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STRENGTHENING THE NATIONAL MANAGEMENT INFORMATION SYSTEM (SIMNAS) IN SUPPORTING THE ACCELERATION OF INDONESIAN NATIONAL DEVELOPMENT

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ABCTRACT

The National Management Information System (Simnas) to support the acceleration of national development in Indonesia is important and urgent, especially in the digital era where the transformation carried out has not achieved the expected results; as a result of various factors both domestic and foreign. Obstacles and challenges are very dynamic. The current condition of Simnas is inadequate in relation to ideal hopes for the future, where electricity and internet network infrastructure support cannot yet be enjoyed by the entire population.

This research design is descriptive to describe the phenomenon of the research variables, namely strengthening the National Management Information System and accelerating Indonesia's national development; with a national resilience approach which aims to find and describe obstacles and challenges in strengthening the National Management Information System (Simnas) to support the acceleration of national development; and efforts to overcome them.

The method used in this research is a qualitative descriptive method to describe the phenomenon of the research variables, namely strengthening the National Management Information System and accelerating Indonesia's national development; with a national resilience approach. From the discussion it was concluded that the National Management Information System needs to be strengthened to support the Acceleration of Indonesia's National Development. Existing obstacles include: a) the absence of regulations and policies that support the integration of data from various government agencies and data privacy; b) Institutions are not yet optimal, causing coordination

between agencies to be less focused and a lack of monitoring mechanisms; c) unpreparedness of digital infrastructure and Talent Human Resources to support Simnas accessibility; and the available budget is also inadequate, thus hampering the development and maintenance of Simnas.

The efforts made to strengthen support for the acceleration of Indonesia's national development are: a) Synchronization of laws and regulations; b) Professional institutional arrangement and development; c) Accelerate the development of digital infrastructure to make it more adequate so that public services can be improved; administrative processes become more efficient; the government can be more responsive to community needs, increase productivity and national competitiveness; d) Preparing Digital Talent Human Resources, and preparing an adequate budget.

Key Words : National Management Information System, Digital Indonesia, Talent HR

1. INTRODUCTION

Advances in Information and Telecommunications Technology (ICT) in the era of Industry 4.0 and Society 5.0 have changed almost all aspects of human life, giving rise to disruption, in addition to benefits such as ease of service, increased productivity, effectiveness and efficiency of time, energy, costs and levels of accuracy. target achievement. So adequate literacy is needed so that it can provide added value to human life; and ensure that no one is left behind and becomes a victim of scientific and technological progress. Moreover, Indonesia's territory is very large with the population scattered across various large and small islands which are geographically separated by rivers and seas. Connectivity and digital equality are issues that must be prioritized for resolution. Until now there are still around 3,000 villages that do not have an electricity network and there are around 11,000 villages that are not connected to the internet.[1] Their condition is pitch black and they are lagging behind progress in other areas.

The results of the 2022 survey conducted by the United Nations (UN) on 193 countries, Indonesia is ranked 77th, with a score of 0.7160 in the *High E-Government Development Index* or EGDI group. Indonesia's achievements are also not yet competitive in Southeast Asia. Indonesia

[1] https://lombokpost.jawapos.com/nasional/1502775967/tiga-ribu-desa-di-indonesia-tanpa-listrik-11-ribu-tak-ada-internet

is ranked 5th after Singapore, Malaysia, Thailand and Brunei Darussalam.[2] Indonesia's Digital Architecture also still depends on foreign investors, where up to now the national level does not have a National Digital Data Center. This requires acceleration regarding aspects of regulations, institutions, human resources, talent, use of technology and budget so that national development achieves progress in accordance with the national goals contained in the Preamble to the 1945 Constitution of the Republic of Indonesia; also in order to prepare the Golden Indonesian Generation in 2045. This is a crucial challenge in realizing a national management information system (Simnas), especially in the digital era. Apart from that, the pace of e-government development in Indonesia is still relatively stagnant and tends to be slow.[3] The indicators used to measure digital government capacity are Information and Communication Technology (ICT) in various public service activities.

The current condition of Simnas is inadequate in relation to ideal hopes for the future, where electricity and internet network infrastructure support cannot yet be enjoyed by the entire population. Efforts are needed to strengthen the National Management Information System in Supporting the Acceleration of Indonesian National Development, to answer the problems: a) What obstacles are faced in building and developing National Simnas in supporting national development?; and b) Efforts made to strengthen support for the acceleration of Indonesia's national development?

2. THEORETICAL REVIEW.

A management information system is a system that provides information to support management operations and decision making in an organization/institution/company in order to achieve predetermined goals quickly, effectively, and efficiently.[4] In the era of advances in information technology, known as the digital era, no organization/institution/company can survive and grow without having a management information system that is planned, designed and managed appropriately and continuously so that it is able to compete in the environment. increasingly competitive business. According to Goyal (2003), a system is a set of elements

[2] https://databoks.katadata.co.id/datapublish/2022/10/05/sistem-e-government-indonesia-peringkat-ke-5-di-asia-tenggara (diakses tanggal 22 Agustus 2023, Jam 19.00)
[3] Kominfo, 9 Oktober 2020, Hasil Survei PBB, *e-Government* Indonesia Naik Peringkat, tersedia di https://www.kominfo.go.id/content/detail/30024/hasil-survei-pbb-e-government-indonesia-naik-peringkat/0/artikel, diakses 17 Juni 2023.
[4] https://finance.detik.com/solusiukm/d-6357336/sistem-informasi-manajemen-pengertian-fungsi-dan-karakteristik

that work together and depend on each other to achieve a goal. Meanwhile, information in a Management Information System is data or information that meets certain criteria in accordance with what is needed by managers in order to make organizational/institutional decisions. And, according to Koontz in Goyal (2003), management is the art of getting or achieving things done through and with other people in formally organized groups ("*Management is the art of getting things done through and with the other people informally organized groups*"). Furthermore, it is explained that managerial functions in organizations can be divided into several basic functions as follows. a) Planning. b) Organizing. c) Employee Placement (Staffing). d) Directing, and e) Controlling.

A good management information system has very important benefits, such as providing information to be used in calculating the cost of products (COGS), services, and so on. Providing information that can be used to control, evaluate and make continuous improvements that are useful in decision making by leaders of organizations/agencies/institutions and companies. Currently, the SPBE predicate is at a sufficient level of 44.10 percent or 228 IPPD (Central/Regional Government Agencies) out of a total of 517 IPPD. The national SPBE index in 2021 is 2.24.[5] The government has officially launched the Satu Data Indonesia (SDI) portal as an effort to produce appropriate policies based on valid and accurate data. SDI is a government data management policy that aims to create quality data that is easy to access and can be shared between central and regional agencies so that it is valid, credible, accurate, up-to-date and easy to synchronize. The launch of SDI is also in line with the focus of thematic bureaucratic reform, especially the digitalization of government administration, as stated in Presidential Regulation no. 39/2019 concerning One Indonesian Data.[6]

In the context of Simnas, the National Data Center is the technological foundation that supports Simnas in achieving its goal as a reliable and data-oriented decision making tool to support the acceleration of national development. According to Law No. 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions (ITE), Article 1 Paragraph (3) in this Law confirms that Information Technology is a technique for collecting, preparing, storing, processing, announcing, analyze, and/or disseminate information. The various activities mentioned are basically closely related to the National Simnas which will later be used in government management so they need to be understood well in order to be able to support achieving national development.

Article 3 of Law Number 36 of 1999 concerning Telecommunications explains that telecommunications is intended to support increasing the welfare and prosperity of the

[5] Wantiknas, 13 Juli 2022, Upaya Digitalisasi Layanan Publik dalam Sektor Pemerintahan, tersedia di https://www.wantiknas.go.id/id/berita/upaya-digitalisasi-layanan-publik-dalam-sektor-pemerintahan, diakses tanggal 18 Agustus 2023.

[6] Kominfo, 23 Desember 2022, Pemerintah Luncurkan Portal Satu Data Indonesia, tersedia di https://www.kominfo.go.id/content/detail/46520/pemerintah-luncurkan-portal-satu-data-indonesia/0/berita, diakses pada 18 Agustus 2023.

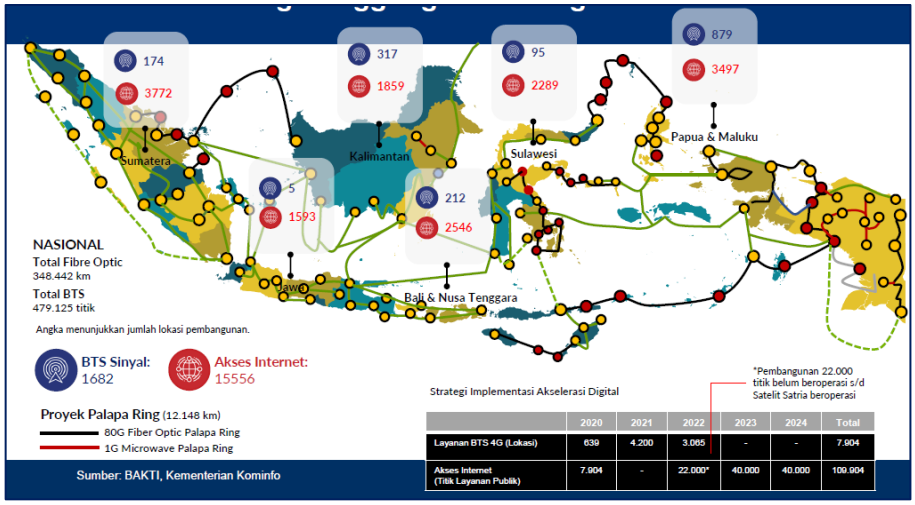
people, government and improving relations between nations. Then in article 4 paragraph 1 it is emphasized that telecommunications is controlled by the state and the government carries out its guidance. In this way, the government has the authority to build a good national system according to needs. Therefore, Simnas as an information system needs to be managed well so that it is able to provide benefits for the sustainability of the country as expected. Article 1 paragraph (1) of Presidential Decree Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE) emphasizes that SPBE is a form of government management that utilizes ICT for users. For this reason, a good framework is needed to ensure the implementation of SPBE in an integrated manner so that it is able to support government governance. One of the important elements in information-based management is Simnas, which is very possible to be implemented so that government management becomes more effective and efficient.

Article 1 paragraph (1) of Law Number 39 of 2019 concerning One Indonesian Data explains that one Indonesian data is a government governance policy that produces accurate, integrated and accountable data so that it can be used properly. In the context of Simnas, the existence of data is crucial because it can be used within the government sphere so that it can support national development. Article 1 paragraph (2) of Presidential Decree Number 132 of 2022 concerning National Electronic-Based Government System Architecture emphasizes that the SPBE Architecture is a basic framework that describes the combination of data and information so as to produce integrated SPBE services. By developing the SPBE architecture, it can be applied nationally, which supports Simnas as an important element in national data management. In general, the SPBE architecture consists of National SPBE, Central Agencies and Regional Government (see attachment to Presidential Decree No. 132 of 2022) which aims to provide guidance in building SPBE data and information, applications, infrastructure and security so that it is able to provide integrated government services nationally.

In order to support the acceleration of national development, comprehensive and sustainable digital transformation is needed, which is developed, among other things, in the National Simnas. Digital transformation requires flexibility and the ability to adapt to rapid technological changes, which can be difficult within a rigid organizational structure. Lack of access to technology resources and quality human resources also causes delays in the digital transformation process. Unpreparedness of rules and regulations that support digital transformation is an obstacle. Regulations that are too rigid or inadequate in dealing with technological developments and the need for digital transformation can become an obstacle for institutions to adopt new technology quickly.

The E-Government Digital Index (EGDI) is a combination of 3 indicators, namely *the Telecommunications Infrastructure Index* (TII), *Human Capital Index* (HCI), and *Online Service*

Index (OSI).[7] *The Telecommunications Infrastructure Index (TII)* aims to measure the availability of e-government supporting infrastructure. *The Human Capital Index (HCI)* aims to measure aspects related to the level of public education in a country. *The Online Service Index (OSI)* aims to measure the national presence of each country through the official website of the government agency in the country concerned. *The E-Participation Index (EPI)* is an additional index that aims to measure the level of citizen participation in a country through *e-government.* This index is not included in the EGDI measurement component.[8]



Source: Kominfo (2023)

Figure 01. Condition of Internet Access Infrastructure in Indonesia

It is necessary to strengthen various aspects ranging from regulations, institutions, human resources, technology, budget and leadership so that it provides maximum benefits for the interests of the people, nation and state. Among other things, using strategies as an effort to utilize natural, human and artificial resources. According to David (2011), strategy has 3 (three) process stages, namely: a) Strategy formulation which includes developing a vision and mission, identifying internal and external conditions, as well as selecting strategies to be used, especially in relation to strengthening Simnas in supporting the acceleration of national development; b) Strategy implementation, where decisions are required from the authorities taking into account existing aspects so that the strategy can be implemented as

[7] Fisipol UGM, 13 Maret 2022, Capaian Peluang dan Tantangan Implementasi E-Goverment di Indonesia, tersedia di https://cfds.fisipol.ugm.ac.id/wp-content/uploads/sites/1423/2021/01/15-CfDS-Case-Study-Capaian-Peluang-dan-Tantangan-Implementasi-e-Government-di-Indonesia.pdf, diakses tanggal 17 Agustus 2023.
[8] *Ibid*.

well as possible; and c) Strategy evaluation as an effort to ensure that the strategy that has been determined can be implemented as well as to determine the effectiveness of the strategy implemented so that measurable steps can be taken to improve or increase the efforts that have been implemented, especially in the development of Simnas in supporting the acceleration of national development.

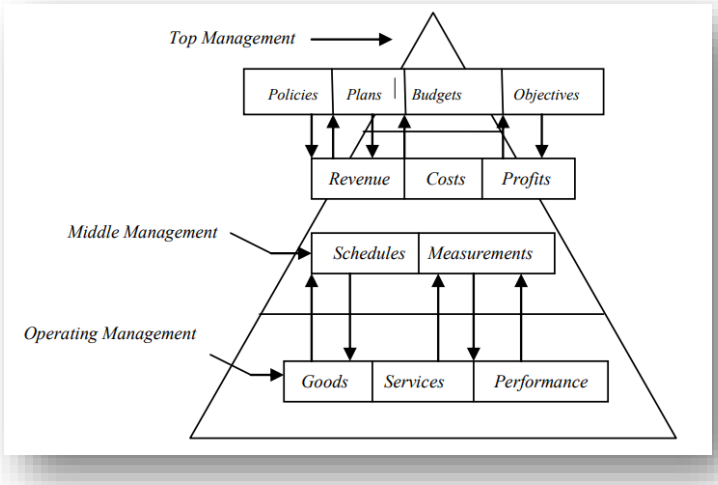
Indonesia's condition in digital transformation needs to make leaps so that national digitalization changes quickly and to create new value, increase efficiency and change existing ways of working. This concept involves the widespread adoption of digital technologies, such as cloud computing, artificial intelligence, data analytics, *Internet of Things* (IoT), and automation. Digital Transformation not only includes the use of digital technology, but also involves changes in culture, business processes, business models and interactions with customers. The goal is to change the way organizations operate, innovate and provide added value to customers. In Digital Transformation, organizations seek to utilize digital technology to increase productivity, efficiency and service quality. This can involve the adoption of digital solutions, such *as e-commerce*, *big data analytics, artificial intelligence* for predictive analysis, implementation of technology-based supply chain management systems, and more.[9]

Digital leaps must be carried out within the framework of strengthening national resilience, where the concept of national resilience refers to a country's ability to defend itself from various threats and disturbances both from within and outside the country, and at the same time maintain security, stability and survival. its people.[10] The concept of national resilience covers various aspects such as political, economic, social, cultural, military, technological and environmental. The digital world is developing very quickly, so that in just 20 (twenty) years, around 60% (sixty percent) of the world's population has been connected to the digital world.[11] At a global level, it is known that every minute around 500 (five hundred) thousand cyber attacks occur throughout the world.[12] As stated by the *Country Lead of*

[9] George Westerman. (2014). *Leading digital: Turning technology into business transformation*. Harvard Business Press, h.44.
[10] M. Bambang Pranowo. (2010). Multidimensi Ketahanan Nasional. Jakarta: Pustaka Alvabet, h.21.
[11] Tim Pokja, Bahan Ajar Bidang Studi Hubungan Internasional. (2022). Jakarta: Lemhannas, h, 97.
[12] *Ibid*.

Microsoft's Azure Business Group, cybercrime has now become a national security issue where cybercrime targets critical posts in a country, such as the health sector to the financial institutions sector. No sector is untouched by cyber attacks.[13] Apart from that, cyber espionage is also something to worry about. Based on a Microsoft report in October 2021, globally cyber espionage targets currently cover various sectors, namely: a) the government sector; b) Non-Governmental Organizations (NGOs) and research institutions; c) Education sector; d) Environmental organization sector; e) Information and Technology (IT) Sector; f) Media sector; g) Health sector; h) Energy sector; and other sectors. In this context, the national strategic environment requires strengthening of geography, demography, natural resources, ideology, politics, economics, socio-culture as well as defense and security.

The interrelationship of the three levels of management is very important in order to achieve organizational/institutional goals



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Source: Goyal. 2003. Management Information System: Managerial Perspective: New Delhi: Macmillan India Ltd.

Figure 02: Interaction between Three Management Levels

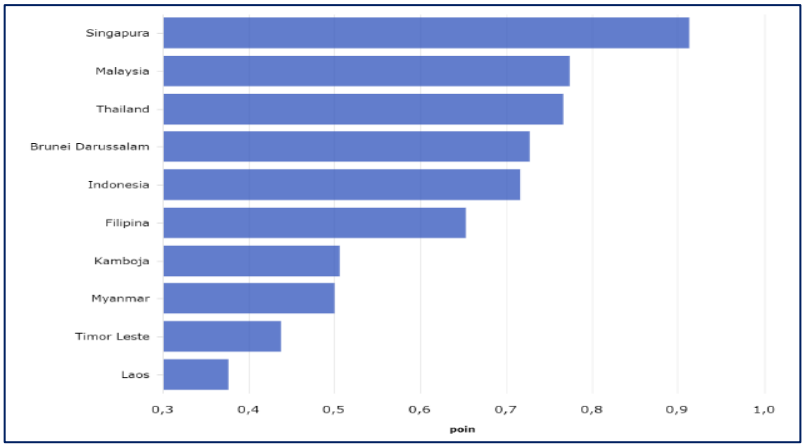
[13] Leo Dwi Jatmiko, 24 Desember 2021, "Waduh! Microsoft: Serangan Siber, Lahan Bisnis Baru buat Peretas", tersedia di https://teknologi.bisnis.com/read/20211124/84/1470012/waduh-microsoft-serangan-siber-lahan-bisnis-baru-buat-peretas, diakses pada 18 Juli 2023.

3. RESEARCH METHOD

The method used in this research is a qualitative descriptive method[14] to describe the phenomenon of the research variables, namely strengthening the National Management Information System and accelerating Indonesia's national development; with a national resilience perspective approach. Qualitative descriptive research is research that collects information about the status of existing symptoms, namely the state of the symptoms according to what they were at the time the research was conducted (Arikunto,2005).

4. RESULTS AND DISCUSSION.

Indonesia's E-Government Development Index (EGDI) is ranked 88th with a score of 0.6612 as per the results of a survey conducted by the United Nations. The indicators used to measure digital government capacity in EGDI are the *Telecommunications Infrastructure Index (TII), Human Capital Index (HCI),* and *Online Service Index (OSI).* Meanwhile, the evaluation results of the Ministry of PAN and RB show that the implementation of the *Electronic Based Government System (SPBE)* is at a sufficient level with a figure of 44.10 percent or as many as 228 IPPD (Central/Regional Government Agencies (IPPD) out of a total of 517 IPPD.

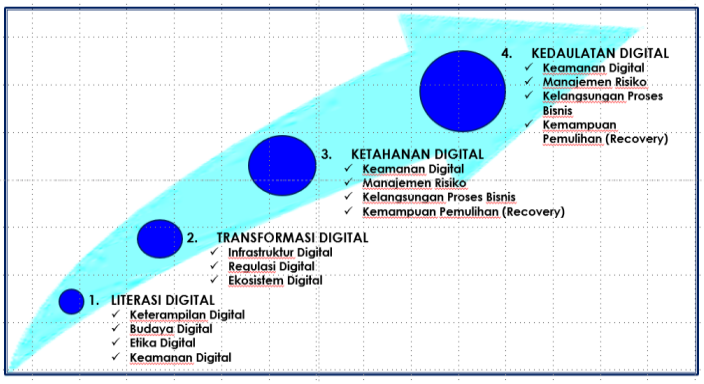


[14] Arikunto, Suharsimi 2011, Prosedur Penelitian : Suatu Pendekatan Praktik, Edisi Ed.Rev.VI.Cet.1, Jakarta, Rineka Cipta.

Source: United Nations (UN), 2022

Figure 03: Highest E-Government Development Index (EGDI) in ASEAN (2022)

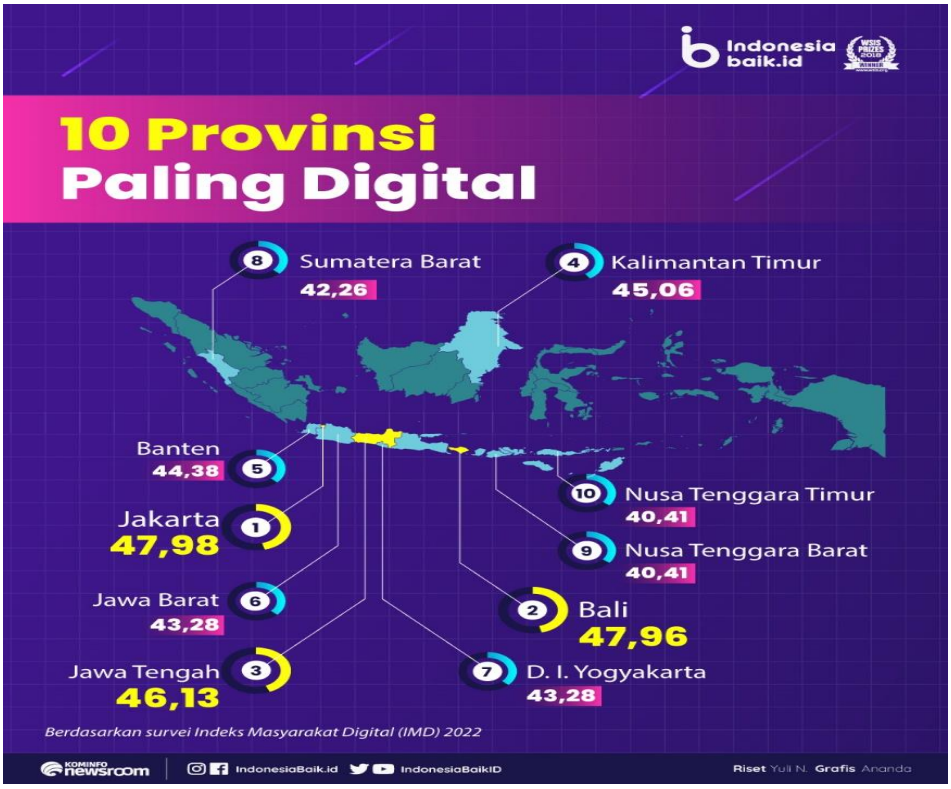
National digital development phase, where currently Indonesia is at the digital transformation stage, namely switching from analog technology to digital technology. Indonesia's Community Literacy Development Index (IPLM) in 2023 will be 69.42. Then, reading literacy with a score of 359 is ranked 70th out of 80 countries surveyed, still below ASEAN countries such as Brunei Darussalam (score 429, ranked 60th), Malaysia (scored 388, ranked 60th), and Thailand (scored 379, ranked 63rd).



Source: Author's analysis results (2023)

Figure 04: Digital Development Phases

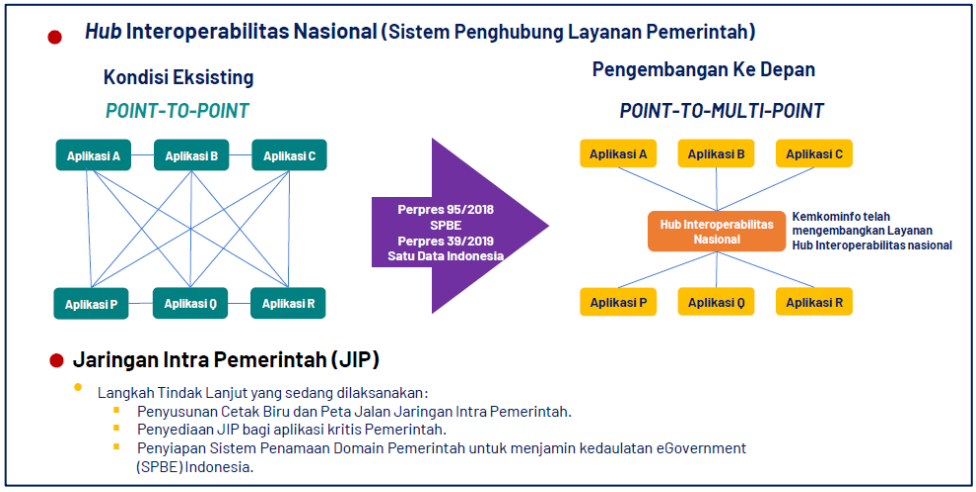
In 2021, Kominfo conducted a survey to measure Digital Literacy. In 2020, the results showed that digital literacy increased from 3.46 to 3.49.



Source: Kominfo (2022)

Figure 05: Ten Most Digital Provinces in Indonesia

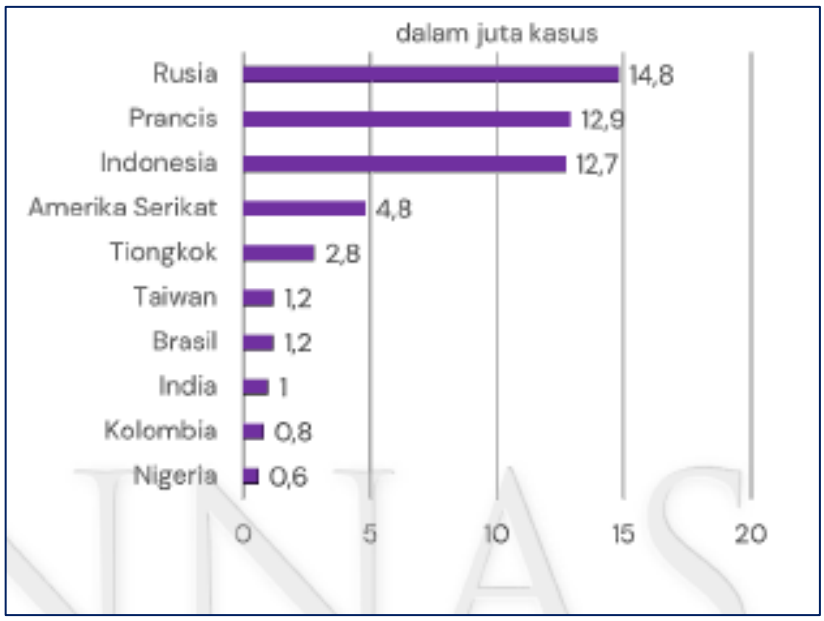
The following is the Government Service Liaison System linked to current and future point to point :



Source: Exposure of the Directorate of Digital Economy, Kominfo (2023)

Figure 06: Provision of National Interoperability Hub and Intra-Government Network (JIP)

On the other hand, data misuse and leaks also occur due to weak regulations and law enforcement.



Source: Kata Data (2023) in Andi Widjajanto's Presentation on Cyber Geopolitics (2023)

Figure 07: Countries with the Most Data Leak Cases (2022)

Analysis of the obstacles faced is that there are no regulations and policies that support the realization of data integration from various government agencies and data privacy. Institutions that are still not optimal cause coordination between agencies to be less focused and there is a lack of monitoring mechanisms. Then, there is the unpreparedness of digital infrastructure and Talent Human Resources that support Simnas accessibility. The available budget is also inadequate, thus hampering the development and maintenance of Simnas.

Efforts made to overcome the obstacles mentioned above include: a) synchronization of laws and regulations; b) professional institutional development; c) accelerate the development of digital infrastructure to make it more adequate so that public services can be improved; administrative processes become more efficient; the government can be more

responsive to community needs, increase productivity and national competitiveness; d) preparing Digital Talent HR, and preparing an adequate budget.

5. CONCLUSIONS AND RECOMMENDATIONS.

From the discussion above, it can be concluded that the National Management Information System needs to be strengthened to support the Acceleration of Indonesian National Development, where the obstacles include: a) the absence of regulations and policies that support the realization of data integration from various government agencies and data privacy; b) Institutions are not yet optimal, causing coordination between agencies to be less focused and a lack of monitoring mechanisms; c) unpreparedness of digital infrastructure and Talent Human Resources to support Simnas accessibility; and, d) The available budget is also inadequate, thus hampering the development and maintenance of National Simnas.

The efforts made to strengthen support for the acceleration of Indonesia's national development are: a) Synchronization of laws and regulations; b) Professional institutional arrangement and development; c) Accelerate the development of digital infrastructure to make it more adequate so that public services can be improved; administrative processes become more efficient; the government can be more responsive to community needs, increase productivity and national competitiveness; d) Preparing Digital Talent Human Resources, and preparing adequate budget support.

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