# The Improvement of Digital Literacy to Secure Data and Privacy

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**Abstract.** Indonesian Society are the highest internet and media social users in the world but this is not comparable to the quality of digital literacy skills. Therefore, this makes Indonesian society quite vulnerable to exposure to hoaxes and disinformation, involvement in cyberbullying, being the target of fraud in cyberspace, and prone to the theft of personal data. The Law on Personal Data Protection, which is a state guarantee to the protection of personal data, human rights, and privacy, is not effective enough to prevent cybercrime and personal data leakage. Moreover, the government has not yet prepared derivative regulations for the Law on Personal Data Protection and the Personal Data Protection Institution. Awareness of protecting personal data must start with every individual. Because the most important thiHu Bung in fighting cybercrime must start with the digital technology users themselves. For this reason, digital literacy programs in Indonesia must be improved by the government in collaboration with experts, academics, industrialists, religious figures, cultural figures. And community participation. Besides that, digital literacy must be introduced from an early age, starting with basic education, so that digital technology users can analyze the truth of information and be aware of personal data protection and digital security. Apart from that, the government must also commit to eliminating gaps in internet access between regions so that digital literacy is evenly distributed throughout Indonesia.

**Keywords:** Digital Literacy, Data, Privacy.

## 1 Introduction

Information and communication technology (ICT) has provided convenience and progress in human life, causing the world to become borderless and changes in the economic and social order, such as online trading and shifts in society's social values, to tend to give rise to individualistic personalities. This includes opening up big opportunities for cybercrime, such as data theft, manipulation, hacking, hate speech, fraud, spreading fake news, and radicalism. Therefore, besides the need for regulations to take action against perpetrators of cybercrime, policies and the ability of every computer or smartphone user to control the information they obtain from the internet are also needed.

Data from several surveys conducted by the government, Kompas Research and Development, Microsoft, and We Are Social show if the majority of the Indonesian population is a connoisseur of social media and the internet, but it is inversely proportional to the interest in

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digital literacy.[1] Apart from that, it turns out that awareness of personal data protection and digital civilization among Indonesian people is also low. Data also shows that cybercrime in Indonesia is high, with hacking and data theft even occurring in the DPR RI, Police, Attorney General's Office, and Ministries. Communication and Information, BNPB, and banking.

Indonesia has regulations regarding the implementation of ICT, one of which is Law Number 27 of the 2022 year concerning Personal Data Protection ("The PDP Law"), which is a guarantee from the state to protect and provide legal certainty regarding the protection of personal data and privacy. However, the implementation of the PDP Law must be accompanied by digital literacy. Apart from strengthening the regulations, the government must also continue to increase digital literacy among the Indonesian Society. Digital literacy must be introduced from an early age through basic education because this is not only the ability to operate smartphones, laptops, and the internet. In practical terms, digital literacy is described as the activeness of individuals to apply technology in searching, shaping, and evaluating and communicating the distribution of information. For this reason, Indonesian society must increase their digital literacy so that Indonesian society is aware of the importance of protecting and securing personal data. Prevention and eradication of cybercrime must start from the digital technology users themselves.

## 2 Research Method

The qualitative approach used in this journal research is the descriptive method. By choosing this method, it is hoped that it can answer research questions related to the condition of digital literacy in society and increase digital literacy in Indonesia to prevent cybercrime and digital security. Secondary research was conducted based on data collected from government surveys, Kompas Research and Development, Microsoft, journals and literature related to internet users, social media, cybercrime and digital literacy. Data is collected according to the writing topic, combined, compared, analyzed using qualitative data analysis, and concluded.

## 3 Results and Discussion

### 3.1 Information Technology and Communication (ICT)

The development of information and communication technology (ICT) has existed from prehistoric times to modern times. At this time, everyone cannot be separated from the use of ICT. The abacus was used by the Egyptians and Sumerians around 500 BC. Before the first mechanical calculator was invented in Europe around the beginning of the 17th century, people had used the abacus as a tool for around 3,600 years. Additionally, the first automatic computing machine, the Difference Engine, was designed and developed by Charles Babbage in 1822. The first electric computer was used routinely in 1939. The first email was used and sent in 1971. The first graphical user interface, keyboard, and computer mouse came out in 1973. The first affordable home computer appeared in 1975. The creation of the global internet began in 1983. The World Wide Web (WWW) application began in 1994 and eventually evolved into a social network.

Furthermore, the development ICT has united the world in an inseparable international political and economic order and has also changed people's lifestyles. At present, ICT is an applicable technology in the fields of education, banking, health, trade, and transportation. The application of e-learning in the educational environment makes education digitally integrated. Managing and obtaining information on patient history and medical records using smart cards, medical support equipment such as CT scans or MRIs in health services, as well as the automatic pilot feature on aircraft controlled by computer programs, are some of the advanced technologies.[2] The renewal of fuel in electric-powered cars is proof of the application of information technology in the fields of health and transportation. The emergence of electronic shopping platforms such as Amazon, Alibaba.com, Gojek, Grab, Uber, Agoda, Traveloka, and Airbnp has also caused goods delivery services to experience more difficulties. Updated direct tracking features, automatic data collection, and relatively short delivery times. Including payment tools with digital money and internet banking. Customers do not need to come directly to the bank to make transactions. With just a smartphone, customers can make transactions safely without time or location restrictions.

However, the development of ICT also has an impact on the social order of society. There is a tendency to decrease the quality of communication between people. Nowadays, people prefer to communicate online rather than face-to-face, so individualistic traits emerge. Open access to social networks makes moral boundaries grey. Almost all content available on the internet can be accessed by anyone, regardless of age. Pornography, violence, anti-social movements, and various other negative characters haunt internet users. The crime not only occurs in real life but also occurs in virtual spaces. Such as credit card theft, online fraud, and fraudulent investments. These crimes do not only originate within the country but also across countries, resulting in huge losses and difficulties in proving them in the eyes of the law. Other cybercrime threats take the form of viruses, worms, keyloggers, trojans, and spyware (malware), which can break into and damage computer operating systems. ICT can improve human civilization, but on the other hand, there is misuse for certain purposes, which is detrimental to the interests of many people and the country.

### 3.2 The Use and Impact of ICT

Datareportal.com, which is the source of the 2023 digital report, explained that the percentage of internet connoisseurs in Indonesia is increasing and is predicted to continue to accelerate

until it reaches 215 million social media and digital technology connoisseurs in 2023. Another thing shows that internet connoisseurs from these sources also explained that in the past decade, there has been an increase in online buying and selling media connoisseurs and social media.[3] According to Hootsuite (We Are Social), The 2023 span of the population is estimated to be 276.4 million. However, the number of connected electronic devices is 353.8 million (128% of the total population). In addition, 212.9 million internet connoisseurs account for 77% of the total population and active social media connoisseurs of 167 million people, which is 60.4% of the total population.

The average daily time for internet use is 7 hours, 42 minutes, with the reason of finding information being as much as 83.2%. Meanwhile, WhatsApp users in Indonesia are 92.1%, Instagram is 86.5%, Facebook is 83.8%, and TikTok is 70.8% of the total population. The average daily time spent by social media users is around 3 hours, 18 minutes.[4] However, The distribution of data states that the Indonesian population is a relatively high connoisseur of social media and the internet, which is inversely proportional to the interest in digital literacy. This picture is in line with Compas' R&D research in the last year of January 2022. Based on research conducted with respondents, as many as 1,014 in 34 provinces, around 50% of respondents are suspected of not realizing the urgency of protecting personal data security when enjoying online or digital devices.

There is a percentage of 46.5% of respondents regarding data security when submitting personal data completeness in a digital application or electronic system. Then, the other percentage is 36.2 per cent of the scheme. The majority of respondents, 59 percent, have never identified digital security in the security of applications on mobile phones. In addition, a total of 67.9 percent have never changed their security PIN regularly. That way, understanding the importance of personal data is crucial in protecting against widespread risks. The form of loss due to this lack of understanding can be seen from psychological to financial losses.[5] The main step in protecting personal data starts from internet and social media users. Low awareness among social media and internet connoisseurs will have implications for cybercrime or continuous data leakage.

Sourced from the 2020 Digital Civility Index data, Indonesia Microsoft occupies the 29th place with a score of 76, where the score increases, but decreases in digital civilization. There are two most relevant risk influences related to the civilization of the Indonesian population in the digital realm, namely: (1) the risk of threatening unknown contacts; and (2) abusive treatment arising from unexpected behavior from other social media or internet users. Both representations cause an increase in crime rates in the digital era.[6] As stated by the Ministry of Information and Communication (PUMN), it is explained that the spread of hoaxes is increasing up to 10 times towards the 2024 general election period. From early January to October 26, 2023, a total of 98 hoaxes were found to be spread over the past year. The distribution is a form of information distraction that is not limited to the low quality of democracy but also has a bad effect on the mental health of the Indonesian population, thus opening up opportunities for division between communities.[7]

Personal data protection must start from social media and internet connoisseurs themselves. The low quality of awareness of individual internet and social media connoisseurs in order to protect their personal data will cause the spread of data that triggers cybercrime in an ongoing manner.

The National Cyber and Crypto Agency (BSSN) recorded that there were more than 888.7 million cases of cyberattacks that occurred from January until August 2021. At the end of 2021, the number increased to 1.6 billion cyberattacks. BSSN also reported that 5,574 hacking cases occurred throughout 2021. Apart from that, cybercrime cases that have occurred in Indonesia include the theft of Indonesian Sharia Bank data in May 2023; Bjorka, the perpetrator of the attack, theft SIM card registration data at the Ministry of Information and Communications; Theft of national police data Hackers claimed to have stolen 28,000 logins and personal data from National Police members; Hacking of the Attorney General's website. In 2020, the DPR RI website was hit by a Distributed Denial-of-Service (DdoS) attack, which was characterized by soaring traffic that crowded the server. BNPB YouTube Channel Hacking; BRI Life Insurance Data Leak; Citilink and Tiket.com website attacks in October 2022.[8]

The National Cyber Security Index (NCSI) report notes that in 2022, Indonesia's cyber security index score will be 38.96 points out of 100. This score places Indonesia in the 3rd lowest ranking among G20 countries. Meanwhile, globally, Indonesia is ranked 83rd out of 160 countries on the list in the report.[9] NCSI carries out assessments based on a number of indicators, namely legal regulations regarding cyber security; whether or not there are government institutions in the field of cyber security; government cooperation regarding cyber security; as well as other public evidence such as official government websites or other related programs. Data are facts in the form of numbers, characters, symbols, images, signs, signals, writing, voices, and sounds that represent the actual situation, which is then used as input to an information system. Meanwhile, information is data resulting from information system processing that is useful for its users. Information technology is a combination of computing (computers) with communication channels in the form of data, voice or video, as stated by Williams and Sawyer (2003).[10]

Before we use the internet, social media, or digital platforms, we must first input personal data, such as name, telephone number, KTP number, email address, etc. The three elements of the digital era are data, computers, and the internet. The most important thing, or essence, regulated in data protection regulations is personal data. However, some people still don't know exactly what is meant by personal data. The definition of personal data is any form of information about a person (data subject) whose data has been identified or can be identified. The classification of personal data according to the European Union data protection regulations (GDPR) means that a person can be identified directly or indirectly using online identifiers such as name, identity number, IP address, or address. If the online identifier provides specific information regarding a person's physical, physiological, mental, genetic, economic, cultural, or social identity, employment, hair colour, or political opinions may be classified as personal data.[11]

What is meant by personal data in the PDP Law is the data of an individual who is identified or can be identified as a person or combined with other information, either directly or indirectly, through electronic systems or non-electronic means.[12] Personal data includes, among other things, health data and information, biometrics, genetics, criminal records, children, personal finances, and/or other data under the provisions of applicable laws and regulations. In general, what is included as personal data is a person's full name, gender, nationality, religion, marital status, and/or combining a person's data information to identify a person.

Almost all interactions between people or people and organizations usually involve the exchange of personal data, such as names, telephone numbers, and addresses. This data may not be enough to identify a person. However, when collected together, they can identify specific people or personally identifiable information (PII). However, data is no longer private when it is made anonymous, so the person can no longer be identified. Data that has been encrypted and deidentified can be used to re-identify a person, which will become personal data. Personal data also has high economic value. Mathematician Clive humbly once said, 'data is the new oil. Like oil, data is very valuable, but if it is not processed, the data cannot be used. Energy must be converted into gases, plastics, chemicals, etc. To create valuable entities that drive profitable activities.[13]

In general, customers of certain products will provide personal data, such as name and email, in order to access various freely available services offered in the form of sites, websites, or applications. This customer data certainly has economic value for producers. With this data, producers can offer their products through the digital activities of potential consumers. Therefore, it is important to keep personal data confidential, and it is best not to share it in the public domain or on digital platforms. Personal data protection must be maximized so that personal data is not easily exploited by cybercriminals. At the present, many crimes are committed via digital platforms using personal data. Misuse of online loan account registration can have an impact on people who feel they have never registered a credit card but suddenly have a credit card bill. Other crimes can include the potential for accounts to be taken over, profiling for political targets or advertising on social media, hacking of service accounts, and even telemarketing purposes.[14] The types of companies that usually use personal data as a promotional tool in cyberspace are those that produce digital content services, such as mark zuckerberg's company with whatsapp, instagram, and facebook content products. Digital content to serve society's social communication relations. The profits obtained by digital content companies by using someone's data constitute a violation of personal data.

### 3.3 Privacy Right

The meaning of privacy is an abstract concept, so it is quite difficult to define. It is greatly influenced by social and cultural factors that develop in society, giving rise to different perceptions between developed and developing countries. As a result, experts in law, politics, sociology, and anthropology provide different definitions depending on their respective perspectives.[15] The concept of privacy was first developed by Warren and Brandeis. Privacy is the right to enjoy life and the right to be alone. Furthermore, in its development, privacy demands legal recognition and protection. Furthermore, in its development, privacy is a concept of protecting the privacy right, which is universal, and various countries make legal and moral regulations regarding the right privacy.

Privacy is a very important basic human right. Because it concerns human authority, which is protected by national, regional, and international law, which has been categorized under human rights regulations. In the initial concept of protection, privacy was called the right to be disturbed by other people, "the right to be alone", so this right recognizes that humans create restrictions and protect against unwanted interference in our lives. Privacy settings will give individuals authority to negotiate with whom and how to interact with the people around them.[16] Regulations that protect privacy emphasize that everyone can confront large imbalances and power imbalances. Privacy helps every person determine who access to a

person's organization, places, communication, and information. Privacy also underlies human dignity and other values such as freedom of association and freedom of speech. It has become one of the most important human rights issues in the modern era.[11]

Personal data protection and the right to privacy have different but related, meanings. The right to privacy is an individual's right to determine whether or not their personal data will be communicated to other parties. Every individual has the right to privacy regarding the personal data they have, namely the right to be able to organize, edit, manage, and delete the personal data they have, as well as determine when, how, and for what purposes the data is used or communicated to other parties.

Regarding privacy rights, it has been regulated in the explanation of Article 26 Paragraph 1 of the ITE Law, which states: "In the use of information technology, the protection of personal data is one part of personal rights (privacy rights)". Personal rights contain the following meaning: a. The right to enjoy a private life and be free from all kinds of interference. B. The right to be able to communicate with others without spying. C. The right to monitor access to information about one's private life and data. The right to privacy can also be identified as a benchmark for individual control over several important matters in his personal life, including his personal information and the confidentiality of his identity from parties who have access to his information. In general, the right to privacy is a person's ability to determine for themselves when, how, and to what extent personal information about themselves is shared or communicated to others. Personal information includes name, address, and telephone number, both online and offline. This is the same as someone wanting to exclude other people from personal contact. As internet usage increases, data privacy also becomes increasingly important. Websites, online applications, and social media platforms always collect and store users' personal data to provide services to users. However, some applications and platforms may exceed user expectations in data collection and use, so user privacy is often ignored. Some applications and digital platforms may not provide data and privacy protection, resulting in violations of personal data and privacy rights that, of course, endanger users. In various countries jurisdictions, privacy is a fundamental human right protected by law. Apart from that, there are also those who argue that privacy is a fundamental human right, such as the right to freedom of speech, opinion, and expression.

### 3.4 Data Privacy and Protection Laws Around the World

The increasing number of ICT users automatically increases the collection of personal data, and cases of personal data breaches also increase. For this reason, 157 countries in the world have passed laws regulating the types of users, collection, and use of personal data, namely, the Privacy Act of 1988 in Australia; Personal Information Protection Act of 2003/APPI in Japan; the Data Privacy Act of 1988, in Philippines; Cybersecurity Act of 2017/CSA, in China and Protection of Personal Information Act of 2014/POPI, in South Africa. In 2018, the European Union's General Data Protection Regulation (GPDR) influenced the formation of personal data protection laws throughout the world, with several variations according to the needs of each country.[17]

Some of the most important privacy regulatory frameworks set out in the GDPR include how personal data can be collected, stored, and processed, as well as providing the right to control data about the person (including the right to erase data). Therefore, Thailand validate the Personal Data Protection Act of 2020/PDPA; Personal Information Protection and Electronic

Document Act of 2000/PIPEDA in Canada; Lei Geral de Protecao de dados of 2020/LGPD in Brazil, Consumer Privacy Act of 2020 (CCPA) in California. Additionally, some countries also have industry specific privacy guidelines;

Privacy rights advocates argue that individuals still do not have sufficient control over what happens to their personal data. For this reason, governments around the world will certainly issue additional data privacy laws to adapt to ICT developments, in the future. The PDP Law classifies personal data into two groups: specific personal data, including health data and information, biometrics, genetics, criminal records, children, personal finances, and/or other data in accordance with statutory regulations, and general personal data, including full name, gender, nationality, religion, marital status, and/or personal data combined to identify an individual. The right to privacy and its protection constitute respect for human rights, so it must be guaranteed by law and receive protection from the state.

The PDP Law is a form of state guarantee for legal certainty and protection of personal data of Indonesian citizens, which is an embodiment of the mandate of Article 28G paragraph (1) of the 1945 Constitution of the Republic of Indonesia, which states, "Everyone has the right to protection of himself, his family, honor, and their honor and dignity, as well as the property they control, as well as the right to a sense of security and protection from the threat of fear, doing or not doing something that is a human right." The PDP Law also guarantees the protection of rights, legal certainty for the community, protects the climate, and creates a good personal data protection ecosystem. This is because protecting one's personal information is part of the right to privacy and human rights protected by law. The concept of state protection implies that every individual has the right to share his or her data and that such actions are protected by the state. Data protection can be a strong driver for realizing freedom of privacy and expression.

The obligations of personal data controllers are regulated in Articles 24, 36, and 39, paragraph 1 of the PDP Law, which contain the obligation to show proof of consent given by the personal data subject when processing personal data; the obligation to maintain the confidentiality of personal data; and the obligation to prevent data from being accessed illegally. Meanwhile, the obligations of personal data processors as intended in Article 51 paragraphs (1) and (5) of the PDP Law include, among other things, the obligation to process personal data based on orders from the personal data controller and the obligation to obtain written approval from the personal data controller before involving other personal data processors. However, unfortunately, this provision cannot yet be implemented optimally because Article 74 of the PDP Law states that when this law comes into force, personal data controllers, personal data processors, and other parties related to the processing of personal data are obliged to comply with it. However, this provision will only come into effect two years after this law is promulgated, namely in October 2024. Apart from that, based on Article 76 of the PDP Law, which states "the law is valid from the date of promulgation," violations of the PDP Law can be subject to criminal sanctions, but these sanctions cannot yet be implemented as long as derivative regulations from the PDP Law are not immediately made by the government, nor should institutions or the commission be formed immediately. Because if the PDP institution is not immediately formed, then violations of the PDP law cannot be punished.

On July 3, 2023, through the ILLC (Institute for Lifelong Learning Conference) held in Badung, Bali, Daniel Baril, by the chairman of the UNESCO board of directors, explained that around 763 million adult people in parts of the world are considered not digitally literate.[18] Indonesia's digital literacy is also still far behind that of other countries; according to data from the 2020 Global World Digital Competitiveness Index, Indonesia is ranked 56th out of 63 countries. The factor causing the low digital literacy of Indonesian society is the lack of a culture of reading and writing from an early age, resulting in a lack of critical thinking skills from an early age. Data from UNESCO shows that Indonesian people's interest in reading is in the "worrying" category, with a percentage of 0.001%. This means that out of 1,000 Indonesians, only one person likes to read. In fact, digital literacy plays an important role in creating a society that has a critical-creative mindset and outlook so that people are not easily fooled by hoax information and misinformation, become involved in cyberbullying, and become targets of fraud in the virtual world. In its development, the meaning of literacy is not only limited to the ability to read or write, especially in an era where ICT has dominated human life throughout the world. For this reason, digital literacy must be socialized to the public in the current digital era. In general, mastering digital literacy means we understand how to utilize information in digital channels.[19]

An ICT observer from the United States, Paul Gilster, was the person who first coined the term digital literacy. He stated that digital literacy is the ability to use information and understand various formats originating from various sources. If presented via a computer or smartphone, digital literacy skills become as important as having a driver's license for motorcycle riders or car drivers.[20] In its development, the term digital literacy was strengthened by UNESCO, which defines it as the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and precisely through digital technology for employment, decent work, and entrepreneurship. This also includes computer, ICT, information, and media literacy.[21] According to Yudha Pradana, the basic principle of digital literacy is that people can understand information presented on the internet as a communication media, both implicitly and explicitly. Furthermore, interaction occurs, giving rise to interdependence and complementarity between one another in presenting information, in which there are social roles and the community's ability to access, understand, and store information, which is then processed into positive messages for the community.[22] Meanwhile, Steve Wheeler stated that there are several important components contained in digital literacy, namely maintaining privacy, managing identification, trans literacy, social networking, creating, organizing, and sharing content, reusing, filtering, and selecting content, and broadcasting independently.[23]

Nowadays, almost everyone has more than one social media account, such as Facebook, Twitter, LinkedIn, Instagram, TikTok, and WhatsApp. It turns out that not everyone is careful when filtering the information spread on social media, even though the information should be filtered first before being distributed. Social media users must have skills in utilizing the features contained in a social media application, for example, the use of LinkedIn by academics to support their relationships with academics around the world. Utilizing the "Shop" feature on the Instagram platform to promote its products. Efforts to utilize various platforms to create content, share it, and communicate it. This component prioritizes the ability to communicate with various social media, discussion groups, or other online services. The most important thing in digital literacy is maintaining privacy and understanding

cybercrime, such as online theft via credit cards (carding), hacking via email, and theft of personal information (phishing).

Social media platform users must know how to manage their digital identity appropriately. Including content creation skills, for example, the PowToon platform, Blogspot, WordPress, and others. Organize and share content for easier distribution to the general public. Furthermore, the ability to search for and filter the right information according to user needs through search engines on the internet This self-broadcasting can be an effort to participate in online social communities and digital literacy activities. Digital literacy is not just the ability to read information on digital media.[24] This is because in digital literacy there are principles, namely the ability to understand information circulating on social media (comprehension), the existence of interdependence between one another (interdependence), the mutual sharing of information and messages with the social media user community (social factors), and the ability to This is because in digital literacy there are principles, namely the ability to understand information circulating on social media (comprehension), the existence of interdependence between one another (interdependence), the mutual sharing of information and messages with the social media user community (social factors), and the ability to access, understand, and retain information. This also includes the ability to curate information (accuracy). Thus, in general, what is meant by digital literacy is the ability to utilize ICT to find, evaluate, utilize, create, and communicate information with cognitive and technical skills. Access, understand, and retain information. This also includes the ability to curate information (accuracy).

The most important thing in digital literacy in the era of Industry Revolution 4.0 (digital literacy 4.0) is knowledge of data systems (data literacy), mastery of technology (technology literacy), and the role of humans (human literacy). Data literacy is the ability to understand the sea of data and information generated by various sources of data and information (big data) using various media and through various devices that are continuously connected globally. Technological literacy is the ability, either individually or in groups, to manage, access, integrate, evaluate, create, and communicate information using technological assistance appropriately, effectively, and responsibly. Human literacy is an understanding of humans living among other people among nations in the world with diverse cultural backgrounds, especially in the era of the Industry Revolution 4.0.[25] Digital literacy needs to be taught in primary education. There are three basic knowledge: the role of humans, knowledge of data systems, and mastery of technology. And so that the adoption of digital literacy is evenly distributed throughout Indonesia, the inequality in internet access between regions in Indonesia must be immediately addressed by the government.

Indonesia has passed several regulations regarding the use of ICT, namely, Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions (UU ITE); Government Regulation Number 71 of 2019 concerning Implementation of Electronic Systems and Transactions, as well as its implementing regulations; Law Number 11 of 2020 concerning Creation Duty in the Post, Telecommunications and Broadcasting Sectors; Government Regulation Number 46 of 2021 concerning Post, Telecommunications and Broadcasting; Ministerial Regulation Number 5 of 2020 concerning Electronic System Operators for Personal Use; UU no. 27 of 2022 concerning Personal Data Protection (PDP Law); The government has strengthened the regulatory side for the use of ICT, but the government must also continuously increase

society's digital literacy, which is the basic foundation for realizing a digital society in the future. The digital literacy framework is used by the government as a basis for designing Indonesia's digital literacy program and curriculum for 2020–2024. At least four items of the framework for expanding the digital literacy curriculum, such as digital competencies, are interpreted as a form of understanding and knowledge in using ICT software and digital application systems in daily life. The term digital adab can be interpreted as personal competence in realizing adaptation, imitation, acceptance, consideration and expansion of digital adab governance collaboration in reality. Then regarding digital security is the ability of social media or internet connoisseurs to identify, polarize, regulate, and increase awareness about the urgency of conversion regarding personal data protection. Finally, regarding digital culture, namely individual competence to analyze, represent, create habits, explore, and create national intellectuals regarding the absolation of the values of Bhineka Tunggal Ika and Pancasila in daily life towards cultural digitalization through the massification of communication and information technology.[23]

In order to increase digital literacy, the National Library of the Republic of Indonesia (PNRI) is developing an information literacy program that is part of the library service program in Indonesia. E-resources service, which is located at http://e-resources.perpusnas.go.id/ and provides digital services that, of course, contain various sources of information in the form of journals, e-books, multimedia, and manuscripts. In this case, ePerpus is a representation of the form of B2B (business to business) based electronic service provider popularized by Kompas Gramedia. The platform provides an electronic library management list for agencies, companies, communities and schools, https://www.eperpus.com/home/ Gramedia digital is an ebook application that includes the most complete magazines, books, and newspapers from leading authors and publishers. Gramedia Digital can be accessed via Android or Apple smartphones or tablets. https://ebooks.gramedia.com/. Based on the results of a survey in August–September 2022, conducted by the Ministry of Information and Communication and the Katadata Insight Center (KIC) on 10,000 internet users aged 13–70 years and spread across 34 provinces and 514 districts and cities, using face-to-face interview methods and sampling using the multistage random sampling method, with an error tolerance of around 0.98% and a confidence interval of 95%, Respondents have diverse backgrounds, including housewives, entrepreneurs, workers, students, farmers, and others, as stated in the 2022 Indonesian digital literacy index report on February 1, 2023, showing that Indonesia's digital literacy index is at level 3.54 points on a scale of 1–5. This means that, in general, the digital literacy level of Indonesian society is at a "medium" level.[26]

In this report is measured through four major indicator pillars, namely: 1. The internet users' skills in using computers or devices, uploading, or downloading data, double-checking information from the internet, and so on (digital skills or digital proficiency) Score: 3.52 points; 2. The sensitivity of internet users to uploading content without permission, making harsh comments on social media, respecting privacy on social media, etc (digital ethics), score 3.68 points 3. Internet users' ability to identify and delete spam, malware, and viruses on computers or personal devices, their habits of backing up data, protecting personal data, and so on (digital safety or digital security) Score: 3.12 points. 4. Internet user habits such as including the name of the original author or uploader when reposting, making uploads by considering the feelings of readers from different ethnicities, religions, and political views, enjoying, and sharing Indonesian arts and cultural content in digital spaces, and so on (digital

culture) score: 3.84 points;  However, these efforts must not just stop; they must be developed so that future generations can be created who are “proficient” in the culture of reading, writing, processing, and evaluating information in this digital era.

Digital literacy can be the best shield for preventing all forms of crime in the digital space. Digital literacy also has many benefits for society, according to Brian Wright’s opinion in his infographic work entitled Top 10 Benefits of Digital Literacy: Why You Should Care About Technology (Maulana, 2015), which contains the benefits of digital literacy, namely saving time, learning faster, saving money, making it safer, getting the latest information, staying connected, making better decisions, making you want to work, being happier, and impacting the world. Through digital literacy skills, people can find trusted sources of information that can be used as references for assignments from superiors or teachers. Speed in searching for information can save time. Efficiency is not only obtained by online service users but also by service providers because they do not have to deal directly with their customers (Saving Time). Looking for definitions of terms on an online platform will be easier and faster than looking for them in a printed glossary, so the task can be completed quickly (Learning Faster). Discount offers via digital platforms can easily be found, so buyers can compare the prices of the products they want to buy (Savings Money).

The circulation of information originating from various sources makes it easier for internet users to find the right information according to their needs, for example when people want to go abroad, that person can search for information on the destination country, culture, and tourist attractions they want to visit on the internet (Making It Safer).  Obtaining the latest information applications on smartphones often update their versions to be better, thus helping everyone to obtain the latest information. Through digital literacy skills, when receiving the latest information, recipients will always check whether the information is accurate or not (Acquiring Up-to-date Information). The existence of an internet network when using applications or social media makes us feel connected to the public, especially in the communication process. So, if someone feels urgent, that person can immediately communicate with their friend (Always Connected). The existence of digital literacy allows everyone to search, study, analyze, and compare the information they obtain. This can certainly prepare better decisions from the process of analyzing and comparing the information. Information can be said to be valuable if it can influence us to act on something (make a better decision).

The ability to operate a computer, such as Microsoft Word, Microsoft Excel, Microsoft PowerPoint, etc., is one of the skills that everyone must have. These help with daily work. This ability can be obtained by reading the existing manual and trying to operate it. (Can Work). Many internet users who often access content in the form of images, sounds, and audiovisuals (video) spread across the internet feel entertained and happy. However, not all this content is entertaining. Sometimes there is also content that makes people sad or even angry. Savvy internet users should be careful when filtering this content to get in a “well-being” mood. (Happier). If directed well, the dissemination of content can contribute to the development and change in the dynamics of social life. If viewed from a wider scope, the devotion of one’s thoughts spread via the internet becomes a form of expression that can later influence world life, both now and in the future. (Impacting The World).[14]

## 4 Conclusion

Data has shown that Indonesian people are the highest internet and social media users in the world, but their digital literacy, digital civilization, and cyber security capabilities are actually low. However, cases of cyberattacks and hacking are increasing. This condition is very risky for users and the Indonesian government. One of the factors causing the low literacy rate in Indonesian society is the lack of emphasis on critical thinking skills from an early age. Apart from that, digital literacy skills are greatly influenced by the ability to read, write, search, analyze, process, and share written text. However, unfortunately, the reading and writing literacy of Indonesian society is still low. For this reason, Indonesian people must increase their digital literacy so that they are aware of the protection and security of their personal data. The most important thing in preventing and eradicating cybercrime must start with the users of digital technology themselves.

There are several things that can be done to increase the digital literacy of Indonesian people. First, the Ministry of Education and Culture and the Ministry of Religion must develop an ICT curriculum that is in line with the demands of the times. It would be good if ICT learning content prioritized teaching about using and conveying information obtained online responsibly, identifying trustworthy online information, and how to maintain the security of student data during online activities. Competencies like this will be very relevant to the demands of the current digital era. Apart from that, digital literacy material must also be included in teacher training. Without improving low ICT competency and critical thinking pedagogy among teachers, they will not be able to play a role in improving students' digital literacy. Second, government collaboration with academics, religious leaders, cultural figures, and experts from the private sector also needs to be strengthened. Experts from the private sector can help the government formulate relevant indicators for the digital literacy curriculum. Third, increasing internet access and technology, especially in rural areas of Indonesia, must remain a government priority to overcome the digital divide, one of which is through partnerships with the private sector to equip schools, especially in rural areas, with laptops and computers. And finally, along with increasing digital literacy to secure data and privacy, we must also continue to encourage the government to immediately formulate derivative regulations from the PDP Law and establish a Personal Data Protection Institute so that law enforcement against personal data violations can be carried out. Can be implemented without having to wait until October 2024.

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