

Summarising Indonesia through Official Statistics News (OSN) and Statistical Yearbook of Indonesia in Infographics

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BPS-Statistics Indonesia

Abstract

BPS-Statistics Indonesia has firmly set its new vision and mission for 2020-2024 to be a provider of quality statistical data for a more progressive Indonesia". Thus, BPS-Statistics Indonesia plays a significant role in providing accurate and reliable statistics to describe the actual situation to support the country's development. Throughout the years, BPS has published statistical products in various shapes and forms, which include books, articles, brochures, official statistics news, posters, etc. Along with trends and technology development, BPS keeps innovating how it presents statistics to the public. Moreover, as a provider of national and international statistical data, BPS-Statistics Indonesia needs to ensure that its products are available in a more widely understood language (English) to reach more users.

Keywords: Infographic, Official Statistic News, Statistical Yearbook, SIMBRS

Introduction

Based on Law no. 16 of 1997 concerning Statistics, BPS must disseminate the results of its statistical activities to the public. BPS-Statistics Indonesia has firmly set its new vision and mission for 2020-2024 to be a provider of quality statistical data for a more progressive Indonesia. Thus, it plays a significant role in providing accurate and reliable statistics to depict the actual situation to support the country's development. Moreover, according to presidential decree no. 39 of 2019, BPS, as a National Statistical Office (NSO), has a role as Data Advisory Board within the National Statistical System (NSS). Thus, it becomes a reference for other government institutions in statistical activities, including how to disseminate them. As a result, BPS needs to lead innovation and set an excellent example in presenting statistical products to the public.

BPS is committed to reaching more data users by ensuring its service is available on various platforms. BPS disseminates data through a one-gate service called the Integrated Statistical Service Unit (*PST*), which is accessible online and offline. Online services are available on the official websites (national and regional levels), *PST* web application (pst.bps.go.id), BPS AllStat mobile application, landlines, facsimile, email, and postal mail. Meanwhile, offline service is available by visiting BPS offices, where users can consult with trained staff who will provide services according to the user's needs. All these services are regulated through Standard Operational Procedures and Service Commitment Declaration and regularly assessed.

As a public-centric institution, BPS conducts a data needs survey (SKD) to analyse users' demographics, evaluate the service provided, and use the result as a benchmark to improve data user satisfaction. There are various users of BPS data according to the results of SKD. Based on the SKD conducted in 2021, PST consumers in the BPS central office are diverse, ranging between 16-65 years old, and almost half of them are Generation Z. Apart from age characteristics, the diversity of consumers can also be seen from the highest level of educational attainment. The highest percentage of PST consumers comes from those who have attained a senior high school diploma or less (39.74%), while the lowest comes from those who have earned a college diploma (3.85%). Knowing how divergent the users are, it is essential to reach all elements of public users and constantly innovate while being mindful of how users' needs might change over time.

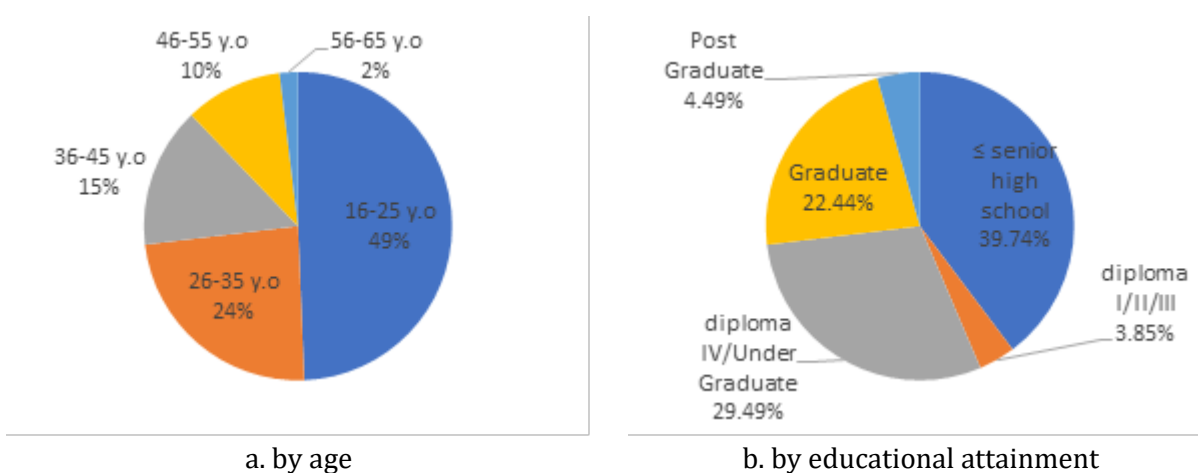


Figure 1. BPS Statistical Services User Demographics

Throughout the years, BPS has published statistical products in various mediums, including publications (books), articles, brochures, official statistics news, posters, etc. To further widen the reach of these products, BPS has made them available on various platforms both online, i.e., official websites, social media, one-stop service gate (PST), and offline, i.e., physical libraries. Along with trends and technological development, BPS keeps adapting to the modern needs of statistical products by providing a more comprehensive range of subject matters and enhancing designs and appearances. Amongst the dissemination tools offered, publications (books) and Official Statistic News (OSN) are the most accessed statistical products according to usage data collected from BPS's official website (www.bps.go.id).

One of the flagship publications of BPS is the Statistical Yearbook of Indonesia which is also the most sought-after by data users. This book was published annually by BPS before 1963. It provides statistical data on the general depiction of geography and climate, governance, socio-demographics, and Indonesia's economic growth. Some of the tables also compare data between regions at the provincial level and between countries at the international level. The variety of statistical data in the publication was obtained from internal and external data sources, which were partially managed using Integrated Statistical Data Management Information System (SIMDASI), a data repository and

comparison tool made to support the One Data Indonesia Program. BPS continues improving the book's structure and content in line with the increasing consumer needs for data.



Figure 2. Statistical Yearbook of Indonesia Year 2019 to 2022

As the Statistical Yearbook of Indonesia covers statistical data from numerous fields, this book's number of pages reaches about 800 and about 430 tables. While it may be the most comprehensive and collaborative data source, some users might find it bothersome to read the whole book, especially when they are new to data and tables. The long narration and tables would also appear monotonous and dreary to read. Moreover, the printed version of the publication would be bigger and heavier to carry. As a result, user interest and engagement will be lower, which holds back BPS's mission to increase national statistics literacy.

Considering the issues listed previously, BPS, specifically the statistical dissemination team, deemed it necessary to try a different approach to conveying the product to the users. Along with the development of data visualisation trends and technology, in 2017, BPS attempted to make a Statistical Yearbook of Indonesia in the form of an infographics collection to simplify it, entitled Statistical Yearbook of Indonesia in Infographics. Statistical Yearbook of Indonesia in Infographics offers a new way of presenting data/statistics that is expected to be more "user-friendly" to reach more user segments.

Another statistical product that is most accessed on the BPS website is Official Statistics News (OSN) or Berita Resmi Statistik (BRS). OSN is one of how BPS disseminates statistical data. OSN is the official media for sharing the results of statistical activities containing summary statistics from each related work unit at BPS. OSN briefly presents phenomena related to statistics, such as economy, welfare, and other fields. However, not all BPS statistical activity results are delivered through OSN. It only contains strategic and prominent indicators, such as inflation, farmers' terms of trade and labour wages, economic growth (Gross Domestic Products), poverty and Gini ratio, exports and imports, tourism, transportation, and employment.

The dissemination of OSN is regulated in the Decree of the Head of the Central Statistics Agency Number 9 of 1999 concerning Official Statistics, which states that OSN is published periodically every month in the first week and at any time if there is statistical news that is deemed necessary to be published. Starting in 2013, OSN has been released regularly on the first working day of each month

and the middle of the month in an official offline forum attended by journalists from printed or digital mass media. The schedule is available on the websites for the public. However, since the pandemic hit in 2020, the press release has been conducted online and will continue. As a vertical institution, BPS offices at the regional level also publish OSN monthly to disseminate the results of statistical activities that have been carried out.

To provide the best service for data users, BPS has always been adaptive to design trend development over the years. In commemorating last year's National Statistics Day in September, BPS has launched the newest design of OSN with a more informative, fresh, and easy-to-understand display. Moreover, as a provider of national and international statistical data, BPS needs to ensure that its products are available in a more widely understood language (English) to reach more users.

Methodology

1. What is an infographic?

Infographics are a combination of data visualisation, illustrations, text, and images in a format to convey the intent or story behind it (Krum, 2014). The purpose of making infographics is grouped into three categories: to inform, entertain, or invite readers. Infographics have an opening section to get the reader's attention, giving readers a reason to take their time. Then it ends with a conclusion and an invitation so that readers know what they should do after reading the infographic. The point of creating infographics is to convey meaning, not just to create beautiful or eye-catching data visualisations. Lankow, Ritchie, and Crooks (2012) state that information visualisation allows us to gain insight and understanding more quickly and efficiently by utilising the extraordinary processing capabilities of the human visual system.

2. Statistical Yearbook of Indonesia in Infographics

According to the BPS's Official website user statistics report, the Statistical Yearbook of Indonesia is the most viewed publication. The last seven editions of this book placed in the top 10 of most regarded publications of all time, which shows how high in demand the publication is. Statistical Yearbook of Indonesia is an annual publication depicting Indonesia in numbers. In assembling this publication, BPS works closely with data operators from within the organisation, ministries, and institutions to provide quality and relevant data for the public. Forums Group Discussion is often held to discuss how data should be compiled, transported, and synchronised. It is essential to consider how institutions may produce the same data. Thus, we must have consistent data between government institutions to avoid confusing policymakers in deciding the direction of development.

Statistical Yearbook of Indonesia includes core data that supports the National and Regional Conference of Planning and Development. The same core data is also published at the regional levels through respective statistical yearbooks. Moreover, other institutions might suggest other data deemed significant to be compiled into the book. As a result, the book ended up with hundreds of pages and tables. While the book might be more comprehensive and informative, some users may find the book burdensome and less attractive, especially for those looking for a light read or just the highlighted information.

Considering the abundant amount of tables and information presented in the book, the dissemination team decided to assemble some highlights from the book to be visualised into an infographics compilation. Statistical Yearbook of Indonesia in Infographics is published to complement the data analysis presented in the table in the Statistical Yearbook of Indonesia. The infographics in this publication cover selected data ranging from geographical and climatic conditions, administrations, and socio-demographics to economic conditions in Indonesia. As a complement to the regular Statistical Yearbook of Indonesia, the book is released not far after the release of the Yearbook itself. The 6th edition of this publication was released on June 17th, 2022, around three months after the release of the Statistical Yearbook of Indonesia.



Figure 3. Statistical Yearbook of Indonesia in Infographics Year 2019 to 2022

Unlike the Statistical Yearbook of Indonesia, which only presents data in tables, the Statistical Yearbook of Indonesia in Infographic displays insights from these data. First, a team of data analysts was tasked with digging up data information based on Indonesian statistics. Facts or phenomena obtained by the data analysts will be complemented with supporting facts to give users more insight into the data. The phenomenon raised is also adjusted to the current trending topic discussed by the community. For example, in the 2021 yearbook, most of the latest data depict the 2020 condition when the Covid-19 pandemic began to hit. Therefore, issues related to Covid-19, such as increasing unemployment, decreasing number of tourists, decreasing transportation, impact on economic growth, and so on, were highlighted and presented. These ideas are then compiled into scratch design and concepts to be passed to the graphic design team.

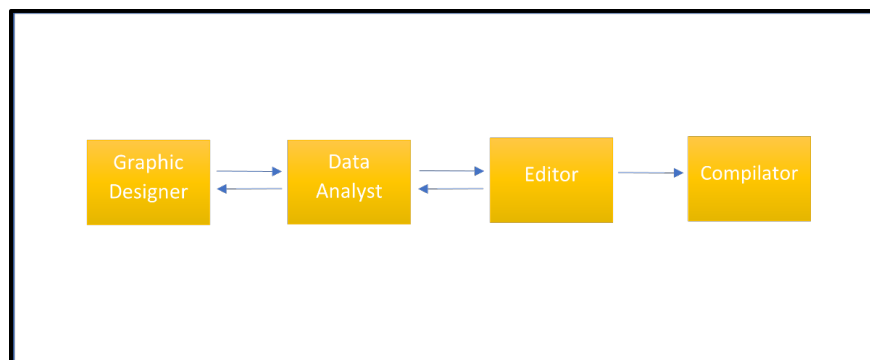


Figure 4. Statistical Yearbook of Indonesia in Infographics Assemblance Process

The graphic design team will then realise the concepts and ideas into infographics. Graphic designers have their creative freedom on how to visualise the information provided by the data analyst team. However, every design or infographic should be consulted back to the data analyst team to ensure all information is included and there is no misguidance. As seen in figure 4, presenting data in infographics significantly decreases the space needed. With lighter topics and more exciting visualisations, it is hoped that the public's interest and understanding of the data and information presented will increase. One data analyst might be working with one graphic designer or more. In this back-and-forth process, there might be multiple corrections and refinements. Once the data analyst and the graphic designer agree on the final product (at least one design), it will be passed over to the editor for the last check.



Figure 5. Transforming Data in Statistical Yearbook into Infographics

The editor ensures that all the designs are appropriate according to the book's purpose. This includes checking the topics selected, looking for any typos, making sure that all the requirements and standardisation have been met, agreeing on the designs, and finally giving overall approval for the designs to be compiled into one book. The editor may discuss further with data analysts when there are still confusing things to be confirmed. This may result in more revision and refinement, which will be communicated from the data analyst to the graphic designer. Lastly, if all designs have been approved and finalised, the compiler will continue to package the whole thing into the final products (the book) to be published.

3. Official Statistics News (OSN)

By Law Number 16 of 1997 concerning Statistics, BPS has the authority to publish its statistical results through OSN. OSN is a means to quickly announce and disseminate the results of statistical activities organised by BPS (Chief Decree Number 9 of 1999). OSN briefly presents phenomena related to economic statistics, people's welfare, and other fields. However, not all results of BPS statistical activities are announced through OSN. Only important indicators are included in the OSN, such as inflation, Farmer Terms of Trade and Labor Wages, Indonesia's Economic Growth, Poverty and Inequality, Exports and Imports, Tourism, Transportation, and Indonesian Labor.

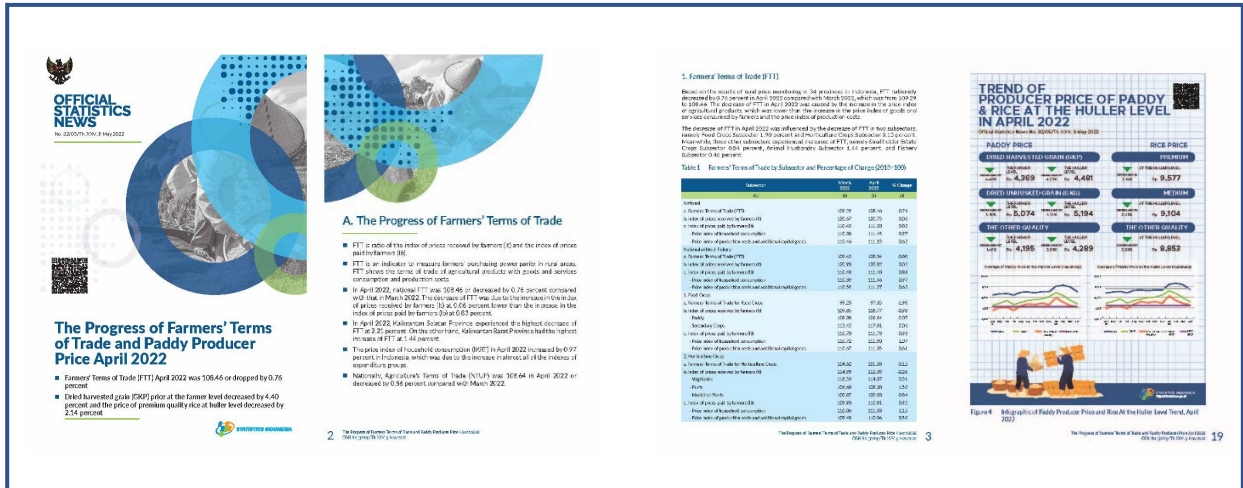


Figure 6. Official Statistics News in English

OSN is released periodically, and the OSN release schedule is announced to users through the list of plans available on the BPS official website. For monthly releases, some topics are released on the first working day of the month, such as inflation, tourism, and transportation, while other issues are released at the start of the month's third week. Some materials are also released in quarters, semesters, or even annually. On release day, the chief statistician will officially announce the results on a live streaming platform. Finally, the OSN will also be available on websites after the session ends.

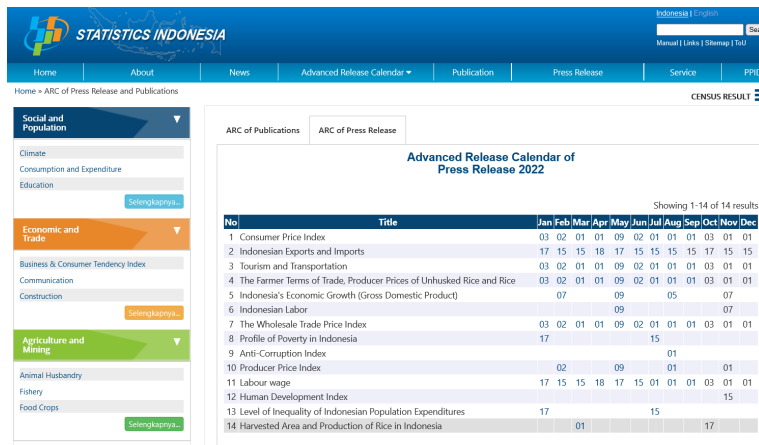


Figure 7. Official Statistics News Press Release Schedule

4. SIMBRS as OSN's Supporting Software

SIMBRS (Sistem Informasi Manajemen Berita Resmi Statistik) is an application created to monitor and manage OSN manuscript work, from ARC registration to the printing and release process. SIMBRS has been used since January 2019. Currently, SIMBRS is only used to support the preparation of OSN at the BPS Central Office. SIMBRS users are the OSN script writing team, design standardisation team, website team, and printing team. This system was built with the hope of solving the following problems:

- Monitoring and evaluation of each stage of the OSN preparation activity is carried out conventionally, causing inefficient business processes
- The flow of sending OSN manuscripts is carried out conventionally, demanding accuracy so that there is no data leakage before it is released
- The management of the OSN manuscript from material to ready for release is not well documented

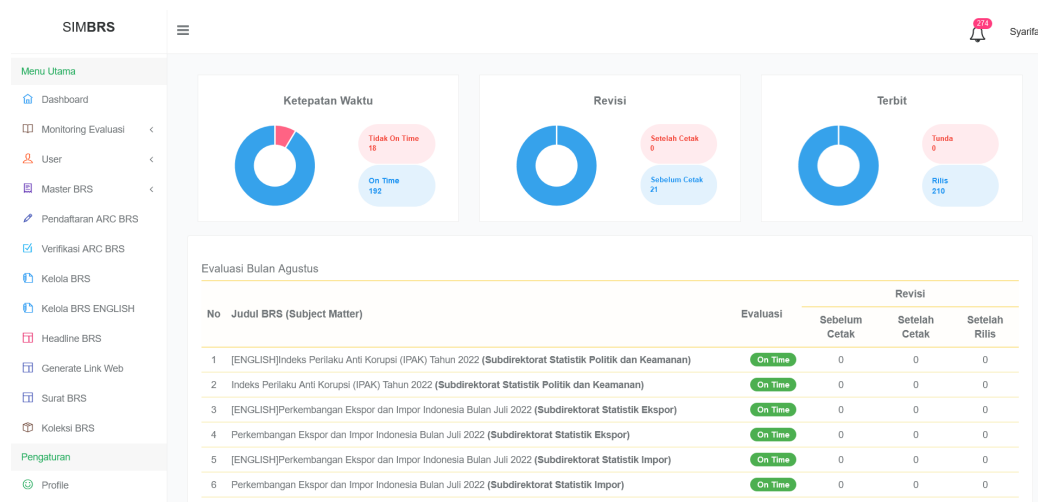


Figure 8. SIMBRS Application Dashboard

SIMBRS allows the teams to work remotely while staying within the safe network using Virtual Private Network (VPN). This feature was highlighted during the pandemic lockdown, and mobilisation was limited. Mobile notification is also available to ensure that every member is aware of the work progress despite being unable to access the computer. Senior statisticians and team leaders may also approve the final manuscript to be printed or deny the manuscript to be revised before publishing.

Result

1. Success Measurements of Statistical Yearbook of Indonesia in Infographics

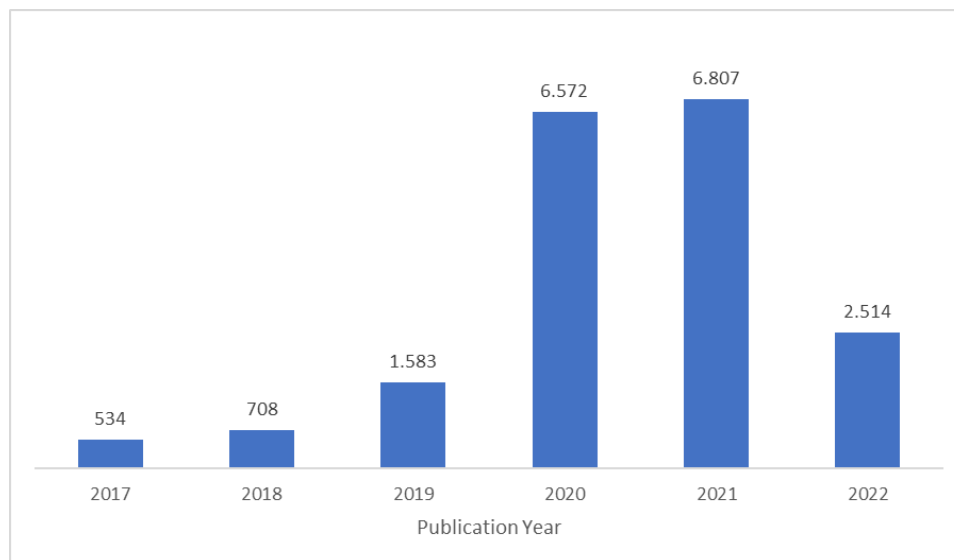


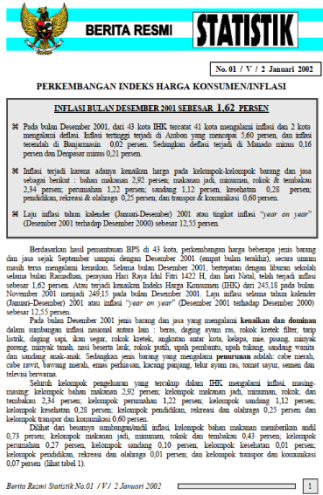
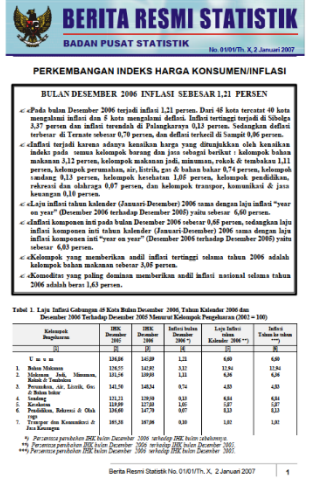
Figure 9. The Download Number of Statistical Yearbook of Indonesia in Infographic, 2017-2022

The Statistical Yearbook of Indonesia in Infographic was first published in 2017. At the beginning of the publication, only 534 users downloaded the publication. Along with the increasing promotions carried out by BPS for this publication and the growing recognition of infographics among the public, the number of users who download the publication is increasing. In 2020 the number of users who downloaded the Statistical Yearbook of Indonesia in Infographic increased four times compared to 2019.

2. Success Measurements of Official Statistics News (OSN)

As explained above, SIMBRS has been used since 2019 and has been proven to assist the monitoring and management of OSN manuscript work, from ARC registration to the printing and release process. The construction of SIMBRS was deemed the right step because, during the Covid-19 pandemic, users of this system were quite familiar with its features, so even in the WFH situation, the OSN preparation continued smoothly without any significant problems.

Table 1. OSN Throughout the Years

OSN Design	Application Period	Description
	<p>2002-2006</p>	<ul style="list-style-type: none"> • Simple design and looks stiff • No infographics yet
	<p>2007-Oktober 2017</p>	<ul style="list-style-type: none"> • Better design but still looks stiff • Separate infographic with the script

OSN Design	Application Period	Description
	<p>November 2017-September 2021</p>	<ul style="list-style-type: none"> • Better design and not look stiff • In the early period, infographics were still separate from the script, but over time they became one with the script
	<p>Oktober 2021-now</p>	<ul style="list-style-type: none"> • More modern design • There is a QRCode • The infographic is at the end of the script • Also available in English

Table 2. Differences Before and After SIMBRS Implementation

No	Before	After
<p>1</p>	<p>There is still a possibility of data leakage due to:</p> <ul style="list-style-type: none"> • Manuscripts are sent using email where one of them is from and to the function so that it can be accessed by anyone, including people who are not on duty • Access to email is not via a private VPN network • Process monitoring is still manual 	<p>Security is more awake because:</p> <ul style="list-style-type: none"> • Manuscripts are stored in the SIMBRS database with limited access to individuals who are on duty only • SIMBRS access must be via VPN • Every action taken by the user is recorded in the form of a log so that it can

No	Before	After
		be tracked if something unexpected happens
2	Monitoring the preparation process is still conventional by telephone or chat, so it is prone to data leakage and difficulty controlling time.	SIMBRS records every process of preparing OSN
3	Notification via email	Notification via email and WhatsApp
4	The compilation must be done in an office environment	Collection can be done anywhere. This is very helpful during this Covid-19 Pandemic.
5	Storage of draft silo manuscripts (in each subject matter that composes BRS)	Centralised storage of draft manuscripts stored in the SIMBRS database
6	Evaluation of acceptance and submission of manuscripts is still conventional.	Automatic and real-time evaluation

Conclusion

BPS' efforts to improve services to users in terms of variations in the form of publicity are pretty successful. It can be seen from SI infographics which are increasingly being liked by the public, as evidenced by the increasing trend of downloading publications. Meanwhile, adding an English version to OSN also received a pretty good response from data users. In addition to exterior improvements, BPS internal improvements produced OSN through SIMBRS so that the OSN preparation continued smoothly without any significant problems.

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