 4

5 Sangat penting

10. Selain menulis artikel jurnal, kegiatan komunikasi ilmiah apa lagi yang Anda lakukan? (Pilihan boleh lebih dari satu)

- Menghadiri konferensi/seminar nasional
- Menghadiri konferensi/seminar internasional
- Menjadi peer reviewer/mitra bestari
- Menjadi editor jurnal
- Lain-lain, mohon disebutkan:

11. Menurut Anda, sejauh mana cakupan/jangkauan komunitas ilmiah (aktivitas komunikasi ilmiah) Anda?

- Dalam lingkup lembaga/institusi Anda
- Dalam wilayah propinsi
- Di wilayah Indonesia
- Dalam lingkup negara ASEAN
- Dalam lingkup global/internasional

12. Seberapa familiar Anda dengan konsep penerbitan Open Access?

- 1 Tidak familiar sama sekali
- 2
- 3
- 4
- 5 Sangat familiar

13. Menurut Anda, sejauh mana penerbitan artikel melalui jurnal Open Access membawa dampak bagi:

	Berdampak NEGATIF 1	2	3	4	Berdampak POSITIF 5
Reputasi pribadi Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reputasi lembaga Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disiplin ilmu Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negara dan bangsa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Menurut Anda sejauh mana penerbitan jurnal komersial (jurnal yang membebankan biaya bagi pembaca) membawa dampak bagi:

	Berdampak NEGATIF 1	2	3	4	Berdampak POSITIF 5
Reputasi pribadi Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reputasi lembaga Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disiplin ilmu Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negara dan bangsa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 Menurut Anda sejauh mana jurnal Open Access membawa dampak bagi beberapa hal berikut?

	Berdampak NEGATIF 1	2	3	4	Berdampak POSITIF 5
Kemudahan akses bagi pembaca	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Munculnya jurnal pemangsa/predator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kualitas peer review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prestis jurnal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jumlah sitasi/kutipan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kecepatan akses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biaya pengelolaan article (APC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tingkat kemudahan publikasi bagi penulis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jangkauan audiens (internasional)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Apa yang Anda lakukan untuk mengidentifikasi jurnal predator/pemangsa? Pilih semua yang sesuai dengan Anda dan urutkan berdasarkan tingkat frekuensi Anda menggunakannya dengan memberi angka mulai dari 1 dan seterusnya.

- \_\_\_\_\_ Bertanya kepada rekan sejawat mengenai reputasi jurnal tersebut
- \_\_\_\_\_ Mencari informasi di Internet
- \_\_\_\_\_ Mencari informasi di indeks dan direktori artikel seperti Scopus, Scimago, atau DOAJ.
- \_\_\_\_\_ Memeriksa daftar jurnal pemangsa yang dikeluarkan oleh pemerintah atau lembaga.
- \_\_\_\_\_ Mengecek langsung di website jurnal
- \_\_\_\_\_ Saya tidak familiar dengan istilah jurnal predator/pemangsa

17 Apakah Anda setuju atau tidak setuju jika penulis diharuskan membayar biaya pengelolaan artikel (APC) untuk membantu biaya penerbitan jurnal?

- Sangat tidak setuju 1
- 2
- 3
- 4
- Sangat setuju 5

18 Berapa maksimal biaya pengelolaan artikel (APC) menurut Anda?

- Kurang dari Rp. 500.000
- Rp. 500.000 s/d Rp. 3.000.000
- Lebih dari Rp. 3.000.000 s/d Rp. 10.000.000
- Lebih dari Rp. 10.000.000
- Lain-lain, mohon disebutkan:

19 Seberapa familiar Anda dengan hak kekayaan intelektual (misalnya, hak cipta) bagi artikel Anda yang diterbitkan?

- 1 Tidak familiar sama sekali
- 2
- 3
- 4
- 5 Sangat familiar

20 Apakah menurut Anda penting bagi penulis untuk tetap memiliki hak distribusi atas artikelnya yang diterbitkan di jurnal (misalnya, jika dia ingin mempublikasikan artikelnya di repositori atau website pribadi)?

- 1 Tidak penting sama sekali

- 2
- 3
- 4
- 5 Sangat penting

21 Seberapa familiar Anda dengan lisensi Creative Commons (CC)?

- Tidak familiar sama sekali
- 2
- 3
- 4
- 5 Sangat familiar

22 Seberapa familiar Anda dengan atribut Creative Commons (misalnya, CC-BY, CC-BY-SA, CC-BY-NC, dll)?

- 1 Tidak familiar sama sekali
- 2
- 3
- 4
- 5 Sangat familiar

23 Apa pekerjaan utama Anda?

- Dosen
- Peneliti
- Lain-lain, mohon disebutkan: .....

24 Di propinsi mana Anda bekerja? .....

25 Apa rumpun bidang ilmu Anda?

- Ilmu Humaniora (Seni, Filsafat, Linguistik, Sejarah, Sastra, Bahasa, dll)
- Ilmu Sosial (Antropologi, Arkeologi, Agama, Ekonomi, Psikologi, Politik, dll)
- Ilmu Alam (Kimia, Biologi, Fisika, Geologi, Geofisika, Astronomi, dll)
- Ilmu Formal (Komputer, Matematika, Statistik, dll)
- Ilmu Terapan (Pertanian, Pendidikan, Informasi/Perpustakaan, Hukum, Kedokteran, Teknik/Rekayasa, Lingkungan, dll)

26 Apa kualifikasi pendidikan tertinggi Anda?

- Sarjana (S1)
- Magister (S2)
- Doktoral (S3)

27 Sudah berapa lama Anda berkecimpung dalam kegiatan penelitian?

- Kurang dari 5 tahun
- 5-10 tahun
- 11-20 tahun
- Lebih dari 20 tahun

28 Di institusi mana Anda bekerja?

- Lembaga pendidikan
- Lembaga non-pendidikan

**Terima kasih atas bantuan bapak/ibu**

## Appendix C Editor Questionnaire (Indonesian version)

### KUESIONER UNTUK EDITOR

#### LEMBAR INFORMASI

**Nomor HREC Penelitian :** HRE2018-0026

**Judul Penelitian :** The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia

**Kepala Peneliti :** A/Professor Paul Genoni (Pembimbing)  
e-mail: p.genoni@curtin.edu.au, ph: +61 (8) 9266-7256

**Mahasiswa Peneliti :** Khaeruddin Kiramang  
e-mail: k.kiramang@postgrad.curtin.edu.au

#### **Penelitian ini tentang apa?**

Penelitian ini bertujuan untuk (1) mengevaluasi perkembangan penerbitan jurnal ilmiah saat ini di Indonesia; (2) mengukur sejauh mana kesadaran peneliti Indonesia tentang komunikasi ilmiah dan dampak Open Access terhadap penerbitan jurnal ilmiah; (3) menyelidiki tingkat dukungan dan hambatan yang dihadapi oleh editor dan pembuat kebijakan dalam pengelolaan penerbitan jurnal Open Access di Indonesia. Penelitian ini akan melibatkan para peneliti, editor jurnal, dan pembuat kebijakan yang berkaitan dengan komunikasi ilmiah di Indonesia.

#### **Siapa yang melakukan penelitian?**

Penelitian ini dilaksanakan oleh Khaeruddin Kiramang, mahasiswa Ph.D bidang Information studies di Curtin University, di bawah bimbingan A/Professor Paul Genoni dan Dr. Hollie White. Penelitian ini didanai oleh Kementerian Agama Republik Indonesia.

#### **Mengapa saya diundang untuk berpartisipasi dalam penelitian ini dan apa yang harus saya lakukan?**

Anda diminta untuk berpartisipasi karena Anda adalah editor jurnal akses terbuka (Open Access) dan oleh karena itu memiliki pengetahuan yang relevan dengan topik penelitian ini. Anda akan diminta mengisi kuesioner online melalui Internet dan akan membutuhkan waktu sekitar 15 menit untuk menyelesaikannya. Tidak akan ada biaya yang dibebankan bagi Anda dalam penelitian ini dan tidak ada dispensasi yang disediakan atas keterlibatan Anda. Kami akan mengajukan pertanyaan yang berkaitan dengan kesiagaan Anda akan kegiatan komunikasi ilmiah dan penerbitan jurnal akses terbuka.

**Apakah ada manfaatnya terlibat dalam proyek penelitian ini?** Mungkin tidak ada manfaat langsung bagi Anda untuk berpartisipasi dalam penelitian ini. Namun, Anda bisa mendapatkan laporan hasil akhir dari penelitian ini dengan memintanya melalui e-mail kepada kami. Data dan hasil analisa akan berguna bagi pemerintah dan pembuat kebijakan di bidang riset dan pendidikan tinggi dalam merumuskan kebijakan yang mendukung pengembangan komunikasi ilmiah yang sedang berlangsung.



**Adakah risiko, efek samping, atau ketidaknyamanan dalam penelitian ini?**

Tidak akan ada risiko yang merugikan bagi partisipan yang terlibat dalam proyek penelitian ini.

**Siapa saja yang dapat mengakses informasi yang saya berikan?** Informasi yang dikumpulkan melalui kuesioner ini tidak akan dapat dikenali (anonim). Ini berarti bahwa kami tidak perlu mengumpulkan nama partisipan atau dengan kata lain informasi yang diberikan bersifat anonim dan tidak akan menggunakan kode angka atau pun nama. Tak seorang pun, bahkan tim riset sekali pun tidak akan bisa mengidentifikasi informasi yang Anda berikan. Informasi yang kami kumpulkan dalam penelitian ini akan disimpan dengan aman di Curtin University selama 7 tahun setelah penelitian dipublikasikan. Hasil penelitian ini mungkin akan dipresentasikan pada konferensi atau dipublikasikan di jurnal profesional. Anda tidak akan diidentifikasi dalam laporan hasil yang dipublikasikan atau dipresentasikan.

**Bolehkah saya mengetahui hasil penelitiannya?** Jika Anda tertarik untuk mendapatkan ringkasan hasilnya silahkan menghubungi peneliti via e-mail. Kami akan menghubungi Anda melalui email di akhir penelitian dan memberi tahu hasilnya.

**Apakah saya harus ikut serta dalam penelitian ini?** Partisipasi dalam proyek penelitian ini sifatnya sukarela. Anda bebas menentukan pilihan untuk turut memberikan kontribusi atau tidak. Jika Anda memutuskan untuk mengambil bagian namun kemudian berubah pikiran, Anda dapat menarik diri dari penelitian ini kapan saja.

**Apa yang akan terjadi selanjutnya dan siapa yang bisa saya hubungi terkait penelitian ini?**

Jika Anda memiliki pertanyaan tentang penelitian ini, silakan menghubungi saya melalui email di [k.kiramang@postgrad.curtin.edu.au](mailto:k.kiramang@postgrad.curtin.edu.au). Anda juga dapat menghubungi pembimbing saya: A/Professor Paul Genoni, e-mail: [p.genoni@curtin.edu.au](mailto:p.genoni@curtin.edu.au), telepon: +61 (8) 9266-7256; Dr. Hollie White, e-mail: [hollie.white@curtin.edu.au](mailto:hollie.white@curtin.edu.au), telepon: +61 (8) 08 9266 7631. Komite Etik Penelitian pada Manusia, Curtin University (HREC) telah menyetujui penelitian ini (Nomor HREC: HRE2018-0026).

Jika Anda ingin mendiskusikan dengan pihak yang tidak terlibat secara langsung, khususnya, hal yang berkaitan dengan masalah tentang penelitian ini atau mengenai hak Anda sebagai peserta, atau Anda ingin mengajukan keluhan yang sifatnya rahasia, Anda dapat menghubungi petugas etika melalui telepon +61 (08) 9266 9223 atau manajer Research Integrity pada +61 (08) 9266 7093 atau melalui email [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au).

Lembar Informasi ini dapat diunduh di sini: [Lembar Informasi - Editor Jurnal](#)

## LEMBAR PERSETUJUAN

- Saya telah membaca pernyataan yang ada di Lembar Informasi dan memahami isinya.
- Saya yakin telah memahami tujuan, cakupan dan kemungkinan resiko atas keterlibatan dalam penelitian ini.
- Saya secara sukarela setuju untuk berpartisipasi dalam penelitian ini.
- Saya telah mendapatkan kesempatan untuk mengajukan pertanyaan dan puas dengan jawaban yang saya terima.
- Saya memahami bahwa penelitian ini telah disetujui oleh Komite Etik Penelitian pada Manusia, Curtin University (HREC) dan akan dilaksanakan sesuai dengan ketentuan yang ada dalam The National Statement on Ethical Conduct in Human Research (2007).
- Saya mengetahui bahwa saya dapat menyimpan Lembar Informasi di atas.

Partisipan,

( )

Dengan mengklik tombol panah berikut ini berarti Anda menyetujui pernyataan di atas dan bersedia mengisi angket.

1 Pilih salah satu angka dari 1-5 untuk menunjukkan seberapa dekat keterkaitan antar latar belakang bidang pendidikan Anda dengan bidang jurnal yang anda kelola?

- Tidak berkaitan sama sekali 1
- 2
- 3
- 4
- Sangat berkaitan 5

2 Sudah berapa kali Anda menerbitkan artikel di jurnal ilmiah?

- Tidak pernah
- 1-10 kali
- 11-20 kali
- Lebih dari 20 kali

3 Apa tanggung jawab Anda sebagai editor? (pilihan boleh lebih dari satu)

- Mengevaluasi artikel
- Copy-editing* artikel
- Membentuk dewan editor
- Membentuk panel reviewer/mitra bestari
- Memberikan keputusan akhir seleksi artikel yang akan diterbitkan
- Pekerjaan yang berkaitan dengan IT seperti instalasi software dan pemeliharaan server
- Layout
- Lain-lain, mohon disebutkan:  
\_\_\_\_\_

4 Keterampilan/keahlian apa saja yang dibutuhkan untuk menjadi seorang editor jurnal?

*Pilihan boleh lebih dari satu (tidak harus semua) dan urutkan berdasarkan tingkat*

*kepentingannya menurut anda dengan memberi angka mulai dari 1 pada kotak yang tersedia, misalnya, 1 Copy-editing, 2 Desain grafis, 3 Bahasa asing*

\_\_\_\_\_ Keterampilan yang berkaitan dengan teknologi informasi seperti instalasi dan pemeliharaan OJS

\_\_\_\_\_ Bahasa asing (Inggris, Arab, dll)

\_\_\_\_\_ Desain grafis

\_\_\_\_\_ Copy-editing (mengoreksi/memperbaiki kesalahan bahasa, konsistensi penulisan, dll)

\_\_\_\_\_ Disiplin ilmu yang berkaitan dengan bakupan jurnal

\_\_\_\_\_ Keterampilan meneliti (research skills)

\_\_\_\_\_ Lain-lain, mohon disebutkan:

5 Apakah Anda mendapatkan kompensasi finansial atas pekerjaan anda sebagai editor jurnal?

Ya, ada gaji tetap sebagai editor

Ya, ada insentif/honor (tidak tetap)

Tidak ada

6 Apa motivasi utama Anda mengelola jurnal?

*Pilih dan urutkan jawaban berikut sesuai dengan tingkat kepentingannya menurut Anda dengan memberi angka mulai dari 1. Pilihan boleh lebih dari satu.*

\_\_\_\_\_ Ini merupakan bagian dari tugas/kewajiban saya

\_\_\_\_\_ Kepuasan pribadi

\_\_\_\_\_ Jenjang kepangkatan

\_\_\_\_\_ Reputasi pribadi

\_\_\_\_\_ Pengembangan bidang ilmu

\_\_\_\_\_ Lain-lain, mohon disebutkan:

7 Pilihlah angka 1-5 untuk menunjukkan sejauh mana dampak pengelolaan jurnal Anda pada:

	Berdampak NEGATIF 1	2	3	4	Berdampak POSITIF 5
Reputasi pribadi Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reputasi lembaga Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disiplin ilmu Anda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negara dan bangsa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8 Pilihlah angka 1-5 untuk menunjukkan sejauh mana dampak yang ditimbulkan oleh jurnal Open Access (jurnal dengan akses terbuka) terhadap beberapa hal berikut:

	Berdampak NEGATIF 1	2	3	4	Berdampak POSITIF 5
Kemudahan akses bagi pembaca	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Munculnya jurnal pemangsa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kualitas peer review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prestise jurnal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tingkat/jumlah sitasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kecepatan akses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
APC (Biaya Pengelolaan Artikel)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kemudahan terbit bagi penulis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jangkauan audiens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9 Berapa lama rata-rata waktu yang dibutuhkan untuk menerbitkan artikel setelah diserahkan ke penerbit?

- Kurang dari 4 minggu
- Antara 4 minggu hingga 12 minggu
- Lebih dari 12 minggu hingga 24 minggu
- Lebih dari 24 minggu

10 Pilih TIGA faktor berikut dan beri angka 1 s/d 3 pada kotak kosong untuk menunjukkan secara berurutan faktor penyebab yang paling berpengaruh terhadap ketertundaan penerbitan.

\_\_\_\_\_ *Editing*

\_\_\_\_\_ *Peer reviewing*

\_\_\_\_\_ Jumlah artikel yang akan diterbitkan

\_\_\_\_\_ Layout

\_\_\_\_\_ Lain-lain, mohon disebutkan:

11 Berdasarkan pengalaman Anda, apakah ada reviewer/mitra bestari yang beranggapan bahwa mereka akan mendapatkan imbalan finansial atas artikel yang mereka review?

- Ya, semuanya
- Ya, sebagian besar
- Ya, beberapa
- Tidak ada

12 Pilihlah angka 1-5 untuk menunjukkan tingkat dukungan dari pilihan berikut terhadap penerbitan/pengelolaan jurnal Open Access (jurnal dengan akses terbuka):

	Sangat tidak mendukung 1	2	3	4	Sangat mendukung 5
Aturan pemerintah	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bantuan finansial pemerintah	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bantuan lembaga/institusi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aplikasi gratis seperti OJS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dukungan rekan sejawat (e.g. RJI, ADEI)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13 Pilihlah angka 1-5 untuk menunjukkan tingkat hambatan dari pilihan berikut terhadap penerbitan/pengelolaan jurnal Open Access:

	Tidak ada hambatan sama sekali 1	2	3	4	Sangat menghambat 5
Mencari penulis artikel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mencari reviewer/mitra bestari	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proses editorial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disiplin waktu reviewer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mengikuti standar akreditasi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14 Seberapa familiar Anda dengan:

	Tidak familiar sama sekali 1	2	3	4	Sangat familiar 5
DOAJ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PERK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SPARC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SHERPA/ROMEO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LOCKSS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 Apakah ada anggaran dana tahunan dari lembaga Anda untuk pengelolaan jurnal?

- Ya
- Tidak ada

16 Jika jawaban Anda ya pada pertanyaan no. 15, berapa jumlah rata-rata dana tahunan yang diberikan untuk pengelolaan jurnal?

- Kurang dari Rp. 10,000,000
- Rp. 10,000,000 - Rp. 30,000,000
- Lebih dari Rp. 30,000,000 - Rp. 60,000,000
- Lebih dari Rp. 60,000,000 - Rp. 100,000,000
- Lebih dari Rp. 100,000,000



17 Berapa biaya rata-rata yang dibutuhkan untuk satu kali penerbitan?

- Kurang dari Rp. 10,000,000
- Rp. 10,000,000 - Rp. 30,000,000
- Lebih dari Rp. 30,000,000 - Rp. 60,000,000
- Lebih dari Rp. 60,000,000 - Rp. 100,000,000
- Lebih dari Rp. 100,000,000

18 Apakah anda setuju atau tidak setuju jika penulis diminta membayar biaya pengelolaan artikel (APC) untuk membantu biaya penerbitan jurnal?

- Sangat tidak setuju 1
- 2
- 3
- 4
- Sangat setuju 5

19 Menurut Anda, berapa sebaiknya jumlah maksimal biaya APC yang dibebankan bagi penulis?

- Kurang dari Rp. 500,000?
- Lebih dari Rp. 500.000 IDR hingga Rp. 3.000.000
- Lebih dari Rp. 3.000.000 IDR hingga Rp. 10.000.000
- Lebih dari Rp. 10.000.000

20 Apakah Anda familiar dengan hak kekayaan intelektual (seperti, hak cipta) untuk artikel yang terbit di jurnal yang Anda kelola?

- Tidak familiar sama sekali 1
- 2
- 3
- 4
- Sangat familiar 5

21 Seberapa familiar Anda dengan lisensi Creative Commons (CC)?

- Tidak familiar sama sekali 1
- 2
- 3
- 4
- Sangat familiar 5

22 Apakah Anda familiar dengan atribut Creative Commons (misalnya, CC-BY, CC-BY-SA, CC-BY-NC, dll.)?

- Tidak familiar sama sekali
- 2
- 3
- 4
- Sangat familiar

23 Menurut Anda, apakah penulis perlu tetap memegang hak distribusi artikelnya yang diterbitkan di jurnal (misalnya, jika dia ingin mempublikasikan artikelnya di repositori atau website pribadi)?

- Tidak perlu sama sekali 1
- 2
- 3
- 4
- Sangat perlu 5

24 Apakah pekerjaan utama Anda?

- Dosen
- Peneliti
- Lain-lain, mohon disebutkan:

---

25 Di provinsi mana Anda bekerja? .....

26 Di lembaga mana Anda bekerja?

- Lembaga pendidikan
- Lembaga non-pendidikan

27 Apa rumpun bidang ilmu Anda?

- Ilmu Humaniora (Seni, Filsafat, Linguistik, Sastra, Bahasa, dll)
- Ilmu Sosial (Antropologi, Arkeologi, Agama, Ekonomi, Psikologi, Politik, dll)
- Ilmu Alam (Kimia, Biologi, Fisika, Geologi, Geofisika, Astronomi, dll)
- Ilmu Formal (Komputer, Matematika, Statistik, dll)
- Ilmu Terapan (Pertanian, Pendidikan, Informasi/Perpustakaan, Hukum, Kedokteran, Teknik/Rekayasa, Lingkungan, dll)

28 Apa tingkat pendidikan terakhir Anda?

- Sarjana (S1)
- Master (S2)
- Doktor (S3)

29 Sudah berapa lama Anda berkecimpung dalam kegiatan peditan jurnal?

- Kurang dari 5 tahun
- 5-10 tahun
- 10-20 tahun
- Lebih dari 20 tahun

30 Apakah jurnal Anda saat ini terdaftar di DOAJ?

- Ya
- Tidak

## Appendix D Researcher Questionnaire (English Version)

### QUESTIONNAIRE FOR RESEARCHERS

#### PARTICIPANT INFORMATION STATEMENT

<b>HREC Project Number:</b>	
<b>Project Titles:</b>	The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia
<b>Chief Investigator:</b>	A/Professor Paul Genoni (Supervisor) p.genoni@curtin.edu.au +61 (8) 9266-7256
<b>Student Researcher:</b>	Khaeruddin Kiramang k.kiramang@postgrad.curtin.edu.au
<b>Version Numbers:</b>	6
<b>Version Date:</b>	12 September 2017

#### **What is the Project About?**

The recent proliferation of the journals listed in the Directory of Open Access Journals raises questions about the current status and future prospects of open access journals contributing to Indonesian scholarly communication.

The study aims to (1) evaluate the current state of scholarly journal publishing in Indonesia; (2) assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing; (3) investigate the level of support and hindrances encountered by editors and policy makers to the management of Open Access journal publishing in Indonesia.

The results of this research will assist stakeholders in Indonesia to develop policies and processes to support sustainable access to scholarly outputs.

This research is will involve approximately 300 researchers, 1000 journal editors, and three policy makers in Indonesia.

#### **Who is doing the Research ?**

The project is being conducted by Khaeruddin Kiramang, a PhD student in Information studies at Curtin University, under the supervision of A/Professor Paul Genoni and Dr. Holly White. The research is funded by the Ministry of Religious Affairs of Indonesia .

#### **Why am I invited to take part and what will I have to do?**

You have been asked to take part because you are an active researcher and therefore have knowledge relevant to the research topic. You will be asked to fill in a questionnaire. The questionnaire will be available online through the Internet and will require approximately 15 minutes to complete. There will be no cost to you for taking part in this research and you will not be paid for taking part. We will ask you questions about your awareness on scholarly communication and Open Access journal publishing.

#### **Are there any benefits to being in the research project?**

- There may be no direct benefit to you from participating in this research. However, you may obtain the final results by requesting via e-mail to us.

The data and associated analysis will be useful for the government and higher education and research sector policy makers in formulating supportive and targeted policies for the ongoing development of scholarly communication.

**Are there any risks, side-effects, discomforts or inconveniences from being in the research project?**

There are no foreseeable risks from this research project.

**Who will have access to my information ?**

The information collected through the questionnaire will be non-identifiable (anonymous). This means that we do not need to collect individual names and the data will be aggregated for the purpose of analysis and reporting. No one, not even the research team will be able to identify your personal information or data.

The information we collect in this study will be kept under secure conditions at Curtin University for 7 years after the research is published. The results of this research may be presented at conferences or published in professional journals . You will not be identified in any results that are published or presented.

**Will you tell me the results of the research?**

If you are interested in obtaining a summary of the results, please contact the researchers via e-mail. We will write to you at the end of the research and let you know the results.

**Do I have to take part in the research project?**

Taking part in a research project is voluntary. It is your choice to take part or not. If you decide to take part and then change your mind, you can withdraw from the project at any time.

**What happens next and who can I contact about the research?**

If you have any questions about this project, feel free to contact me by emailing at [k.kiramang@postgrad.curtin.edu.au](mailto:k.kiramang@postgrad.curtin.edu.au) . You may also contact my supervisor: A/Professor Paul Genoni by emailing at [p.genoni@curtin.edu.au](mailto:p.genoni@curtin.edu.au) or by calling at +61 (8) 9266-7256.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number: HRE2018-0026 ). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au) .

The Participation Information Statement can be downloaded here: [Participant Information Statement- Journal Editor](#)

## APPROVAL SHEET

- I have read the statements in the Participant Information Sheet and understand their contents.
- I believe I understand the purpose, scope and possible risks of being involved in this research.
- I voluntarily agree to participate in this research.
- I have had the opportunity to ask questions and am satisfied with the answers I received.
- I understand that this research has been approved by the Human Research Ethics Committee, Curtin University (HREC) and will be carried out in accordance with the provisions contained in The National Statement on Ethical Conduct in Human Research (2007).
- I know that I can keep the Information Sheet above.

Participant,

( )

By clicking the arrow button below, you agree to the above statement and are willing to fill out the questionnaire.

Thank you for your consent to participate in this survey. This questionnaire takes about 10 minutes to complete. All your answers will be kept confidential.

The following is an explanation of some of the terms used in this questionnaire to ensure that we have the same understanding of these terms:

*Open Access (OA)*: refers to free access to research results or scholarly articles online and the right to use them freely. Thus, the OA journal is an online journal that provides free access to full text articles as well as the right to reuse articles. A large number of online journals in Indonesia are currently listed on DOAJ (<http://doaj.org>), an international directory of OA journals.

*Scholarly communication*: refers to the system or process by which scholars create, evaluate, and disseminate research results and scientific writings. This includes formal scholarly communication channels such as conferences and journal publications as well as informal communication channels such as blogs, mailing lists, and personal websites.

*Predatory journals*: often called predatory journals, or fake journals, are exploitative journals whose main goal are to make profits by charging authors without carrying out the proper publishing and editorial processes for scientific journals.

*Article Processing Charge (APC)*: an article management fee that is usually charged

to the author to finance the process of publishing an article so that it can be accessed openly (Open Access) by readers. Not all journals that charge APC fees are fake. Some of them even have a good reputation in international indexing agencies.

1. How often do you read scholarly journals?

- Every day
- Every week
- Each month
- Seldom
- Never

2. Do you read Open Access journals?

- Every day
- Every week
- Each month
- Seldom
- Never

3. Choose numbers 1-5 to indicate how important you think reading scholarly journal in your discipline area?

- 1 Not important at all
- 2
- 3
- 4
- 5 Very important

4. How important do you think publishing scholarly articles relevant to your field of knowledge?

- 1 Not important at all



2

3

4

5 Very important

5 How many times have you published articles in scholarly journals?

- Never
- 1-10 times
- 11-20 times
- More than 20 times

6 Which of the following publishing outlets have you used to distribute your articles?  
(You can choose more than one items)

- Print journal
- Commercial e-journal
- Open Access e-journal
- Institutional Repository
- Personal website
- Blog

7. Number from 1-3 to indicate the three most important factors that influenced your choice of publishing outlets for your journal articles:

- \_\_\_\_\_ Government regulation
- \_\_\_\_\_ Publishing cost
- \_\_\_\_\_ Speed of publishing process
- \_\_\_\_\_ Journal status or ranking
- \_\_\_\_\_ Quality of peer review
- \_\_\_\_\_ Likelihood of acceptance of articles
- \_\_\_\_\_ Easy access
- \_\_\_\_\_ Payment from publishers
- \_\_\_\_\_ Language
- \_\_\_\_\_ Others, please state: .....

8. Number from 1-3 to indicate the three most important factors that motivate you to publish journal articles:

- \_\_\_\_\_ Tenure and promotion
- \_\_\_\_\_ Contribution to your discipline
- \_\_\_\_\_ Personal prestige
- \_\_\_\_\_ Institutional prestige
- \_\_\_\_\_ Making and maintaining contact with other researchers
- \_\_\_\_\_ Promoting your research career
- \_\_\_\_\_ Payment from publishers
- \_\_\_\_\_ Others, please state:

9. As a scholar, how important is it for you to master international languages such as English?

- 1 Not important
- 2
- 3
- 4
- 5 Very important

10. Other than authoring journal articles, what other forms of scholarly activities have you undertaken? (Tick all that apply)

- National conference attendance
- International conference attendance
- Peer reviewing
- Journal editing
- Others, please specify:

11. How do you conceive the reach or extent of your scholarly community? (scholarly communication activities)?

- Within the scope of your institution/institution
- Within the province
- In the territory of Indonesia
- Within the scope of ASEAN countries
- In global/international scope

12 How familiar are you with the concept of Open Access publishing?

- 1 Not familiar at all
- 2
- 3

4

5 Very familiar

13. Do you think publishing articles in an Open Access journal has a beneficial impact on your?

	Negative Impact 1	2	3	4	Positive Impact 5
Your personal reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your institution's reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your discipline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Country and nation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. To what extent do you think publishing commercial journals (paywalled journals) has an impact on:

	Negative Impact 1	2	3	4	Positive Impact 5
Your personal reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your institution's reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your discipline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Country and nation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 In your opinion, to what extent do Open Access journals have an impact on the following?

	Negative Impact 1	2	3	4	Positive Impact 5
Ease of access for readers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The emergence of predatory journals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High-quality peer review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prestige of journal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Citation rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rapid availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Article Processing Charge (APC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease publication for authors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International audience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. What would you do to identify predatory journals? Choose all that apply and rank them based on your most frequently used method (1 = most frequent).

- \_\_\_\_\_ Asking colleagues about the journal's reputation
- \_\_\_\_\_ Searching information on the Internet
- \_\_\_\_\_ Searching information on journal indexes and directories such as Scopus, Scimago, and DOAJ.
- \_\_\_\_\_ Checking government or institutional lists of predatory journals.
- \_\_\_\_\_ Looking closely at the journal's website
- \_\_\_\_\_ I am not familiar with the concept of predatory journals

17 Do you agree or disagree that authors should pay an article processing charge (APC) in order to support publishing costs of journals?

- Strongly disagree 1
- 2
- 3
- 4
- Strongly agree 5

18 What is the maximum cost of article management (APC) in your opinion?

- Less than Rp. 500,000
- Rp. 500,000 to Rp. 3,000,000
- More than Rp. 3,000,000 to Rp. 10,000,000
- More than Rp. 10,000,000
- Others, please mention:

19 How familiar are you with your intellectual property rights (e.g. copyright) in relation to your published articles?

- 1 Not familiar at all
- 2
- 3
- 4
- 5 Very familiar

20 Do you think it is important for an author to retain the right to distribute his articles published in a journal (for example, if he wants to publish his articles in a repository or personal website)?

- 1 Not important at all
- 2
- 3

4

5 Very important

21 How familiar are you with Creative Commons (CC) licenses?

Not familiar at all

2

3

4

5 Very familiar

22 How familiar are you with Creative Commons attributes (eg, CC-BY, CC-BY-SA, CC-BY-NC, etc.)?

1 Not familiar at all

2

3

4

5 Very familiar

23 What is your main occupation?

Lecturer

Researcher

Others, please mention: .....

24 In which province do you work? .....

25 What is your field of study?

- Humanities (Arts, Philosophy, Linguistics, History, Literature, Languages, etc.)
- Social Sciences (Anthropology, Archaeology, Religion, Economics, Psychology, Politics, etc.)
- Natural Sciences (Chemistry, Biology, Physics, Geology, Geophysics, Astronomy, etc.)
- Formal Science (Computer, Mathematics, Statistics, etc.)
- Applied Sciences (Agriculture, Education, Information/Library, Law, Medicine, Engineering/Engineering, Environment, etc.)

26 What is your highest educational qualification?

- Bachelor degree)
- Master (S2)
- Doctoral (S3)

27 How long have you been in research activities?

- Less than 5 years
- 5-10 years
- 11-20 years old
- More than 20 years

28 In which institution do you work?

- Educational institutions
- Non-educational institutions

**Thank you for your help**



## Appendix E Editor Questionnaire (English Version)

### QUESTIONNAIRE FOR JOURNAL EDITORS

#### PARTICIPANT INFORMATION STATEMENT

<b>HREC Project Number:</b>	HRE2018-0026
<b>Project Title:</b>	The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia
<b>Chief Investigator:</b>	A/Professor Paul Genoni (Supervisor) p.genoni@curtin.edu.au +61 (8) 9266-7256
<b>Student researcher:</b>	Khaeruddin Kiramang k.kiramang@postgrad.curtin.edu.au
<b>Version Number:</b>	6
<b>Version Date:</b>	12 September 2017

#### **What is the Project About?**

The recent proliferation of the journals listed in the Directory of Open Access Journals raises questions about the current status and future prospects of open access journals contributing to Indonesian scholarly communication.

The study aims to (1) evaluate the current state of scholarly journal publishing in Indonesia; (2) assess Indonesian researchers' awareness of scholarly communication and the impact of OA on scholarly journal publishing; (3) investigate the level of support and hindrances encountered by policy makers, publishers, and editors, to the management of Open Access journal publishing in Indonesia.

This research will involve researchers, journal editors, and policy makers in Indonesia.

#### **Who is doing the Research?**

The project is being conducted by Khaeruddin Kiramang, a Ph.D. student in Information studies at Curtin University, under the supervision of A/Professor Paul Genoni and Dr. Hollie White. The research is funded by the Ministry of Religious Affairs of Indonesia.

#### **Why am I invited to take part and what will I have to do?**

You have been invited to take part because you are an Open Access journal editor and therefore have knowledge relevant to the research topic. You will be asked to fill in a questionnaire. The questionnaire will be available online through the Internet and will require approximately 15 minutes to complete. There will be no cost to you for taking part in this research and you will not be paid for taking part. We will ask you questions about your experience in managing and editing an Open Access journal.

#### **Are there any benefits' to being in the research project?**

There may be no direct benefit to you from participating in this research. However, you may obtain the final results by requesting via e-mail to us.

The results of this research will assist stakeholders in Indonesia to develop policies and processes to support sustainable access to scholarly outputs. The data and associated analysis will be useful for the government and higher education and

research sector policy makers in formulating supportive and targeted policies for the ongoing development of scholarly communication.

**Are there any risks, side-effects, discomforts or inconveniences from being in the research project?**

There are no foreseeable risks from this research project.

**Who will have access to my information?**

You will be asked to write the ISSN number of your journal to match your answers with the data in your journal metadata collected from DOAJ. No other identification will be collected. We will not collect individual names and all respondents' data will be aggregated for the purpose of reporting.

The information we collect in this study will be kept under secure conditions at Curtin University for 7 years after the research is published. The results of this research may be presented at conferences or published in professional journals. You will not be identified in any results that are published or presented.

**Will you tell me the results of the research?**

If you are interested in obtaining a summary of the results please contact the researchers via e-mail. We will write to you at the end of the research and let you know the results.

**Do I have to take part in the research project?**

Taking part in a research project is voluntary. It is your choice to take part or not. You do not have to take part if you do not want to.

**What happens next and who can I contact about the research?**

If you have any questions about this project, feel free to contact me by emailing at [k.kiramang@postgrad.curtin.edu.au](mailto:k.kiramang@postgrad.curtin.edu.au). You may also contact my supervisor: A/Professor Paul Genoni by emailing at [p.genoni@curtin.edu.au](mailto:p.genoni@curtin.edu.au) or by calling at +61 (8) 9266-7256.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC Number HRE2018-0026). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au).

**APPROVAL SHEET**

- I have read the statements in the Participant Information Statement and understand their contents.
- I believe I understand the purpose, scope and possible risks of being involved in this research.
- I voluntarily agree to participate in this research.
- I have had the opportunity to ask questions and am satisfied with the answers I received.
- I understand that this research has been approved by the Human Research Ethics Committee, Curtin University (HREC) and will be carried out in

accordance with the provisions contained in The National Statement on Ethical Conduct in Human Research (2007).

- I know that I can keep the Participant Information Statement above.

Participant,

( )

By clicking the arrow button below, you agree to the above statement and are willing to fill out the questionnaire.

1 Choose one number from 1-5 to indicate how close your educational background is related to the subject of your journal?

- Not related at all 1
- 2
- 3
- 4
- Very related 5

2 How many times have you published in a scholarly journal?

- Never
- 1-10 times
- 11-20 times
- More than 20 times

3 What are your responsibilities as a journal editor? (Tick all that apply)

- Evaluating articles
- Copy-editing* articles
- Creating editorial boards
- Set up a panel of reviewers/referees
- Giving final approval on which article to publish
- IT-related work such as software installation and server maintenance
- Layout
- Others, please state:

4 What kind of skills do you need as a journal editor?

*You may choose all items that apply and rank them by number to their level of importance according to you by giving number from 1 in the box provided, for example, 1 Copy-editing, 2 Graphic design, 3 Foreign languages*

- \_\_\_\_\_ Information technology related skills such as OJS installation and maintenance
- \_\_\_\_\_ Foreign languages (English, Arabic, etc.)
- \_\_\_\_\_ Graphic design
- \_\_\_\_\_ Copy-editing (correcting/correcting language errors, writing consistency, etc.)
- \_\_\_\_\_ Disciplines related to journal standards
- \_\_\_\_\_ Research skills
- \_\_\_\_\_ Others, please state:

5 Are you financially compensated for your work as a journal editor?

- Yes, there is a fixed salary as an editor
- Yes, there are incentives/honors (not fixed)
- There isn't any

6 What is your main motivation for managing a journal?

*Choose and sort the following answers according to your level of importance by giving a number starting from 1. You can have more than one choice.*

- \_\_\_\_\_ This is part of my duty/obligation
- \_\_\_\_\_ Personal satisfaction
- \_\_\_\_\_ Rank
- \_\_\_\_\_ Personal reputation
- \_\_\_\_\_ Development of the field of science
- \_\_\_\_\_ Others, please state:

7 Choose numbers 1-5 to indicate the impact of managing your journal on:

	Negative Impact 1	2	3	4	Positive Impact 5
Your personal reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your institution's reputation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your discipline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Country and nation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8 Choose numbers 1-5 to indicate the extent of the impact that Open Access journals have on the following:

	Negative Impact 1	2	3	4	Positive Impact 5
Easy access for readers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The emergence of predatory journals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer review quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Journal prestige	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rate/number of citations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
APC (Article Management Fee)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of publication for writers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Audience reach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9 What is the average time it takes to publish an article after it is submitted to a publisher?

- Less than 4 weeks
- Between 4 weeks to 12 weeks
- More than 12 weeks to 24 weeks
- More than 24 weeks

10 Select the following THREE factors and put a number 1 to 3 in the blank box to indicate in order the causal factors that have the most influence on the delay in publishing.

- \_\_\_\_\_ *Editing*
- \_\_\_\_\_ *Peer reviews*
- \_\_\_\_\_ Number of articles to be published
- \_\_\_\_\_ Layout
- \_\_\_\_\_ Others, please state:

11 Based on your experience, are there reviewers/bestari partners who think that they will get financial rewards for the articles they review?

- Yes, everyone
- Yes, mostly
- Yes, some
- There isn't any

12 Choose numbers 1-5 to indicate the level of support from the following options for publishing/managing Open Access journals (open access journals):

	Very unsupportive 1	2	3	4	Strongly support 5
Government rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government financial assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institutional assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Free apps like OJS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer support (eg RJI, ADEI)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13 Choose numbers 1-5 to indicate the level of resistance from the following options for publishing/managing Open Access journals:

	No obstacle at all 1	2	3	4	Highly inhibited 5
Looking for article writer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Looking for best reviewers/partners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Editorial process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discipline time reviewer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adhere to accreditation standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14 How familiar are you with:

	Not familiar at all 1	2	3	4	Very familiar 5
PRAYER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PERK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SPARC	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SHERPA/ROMEO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LOCKSS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 Is there an annual budget from your institution for journal management?

- Yes
- There isn't any



16 If your answer is yes to question no. 15, what is the average amount of annual funding received for journal maintenance?

- Less than Rp. 10,000,000
- Rp. 10,000,000 - Rp. 30,000,000
- More than Rp. 30,000,000 - Rp. 60,000,000
- More than Rp. 60,000,000 - Rp. 100,000,000
- More than Rp. 100,000,000

17 What is the average cost of publishing for one issue of the journal?

- Less than Rp. 10,000,000
- Rp. 10,000,000 - Rp. 30,000,000
- More than Rp. 30,000,000 - Rp. 60,000,000
- More than Rp. 60,000,000 - Rp. 100,000,000
- More than Rp. 100,000,000

18 Do you agree or disagree if the author is asked to pay an article management fee (APC) to help with journal publishing costs?

- Strongly disagree 1
- 2
- 3
- 4
- Totally agree 5

19 In your opinion, what should be the maximum amount of APC that an author should be asked to pay?

- Less than Rp. 500,000?
- More than Rp. 500,000 IDR to IDR. 3,000,000
- More than Rp. 3,000,000 IDR to IDR. 10,000,000
- More than Rp. 10,000,000

20 Are you familiar with intellectual property rights (eg, copyright) for articles published in journals that you manage?

- Not familiar at all 1
- 2
- 3
- 4
- Very familiar 5

21 How familiar are you with Creative Commons (CC) licenses?

- Not familiar at all 1
- 2
- 3
- 4
- Very familiar 5

22 Are you familiar with Creative Commons attributes (eg, CC-BY, CC-BY-SA, CC-BY-NC, etc.)?

- Not familiar at all
- 2
- 3
- 4
- Very familiar

23 In your opinion, should an author retain the right of distribution of an article published in a journal (for example, if s/he wants to publish his/her articles in a repository or private website)?

- No need at all 1
- 2
- 3
- 4
- Really need 5

24 What is your main job?

- Lecturer
- Researcher
- Others, please state:

25 In which province do you work? .....

26 In which institution do you work?

- Educational institutions
- Non-educational institutions

27 What is your field of study/discipline?

- Humanities (Arts, Philosophy, Linguistics, Literature, Languages, etc.)
- Social Sciences (Anthropology, Archeology, Religion, Economics, Psychology, Politics, etc.)
- Natural Sciences (Chemistry, Biology, Physics, Geology, Geophysics, Astronomy, etc.)
- Formal Science (Computer, Mathematics, Statistics, etc.)
- Applied Sciences (Agriculture, Education, Information/Library, Law, Medicine, Engineering/Engineering, Environment, etc.)

28 What was your last education level?

- Bachelor degree)
- Masters (S2)
- Doctorate (S3)

29 How long have you been in journal editing activities?

- Less than 5 years
- 5-10 years
- 10-20 years
- More than 20 years

30 Is your journal currently registered with DOAJ?

- Yes
- Not

## Appendix F Interview Participant Consent Form

### LEMBAR PERSETUJUAN

<b>Nomor HREC Penelitian:</b>	HRE2018-0026
<b>Judul Penelitian:</b>	<i>The Role and Future of Open Access Journal Publishing in Supporting Scholarly Communication in Indonesia</i> = Peran dan Masa Depan Penerbitan Jurnal Akses Terbuka (Open Access) dalam Mendukung Komunikasi Ilmiah di Indonesia
<b>Kepala Peneliti:</b>	A/Professor Paul Genoni (Supervisor) p.genoni@curtin.edu.au +61 (8) 9266-7256
<b>Mahasiswa Peneliti:</b>	Khaeruddin Kiramang k.kiramang@postgrad.curtin.edu.au
<b>Nomor Versi:</b>	5
<b>Tanggal Versi:</b>	12 September 2017

- Saya telah membaca pernyataan informasi yang ada di atas dan saya memahami isinya.
- Saya yakin telah memahami tujuan, cakupan dan kemungkinan resiko atas keterlibatan dalam penelitian ini.
- Saya secara sukarela setuju untuk berpartisipasi dalam penelitian ini.
- Saya telah mendapatkan kesempatan untuk mengajukan pertanyaan dan puas dengan jawaban yang saya terima.
- Saya memahami bahwa penelitian ini telah disetujui oleh Komite Etik Penelitian pada Manusia, Curtin University (HREC) dan akan dilaksanakan sesuai dengan ketentuan yang ada dalam *The National Statement on Ethical Conduct in Human Research* (2007).
- Saya mengetahui bahwa saya akan mendapatkan salinan Pernyataan Informasi dan Lembar Persetujuan.

Nama Partisipan	
Tanda Tangan Partisipan	
Tanggal	

Nama Peneliti	Khaeruddin Kiramang
Tanda Tangan Peneliti	
Tanggal	

## Appendix G Interview Questions

### POKOK PERTANYAAN WAWANCARA

1. Apa peran dan tanggung jawab bapak/ibu yang berkaitan dengan penerbitan jurnal ilmiah?
2. Apa definisi Open Access (akses terbuka) menurut bapak/ibu?
  - a. Menurut bapak/ibu, apa manfaat Open Access, khususnya bagi negara berkembang seperti Indonesia?
3. Usaha apa yang telah dilakukan untuk memacu pengembangan penerbitan jurnal di Indonesia?
  - a. Apakah ada upaya yang dilakukan untuk meningkatkan keterbacaan/visibilitas/aksesibilitas jurnal Indonesia misalnya dengan meningkatkan penguasaan bahasa asing para ilmuwan, pengembangan indexing database, dll?
4. Apa hambatan utama yang dihadapi dalam upaya meningkatkan penerbitan jurnal di Indonesia?
5. Apa rencana yang akan dilakukan untuk pengembangan penerbitan jurnal ilmiah Indonesia di masa mendatang?

Catatan:

Sebagai pendalaman terhadap topik wawancara, sub pokok pertanyaan akan disampaikan secara berstruktur sesuai dengan dinamika pembicaraan dalam wawancara.

## **Appendix H Interview Coding Manual**

### **CODING MANUAL**

This coding manual developed based on the research objective and the main interview questions. The steps refers to 'the Phases of Thematic Analysis' proposed by Clarke and Braun in their article (Braun & Clarke, 2006).

#### **Research Objective:**

To discover the type and level of support for, and hindrances faced by, higher education policy makers and editors in the management of Open Access journal publishing in Indonesia

#### **Main Interview Questions:**

1. What is your role and area of responsibility in regard with scholarly journal publishing?
2. What is Open Access (OA) in your point of view?
  - a. What do you think is the benefit of OA, especially to developing countries such as Indonesia?
3. What efforts have been done to encourage the development of journal publishing in Indonesia?
  - a. Is there any effort to improve international readership of Indonesian journals such as improving international language skills of scholars?
4. What are the main hindrances in enhancing journal publishing in Indonesia?
5. What is the plan for future development of scholarly journal publishing in Indonesia?

#### **Manual instructions:**

1. Identify and highlight/underline words, phrases, or sentences indicating or implying the following main topics:
  - a. Role and area of responsibility (ROLE)\*
  - b. Efforts have been done to encourage the development of journal publishing (EFFORT)
    - i. Future plan (PLAN)
  - c. Hindrances in enhancing journal publishing (HINDRANCE)
    - i. Solutions (SOLUTION)
  - d. Definition of Open Access (OA)
2. Select Data Items by selecting the sentences contain the main topics
3. Generating Codes based on the main topics: ROLE, EFFORT, PLAN, HINDRANCE, SOLUTION, OA by giving "in vivo code" (using exact words/terms from the text/transcript)
4. Group the codes that have similar meaning/concept.
5. Generate initial themes: choosing a generic word/term for the groups of similar codes
6. Defining and naming themes
7. Producing the report. The excerpts included in the report are translated into English.

## Appendix I Changes in DOAJ Data Field Names 2017-2019 and 2020-2022

<b>SAME DATA FIELD NAMES</b>	
<b>2017-2019</b>	<b>2020-2022</b>
Added on Date	Added on Date
Alternative title	Alternative title
APC amount	APC amount
APC information URL	APC information URL
Author holds copyright without restrictions	Author holds copyright without restrictions
Average number of weeks between submission and publication	Average number of weeks between article submission and publication
Copyright information URL	Copyright information URL
Country of publisher	Country of publisher
DOAJ Seal	Deposit policy directory
Journal article processing charges (APCs)	DOAJ Seal
Journal EISSN (online version)	Journal EISSN (online version)
Journal ISSN (print version)	Journal ISSN (print version)
Journal license	Journal license
Journal plagiarism screening policy	Journal plagiarism screening policy
Journal title	Journal title
Journal URL	Journal URL
Journal waiver policy (for developing country authors etc.)	Journal waiver policy (for developing country authors etc.)
Keywords	Keywords
License attributes	License attributes
Machine-readable CC licensing information embedded or displayed in articles	Machine-readable CC licensing information embedded or displayed in articles
Most Recent Article Added	Most Recent Article Added
Number of Article Records	Number of Article Records
Plagiarism information URL	Plagiarism information URL
Publisher	Publisher
Review process	Review process
Review process information URL	Review process information URL
Society or institution	Society or institution
Subjects	Subjects
URL for journal's aims & scope	URL for journal's aims & scope
URL for journal's instructions for authors	URL for journal's instructions for authors
URL for journal's Open Access statement	URL for journal's Open Access statement
URL for license terms	URL for license terms
URL for the Editorial Board page	URL for the Editorial Board page
URL to an example page with embedded licensing information	URL to an example page with embedded licensing information
Waiver policy information URL	Waiver policy information URL
<b>UNIQUE DATA FIELD NAMES</b>	

<b>2017-2019</b>	<b>2020-2022</b>
Author holds publishing rights without restrictions	APC
Currency	Article metadata includes ORCID's
Digital archiving policy or program(s)	Continued By
Download statistics information URL	Continues
Full text formats	Country of society or institution
Journal article submission fee	Has other fees
Journal full-text crawl permission	Journal complies with I4OC standards for open citations
Journal provides download statistics	Last updated Date
Platform, host or aggregator	LCC Codes
Publishing rights information URL	Other fees information URL
Submission fee amount	URL in DOAJ
Submission fee currency	
Submission fee URL	
Tick: Accepted after March 2014	
<b>SAME DATA FIELD WITH DIFFERENT WORDINGS</b>	
<b>2017-2019</b>	<b>2020-2022</b>
Archiving information URL	Preservation information URL
Archiving: national library	Preservation Service: national library
Archiving: other	Preservation Services
Deposit policy directory	URL for deposit policy
Does this journal allow unrestricted reuse in compliance with BOAI?	Does the journal comply to DOAJ's definition of open access?
First calendar year journal provided online Open Access content	When did the journal start to publish all content using an open license?
Full text language	Languages in which the journal accepts manuscripts
Permanent article identifiers	Persistent article identifiers



## Appendix J List of Regulations

#	DOC. NUMBER	TYPE OF REGULATION	DATE	SUBJECT	SOURCE	MAIN POINTS RELATED TO SC	CODE*
1	KEPMENKOWASBANGPAN NO. 38 TAHUN 1999	Ministry Regulation	24/08/1999	Lecturer's Academic Position Classification and its Promotion Credit Scores	Coordinating Minister for Development Supervision and State Apparatus Utilization	<ul style="list-style-type: none"> <li>Lecturer's academic position and required promotion credit scores including those related to publishing in national/international journal.</li> <li>This promotion requirements push lecturers to produce scholarly works including writing, editing scholarly works – <i>c. III, art 4, para (2)b, p. 1</i> and publishing in national/ international journals – <i>c. XII, art 25, para (2), para (4)b., p. 5</i></li> </ul>	R1 C1 D1
2	UU NO. 20 TAHUN 2003	Law	08/06/2003	National Education System	Formulated by the House and released by the President	<ul style="list-style-type: none"> <li>Higher educations must perform teaching and learning, research, and community services – <i>c. VI, s. 4, art 20, p. 5</i></li> <li>Plagiarism sanction – <i>c. VI, s. 4, art 25, para (2), p.5; c. XX, art 70, p.13</i></li> </ul>	R2 C2
3	PP. NO 37 TAHUN 2009	Government Regulation	26/05/2009	Lecturer	President and Ministries	A lecturer will be rewarded if his/her paper be published at a national accredited journal and/or at an international reputed journal – <i>c. III, s. 5, art 12, para (3)f., p. 12.</i>	R3 D2 E1
4	PERMENDIKNAS NO.67 TAHUN 2009	Ministry Regulation	02/10/2009	Scholarly Journal Accreditation	Ministry of National Education (MNE)	<p>Scholarly journal accreditation and its procedures</p> <ul style="list-style-type: none"> <li>Definitions of scholarly journal and the accreditation – <i>art 1</i></li> <li>Scholarly journal accreditation is intended to improve quality, journal relevance, and competitiveness of Indonesian scholars – <i>art 2</i></li> </ul>	C3

5	PERMENDIKNAS NO.68 TAHUN 2009	Ministry Regulation	02/10/2009	Guidelines for Scholarly Journal Accreditation	Ministry of National Education	Stating accreditation guidelines for scholarly journal	C4
6	PERMENDIKNAS NO.17 TAHUN 2010	Ministry Regulation	16/08/2010	Prevention and Mitigation of Plagiarism in Higher Education	Ministry of National Education	<ul style="list-style-type: none"> <li>• All HEIs are required to <i>upload online all scholarly outputs</i> of students, researchers, and staff to Garuda (Garba Rujukan Digital, a digital database for scholarly outputs) – <i>c. IV, art 7, para (2), p. 5</i></li> <li>• Defining plagiarism – <i>c. I art 1-2, p. 2-4</i></li> <li>• Preventive action: peer reviewing process for scholarly outputs used for tenure – <i>c. IV, art 6-9, p. 5-6</i></li> <li>• Mitigation: procedures in handling a plagiarism case – <i>c. V, art 10-11, p. 6-7;</i></li> <li>• Sanction, defense/ rehabilitation mechanism for a plagiarism case – <i>c. VI, art 12-14, p. 7-9</i></li> </ul>	D3 C5
7	SE DIRJEN DIKTI 1311/D/C/2010	Circular Letter	18/10/2010	Plagiarism Prevention and Mitigation	Director General of Higher Education (DGHE) to the Heads of higher education institutions	Related to Ministry of National Education's (MNE) Regulation No. 17 2010 about Plagiarism Prevention and Mitigation	C6
8	SE DIRJEN DIKTI 190/D/T/2011	Circular Letter	16/02/2011	Scholarly Outputs Validation	DGHE to the Heads of higher education institutions	<ul style="list-style-type: none"> <li>• All scholarly works attached in the proposal for academic promotion must be validated by a team</li> </ul>	C7
9	PERMENDIKNAS NO. 22 TAHUN 2011	Ministry Regulation	06/06/2011	Scholarly Journal	Ministry of National Education (MNE)	<ul style="list-style-type: none"> <li>• Defining <i>scholarly journal</i> and its aims</li> <li>• Defining scholarly journal accreditation: official certification for quality assurance (Ch.1, p.1)</li> <li>• The urgency of accreditation to improve the quality (Ch.5, p.3)</li> <li>• General guidelines for accreditation (Ch. 6-12)</li> </ul>	C8 D4

						<ul style="list-style-type: none"> <li>• Journal accreditation (A=very good, B= good) and its procedures</li> <li>• Among the accreditation requirements for scholarly journal are: <ul style="list-style-type: none"> <li>○ Having no plagiarized contents</li> <li>○ Having reputed editors and peer reviewers and reviewing blindly.</li> <li>○ Written in Indonesians and/or UN official languages</li> <li>○ Published printed and electronically. (Art 8 para f, p. 3)</li> </ul> </li> <li>• Stating the revoking of Permendiknas regulation No.67-68 Year 2009</li> </ul>	
10	PERDIRJEN DIKTI NO.49/DIKTI/KEP/2011	Directorate Regulation	15/06/2011	Accreditation Guidelines for Scholarly Journal	DGHE	<ul style="list-style-type: none"> <li>• The scoring guidelines for quality assurance of the scholarly journal with two levels: A (score: &gt; 85) and B (score: 70-85). A journal with score less than 70 is considered as a 'non-accredited' journal.</li> <li>• The scoring is based on layout, management, and substance which are divided into eight areas with total score 100: <ol style="list-style-type: none"> <li>1. Journal title (max. score: 3),</li> <li>2. Publishing institution (5),</li> <li>3. Editing (18),</li> <li>4. Layout (8),</li> <li>5. Writing style (13),</li> <li>6. Substantial content (40),</li> <li>7. Serial-related information (9),</li> <li>8. Dissemination (4)</li> </ol> </li> <li>• Legal deposit: fail to show a proof of deposit will decrease the score by -3</li> </ul>	C9 D5 P1
11	SE DIRJEN DIKTI 1313/E5.4/LL/2011	Circular Letter	23/06/2011	Accreditation of Scholarly Journal	DGHE to the Heads of higher education institutions	<ul style="list-style-type: none"> <li>• Related to MNE's Regulation No.22 2011 about Scholarly Journal Regulation of Director General of Higher Education (DGHE) No.</li> </ul>	C10

						49/DIKTI/Kep/2011 about Accreditation Standard of Scholarly Journal. <ul style="list-style-type: none"> <li>• Related to the procedures of journal accreditation application</li> </ul>	
12	SE DIRJEN DIKTI 2050/E/T/2011	Circular Letter	30/12/2011	Policy on Uploading Scholarly Outputs and Journal	DGHE to the Heads of higher education institutions	Related to the MNE's Regulation No.17 2010 about Plagiarism Prevention and Mitigation, No.22 2011 about Scholarly Journal, DGHE Regulation No.49/DIKTI/Kep/2011 about guidance for scholarly journal accreditation, to uphold commitment to build character and to improve lecturers' quality: <ol style="list-style-type: none"> <li>1. An article published in a journal will not be scored if the article and the journal's identity cannot be accessed online.</li> <li>2. The policy (verse 1) will be effectively implemented as lecturer's promotion requirement on 2012.</li> <li>3. HE institutions and journal publishers must upload students' and lecturers' scholarly outputs at Garuda portal (database), institutions' portal, journals' portal or other portals.</li> </ol>	C11 D6
13	SE DIRJEN DIKTI 152/E/T/2012	Circular Letter	27/01/2012	Scholarly Outputs Publishing	DGHE to to the Heads of higher education institutions	This regulation was intended to improve the quantity of scholarly publications. Starting from August 2012, to get a degree: <ul style="list-style-type: none"> <li>• Undergraduate student must publish an article in a scholarly journal</li> <li>• Master student must publish an article in a national scholarly journal, preferred accredited by DGHE</li> <li>• Doctoral student must publish an article in an international scholarly journal</li> </ul>	R4 D7
14	SE DIRJEN DIKTI 212/E/T/2012	Circular Letter	08/02/2012	Guidance on the Management of Electronic Scholarly Journal	DGHE to the Heads of higher education institutions	Manual book on the management of electronic scholarly journal	D8

15	UU NO. 12/2012	Law	10/08/2012	Higher Education	Formulated by the House and released by the President	<ul style="list-style-type: none"> <li>Lecturers are required to produce scholarly publication (Ch.12, p.9)</li> <li>Research outputs must be published (Ch. 46 (2) p. 23)</li> <li>Scholarly outputs published in international journal will be rewarded (Ch. 46 (3), p. 23)</li> </ul>	R5 D9 E2
16	SE DIRJEN DIKTI 1223/E/T/2012	Circular Letter	27/09/2012	Mandate to Publish Scholarly Journal Electronically	DGHE to to the Heads of higher education institutions	<ul style="list-style-type: none"> <li>Beside printed, all scholarly journals must be published electronically (online)(1)</li> <li>Fulltext must be in PDF format and the fulltext access authority depends on the journal publisher (3)</li> <li>Journals that are not published electronically will not be accredited (5)</li> </ul>	D10
17	PERMENPAN No. 17 TAHUN 2013	Ministry Regulation	15/03/2013	Lecturer's Academic Position Classification and its Promotion Credit Scores	Ministry of State Apparatus Utilization and Bureaucratic Reform	Lecturer's academic position classification and its promotion credit scores including scores for writing/publishing in national/international journal	R6 D11 E3
18	SE DIRJEN PENDIS DJ.I/DT.I.IV/PP.00.9/813/2014	Circular Letter	07/04/2014	Online Journal	Directorate General of Islamic Higher Education (DGIHE), Ministry of Religious Affairs (MoRA) to the Heads of Islamic higher education institutions (IHEI)	<p>DGIHE enhances the transformation of Islamic Higher Education Institutions' (IHEI) journals to be nationally accredited and internationally reputed and indexed by international reputed indexing institutions.</p> <p>Therefore, the heads of IHEI are recommended to:</p> <ol style="list-style-type: none"> <li>1. Make their journals online using e-journal applications</li> <li>2. State clearer roadmap of the journals</li> <li>3. Improve the quality skill of authors, editors, and peer reviewer.</li> <li>4. Provide financial support and infrastructure to facilitate journal publishing management.</li> <li>5. Have e-ISSN for the e-journals</li> <li>6. Have DOI for each article</li> </ol>	C12 D12 E4

						7. Have article writing guidelines and template 8. Provide editorial board, publishing office, and publication ethics.	
19	PERMENDIKBUD NO. 49 TAHUN 2014	Ministry Regulation	09/06/2014	National Standard of Higher Education	Ministry of Education and Culture (MEC)	<ul style="list-style-type: none"> <li>• HEIs must set up criteria and procedure for research assessment including the quantity improvement of scholarly publication. Ch. 50 (2b), p. 31</li> <li>• HEIs must provide financial support and incentives for for research and scholarly publication. Ch. 52, p. 33</li> <li>• Research outputs must be published and disseminated Ch. 43 (5), p. 28</li> </ul>	R7 D13 E5
20	PERDIRJEN DIKTI NO. 1 TAHUN 2014	Directorate Regulation	12/08/2014	Accreditation Standard for Scholarly Journals	Director General of Higher Education (DGHE)	<ul style="list-style-type: none"> <li>• Stating accreditation standard for scholarly journals of HEIs and professional organizations</li> <li>• The journals must be in electronic format</li> <li>• Legal deposit</li> </ul>	C13 D14 P2
21	PERKA LIPI NO.3 TAHUN 2014	Institutional Regulation	29/08/2014	Accreditation Standard for Scholarly Journals	Head of LIPI	<ul style="list-style-type: none"> <li>• Stating accreditation standard for scholarly journals of R&amp;D units in ministry non-ministry institutions</li> <li>• The journals must be in electronic format</li> <li>• Legal deposit</li> </ul>	C14 D15 P3
22	PERKA LIPI NO. 5 TAHUN 2014	Institutional Regulation	18/09/2014	Scholarly Publication Ethics	Head of LIPI	<ul style="list-style-type: none"> <li>• This regulation defines ethic codes for: <ul style="list-style-type: none"> <li>○ Journal publishing staff</li> <li>○ Journal editors</li> <li>○ Peer reviewers</li> <li>○ Article authors</li> </ul> </li> <li>• Adopting COPE (Committee on Publication Ethics) Codes of Conduct (p.6, 10, 11, 34)</li> </ul>	C15
23	PERMENAG NO. 55 TAHUN 2014	Ministry Regulation	23/12/2014	Research and Community Services at Religious Higher	MORA	RHEIs facilitate publications of research outputs through scholarly journals, books, magazines, translation service, e-book & e-journal, etc.	R8 D16 E6

				Educational Institution (RHEI)			
24	SE DIRJEN RISBANG NO. 193/E/SEXII/2015	Circular Letter	10/12/2015	Accreditation of Scholarly Journals	Directorate General of Research Enhancement and Development (DGRED)	<ul style="list-style-type: none"> <li>Starting April 01, 2016, DGRED would only process the accreditation proposal of scholarly journals that are managed electronically only.</li> <li>To facilitate the management, the e-journals must use Online Journal System (OJS) application or other journal management applications.</li> <li>The quantity and quality of e-journals in an institution will be used as one of measurement criteria for its research performance.</li> <li>The journal accreditation procedures are stated in the Manual for Scholarly Journal Accreditation.</li> </ul>	D17 C16 E7
25	PERMENRISTEKDIKTI NO.44 TAHUN 2015	Ministry Regulation	21/12/2015	National Standard of Higher Education	MRTHE	<ul style="list-style-type: none"> <li>HEI must provide budget for research</li> <li>Discuss about national standard for research</li> <li>Research outputs must be published</li> <li>HEI must formulate criteria and procedure related to scholarly publication, provide incentive for scholarly publication.</li> </ul>	R9 D18
26	PERKA LIPI NO. 12 TAHUN 2016	Non-Ministry Government Institution Regulation	27/07/2016	Repository and Depository of LIPI	Head of LIPI	<ul style="list-style-type: none"> <li>Defining "Akses Terbuka" (Open Access). The definition is similar to the BOAI 202 definition. (Ch.1 (11), p. 4)</li> <li>Regulating the preservation of scholarly outputs (repositori) and primary data (depositori) of research conducted by LIPI and other parties collaborating with LIPI</li> </ul>	D19 P4
27	PERMENRISTEKDIKTI NO.20 TAHUN 2017	Ministry Regulation	27/01/2017	The Granting of Professional Allowance for Lecturers and	MRTHE	<ul style="list-style-type: none"> <li>Granting requirements and procedures</li> <li>Lecturer (senior lecturer): At least three articles in <i>accredited national journal</i> or one article in <i>international journal</i> in three years period.</li> </ul>	R10 D20 E8

				Honorary Allowance for Professors		<ul style="list-style-type: none"> <li>• Professor: at least 3 articles published in <i>international journal</i> or 1 article in <i>reputed international journal</i></li> </ul>	
			27/01/2017	Appendix of the Regulation	MRTHE	<ul style="list-style-type: none"> <li>• Defining criteria of <i>national journal, accredited national journal, international journal, reputed international journal</i></li> <li>• International Journal: indexed by reputed association, higher education, or credible publisher, indexed by international indexing database such as <i>Scimago Journal Rankings</i> and <i>Index Copernicus International</i>,</li> <li>• Reputed International Journal: indexed by Web of Science and/or Scopus, impact factor above 0 from <i>ISI Web of Science</i> or at least Q3 level from <i>Scimago Journal and Country Rank</i>,</li> <li>• National Journal accredited B, published in the official languages of United Nations (Arabic, English, French, Spanish, Russia, Chinese), indexed in DOAJ with <i>Green tick</i> is considered as International Journal.</li> </ul>	
28	SE DIRJEN RISBANG NO. 227/E/IV/2017	Circular Letter	07/04/2017	Self-registration of Lecturer and Researcher in SINTA (Science and Technology Index) Portal	DGRED to the Heads of HEIs and R&D institutions	<p>To optimize the research content and networking, lecturers and researchers are recommended to register in SINTA and must have Google Scholar ID.</p> <p>Related to Ministry of Research, Technology and Higher Education No. 20 2017 about Lecturers' Professional Allowance for Lecturers and Professors' Honorary Allowance.</p>	D21 E9
29	SK DIRJEN PENDIS No. 227/2017	Decision Letter	07/04/2017	Plagiarism Mitigation	Director General of Islamic Education (DGIE)	It contains steps/procedure to mitigate plagiarism	C17



30	SE DIRJEN RISBANG NO. 101/E5.2/SE/2018	Circular Letter	18/01/2018	Accreditation of Electronic Scholarly Journals 2018	DGRED to the Heads of HEIs and R&D institutions	An announcement that the accreditation evaluation will be held twice a year.	C18
31	PERMENRISTEKDIKTI NO.9 TAHUN 2018	Ministry Regulation	21/03/2018	National Journal Accreditation	MRTHE	<ul style="list-style-type: none"> <li>• Minimum requirements of a scholarly journal: e.g. must have a DOI (Ch. 4, p.4)</li> <li>• Accreditation on journals is intended to improve quality and competitive power of Indonesia</li> <li>• Accredited journals can be archived in the national repository (Ch.14, p. 8). The clausulis not mandatory.</li> </ul>	C19 P5
32	PERMENRISTEKDIKTI NO.20 TAHUN 2018	Ministry Regulation	08/06/2018	Research	MRTHE	Scholarly outputs are: scholarly publications, prototypes, patents, other intellectual properties, and/or research reports (Ch.22, p.14)	R11 D22
33	PERDIRJEN DIKTI NO. 19 TAHUN 2018	Directorate Regulation	18/07/2018	Journal Accreditation Guidelines	DGHE	<ul style="list-style-type: none"> <li>• One journal accreditation standard for all.</li> <li>• Stating accreditation standard for scholarly journals of HEIs, professional organizations, and R&amp;D units in ministry and non-ministry institutions.</li> </ul>	C20 E10
34	SE DIRJEN RISBANG No. 4830/E5.2/SE/2018	Circular Letter	17/12/2018	Financial Support for Electronic Journal Management Year 2019	DGRED	<ul style="list-style-type: none"> <li>• Financial Support for Electronic Journal</li> </ul>	D23
35	UU NO. 13/2018	Law	28/12/2018	Legal Deposit of Printed and Recorded Works	Formulated by the House and released by the President	It mandate the deposit of printed and recorded works but does not define clearly whether digital texts are covered in this regulation	D24 P6
36	SE DIRJEN BELMAWA B/323/B.B1/SE/2019	Circular Letter	31/05/2019	Scholarly Publication of Bachelor, Master, and Doctoral	Directorate General of Learning and Student Affairs (DGLSA) to the heads of HEIs	<ul style="list-style-type: none"> <li>• Bachelor degree students are required to publish in a scholarly journals</li> <li>• Master students are required to publish in accredited national journals</li> </ul>	R12 D25

				Degree Program		<ul style="list-style-type: none"> <li>• Doctoral student to publish in reputed international journals</li> </ul>	
37	UU NO. 11/2019	Law	13/05/2019	National System of Science and Technology	Formulated by the House and released by the President	<ul style="list-style-type: none"> <li>• Research outputs and development must be published Ch. 21 p.14</li> <li>• All research outputs and primary data must be deposited Ch. 40 p21-22</li> </ul>	D26 P7
38	PERPRES NO. 63/2019	President Regulation	30/09/2019	The Use of Bahasa Indonesia	President	All scholarly works made and published in Indonesia must be written in Bahasa Indonesia	--
39	SE DIRJEN SUMBER DAYA IPTEK DIKTI B/4917/D.D2/KK.01.00/2019	Circular Letter	16/10/2019	Operational Guidelines for Credit Scoring Assessment of Lecturer's Promotion	Directorate General of Science and Technology Resources and Higher Education (DGSTRHE)	<ul style="list-style-type: none"> <li>• Lecturers must publish in <i>international journals</i> or <i>international reputed journals</i>.</li> <li>• <i>International journals</i> are those published by credible publishers and indexed by international reputed database such as Web of Science and Scopus with SJR score 0,1 or less, or with JIF WoS at least 0,05 (Item 12.1., p.35)</li> <li>• <i>International reputed journals</i> are those published by credible publishers and indexed by international reputed database such as Web of Science and Scopus with SJR score more than 0,1, or with JIF WoS less than 0,05 (Item 12.2, p.35)</li> <li>• If an article of a lecturer published in an accredited national journal or an international journal while s/he is doing a master or a doctoral study, the article can only be admitted for promotion if it contains at least 75% difference (novelty) from his/her thesis (p.35)</li> <li>• It is interesting to note that DOAJ is not mentioned as one of international indexing database. Previous regulation (Permenristekdikti No.20 Tahun 2017) mentioned it and used it as a criteria for international journals.</li> </ul>	R13 D27 E11

40	PERMENDIKBUD No. 3/2020	Ministry Regulation	24/01/2020	National Standard for Higher Education	Ministry of Education and Culture	Research outputs must be publicized and disseminated Ch. 46 (5), p. 38. A doctoral program must have at least two lecturers published in reputed international journals Ch. 31 (6) p. 30	R14 D28 E12
41	SE DIRJEN DIKTI NO. 638/E.E4/KP/2020	Circular Letter	23/06/2020	Implementation of Operational Guidance on Credit Score Assessment for Functional Position/Lecturer	DGHE to the heads of HEIs	This regulation contains amendment to the previous Circular Letter of DGSTRHE No. B/4917/D.D2/KK.01.00/2019. Among the changes: a national journal with Indonesian full text listed in DOAJ is considered equals to a national accredited journal level 5 and 6	R15 D29 E13

\*The Functions of Scholarly Communication codes:

1. **Registration** (date stamping and attribution): Code R if the regulation contains encouragement or instruction to write or publish scholarly outputs or activities that may improve the quantity of scholarly publication.
2. **Certification** (quality assurance, peer reviewing): Code C if it contains any statement related to the quality improvement of scholarly outputs such as peer reviewing, anti-plagiarism, trainings for author, reviewer, and editor, and so on.
3. **Dissemination** (distribution): Code D if there is any statement in the regulation related to the encouragement of publication visibility such as uploading/registering/archiving articles/journals to indexing database such as DOAJ, Sinta, Garuda or other open repositories.
4. **Preservation** (long-term archiving): Code P if any statement in the regulation contains instruction to deposit/archive scholarly outputs in archiving database.
5. **Evaluation** (research measurement/reward): Code E if the regulation contains instruction or encouragement to use/apply research performance metrics, impact factor, including requirements to publish in international reputed or high ranking journals.

## Appendix K DOAJ Application Form (Old Form before November 2020)

### Journal Application Form

#### Before you start

Read our [information for publishers](#), review your website and make sure that your journal fulfills all the criteria.

Guides to completing the form are also [available in other languages](#) (العربية, 中文, فارسی, Français, Italiano, Polski, Português, Русский, Română, Español, Türkçe, Українська).

#### DISCLAIMER

The applicant is responsible for providing accurate information when submitting an application for consideration. If the information provided is not sufficient or is incomplete, the application will not be considered. In cases where the information provided is found to be untrue—either during reviewing or even after admission—we reserve the right to reject or remove the journal with immediate effect and to not accept new applications for a period of 1 year. In cases where a single publisher has submitted more than 5 applications with false information, we reserve the right to remove all of the publisher's journals and to not accept any more applications for a maximum period of 3 years, depending on the number of journals for which false information was provided and the eventual number of repeated incidents.

Basic Journal Information	
1) Journal Title *	<input type="text"/>
2) URL *	<input type="text"/>
3) Alternative Title	<input type="text"/>
4) Journal ISSN (print version) *	<input type="text"/>
	Only provide the print ISSN if your journal has one, otherwise leave this field blank. Write the ISSN with the hyphen "-" e.g. 1234-4321.
5) Journal ISSN (online version) *	<input type="text"/>
	Cannot be the same as the P-ISSN. Write the E-ISSN with the hyphen "-" e.g. 1234-4321.
6) Publisher *	<input type="text"/>
7) Society or Institution	<input type="text"/>
	The name of the Society or Institution that the journal belongs to.

8) Platform, Host or Aggregator

The name of the platform, host or aggregator of the journal content, e.g. OJS, HighWire Press, EBSCO etc.

9) Name of contact for this journal \*

Somebody who DOAJ can contact about this journal.

10) Contact's email address \*

11) Confirm contact's email address \*

12) In which country is the publisher of the journal based? \*

Select the country where the publishing company carries out its business activities. Addresses registered via a registered agent are not allowed.

13) Does the journal have article processing charges (APCs)? \*

- Yes  
 No

14) Enter the URL where this information can be found \*

17) Does the journal have article submission charges? \*

- Yes  
 No

18) Enter the URL where this information can be found \*

21) How many research and review articles did the journal publish in the last calendar year? \*

A journal must publish at least 5 articles per year to stay in the DOAJ.

22) Enter the URL where this information can be found \*

23) Does the journal have a waiver policy (for developing country authors etc)? \*

- Yes  
 No

25) What digital archiving policy does the journal use? \*

- No policy in place  
 LOCKSS  
 CLOCKSS  
 Portico  
 PMC/Europe PMC/PMC Canada  
 A national library   
 Other

Select all that apply. Institutional archives and publishers' own online archives are not valid.

26) Enter the URL where this information can be found \*

This field is optional if you selected "No policy in place".

27) Does the journal allow software/spiders to automatically crawl the journal content (also known as text mining)? \*

- Yes  
 No

28) Which article identifiers does the journal use? \*

- None  
 DOI  
 Handles  
 ARK  
 Other

29) Does the journal provide, or intend to provide, article level metadata to DOAJ? \*

- Yes  
 No

If yes, metadata must be provided within 3 months of acceptance into DOAJ.

30) Does the journal provide article download statistics? \*

- Yes  
 No

If "No" proceed to question 32.

32) What was the first calendar year in which a complete volume of the journal provided online Open Access content to the Full Text of all articles? (Full Text may be provided as PDFs. Does not apply for new journals.) \*

Use 4 digits for the year, i.e. YYYY format.

33) Please indicate which formats of full text are available \*

- PDF  
 HTML  
 ePUB  
 XML  
 Other

Tick all that apply.

34) Add keyword(s) that best describe the journal (comma delimited) \*

Maximum 6. Keywords must be in English.

35) Select the language(s) that the Full Text of the articles is published in \*

You can select multiple languages.

## Quality and Transparency of the Editorial Process

36) What is the URL for the Editorial Board page? \*

A journal must have an editor and an editorial board. Only in the case of Arts and Humanities journals we will accept a form of editorial review using only two editors and no editorial board. Where an editorial board present, at least 5 of its members must be clearly identifiable with their affiliation information.

37) Please select the review process for papers \*

38) Enter the URL where this information can be found \*

This field is optional if you have selected "None" above.

39) What is the URL for the journal's Aims & Scope? \*

40) What is the URL for the journal's instructions for authors? \*

41) Does the journal have a policy of screening for plagiarism? \*

Yes

No

If "No" proceed to question 43.

43) What is the average number of weeks between submission and publication? \*

## How Open is the Journal?

Please remember that all the content of the journal you are applying about **must** be available **immediately** upon publication.

44) What is the URL for the journal's Open Access statement? \*

## Content Licensing

[Copyright & Licensing help](#)

45) Does the journal embed or display licensing information in its articles? \*

Yes

No

For more information go to [http://wiki.creativecommons.org/CC\\_REL](http://wiki.creativecommons.org/CC_REL)

If "No" proceed to question 47.

47) Does the journal allow reuse and remixing of content in accordance with a Creative Commons license or *other* type of license with similar conditions (Select 'Other')? \*

- CC BY
- CC BY-NC
- CC BY-NC-ND
- CC BY-NC-SA
- CC BY-ND
- CC BY-SA
- Other

For more information go to <http://creativecommons.org/licenses/>

49) Enter the URL on your site where your license terms are stated

50) Does the journal allow readers to read, download, copy, distribute, print, search, or link to the full texts of its articles and allow readers to use them for any other lawful purpose? \*

- Yes
- No

From the [Budapest Open Access Initiative's definition of Open Access](#).

51) With which deposit policy directory does the journal have a registered deposit policy? \*

- None
- Sherpa/Romeo
- Dulcinea
- Héloïse
- Diadorim
- Other

Select all that apply.

## Copyright and Permissions

[Copyright & Licensing help](#)

52) Does the journal allow the author(s) to hold the copyright without restrictions? \*

- Yes
- No

54) Will the journal allow the author(s) to retain publishing rights without restrictions? \*

- Yes
- No

## The qualifiers for the DOAJ Seal

DOAJ promotes best practice in Open Access publishing. To highlight journals that adhere to best practices, we have created the 'DOAJ Seal for Open Access Journals'.



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1. have an [archival arrangement in place](#) with an external party (Question 25). 'No policy in place' does not qualify for the Seal.
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3. provide [article level metadata](#) to DOAJ (Question 29). 'No' or failure to provide metadata within 3 months do not qualify for the Seal.
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5. allow [reuse and remixing of content](#) in accordance with a CC BY, CC BY-SA or CC BY-NC license (Question 47). If CC BY-ND, CC BY-NC-ND, 'No' or 'Other' is selected the journal will not qualify for the Seal.
6. have a [deposit policy registered](#) in a deposit policy directory. (Question 51) 'No' does not qualify for the Seal.
7. allow [the author to hold the copyright without restrictions](#). (Question 52) 'No' does not qualify for the Seal.

One cannot apply for the Seal. The Seal is awarded based on the information provided in the application. If you have any questions about any of the qualifiers, contact us.

### Your details

56) Your name \*

57) Your email address \*

58) Confirm your email address \*

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Source: <https://web.archive.org/web/20170702101421/https://doaj.org/application/new>

Note: This application form is the old version, which was used when the datasets were downloaded in 2017 and 2019. However, DOAJ (Directory of Open Access Journals) has since updated the form and transitioned to a newer version starting from November 2020. The updated version can be found here: <https://doaj.org/account/login?redirected=apply>

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