# Transformation of Digital Literacy and Cyber Law in Rural Society: A Systematic Literature Review

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Abstract. Digital literacy and cyber law are continuously expanding and becoming increasingly crucial in society, encompassing even rural society. Rural societies are often overlooked, as they are often considered to be limited in scope and seemingly less technologically skilled. Nevertheless, it is of utmost importance to ensure the widespread adoption of digital literacy throughout all corners of Indonesia, striving for equal distribution of digital literacy and improving the welfare of rural society by utilizing technological advancements. The purpose of this research is to examine the regulations relating to digital literacy in rural society in Indonesia and the development of digital literacy transformation in this rural society. The research approach was the literature review, which involves a critical exploration of knowledge, ideas, or findings in academic-oriented literature. The review covered articles published from 2018 to 2023 that are relevant to digital literacy in rural society. The results of the research showed that digital literacy is a government-driven initiative that aims to promote a deeper understanding of the digital realm among Indonesians, including rural society. These efforts are reinforced by legislation such as The Law of Electronic Information and Transaction (UU ITE) and other related regulations. Furthermore, the literature review also highlights that the development of digital literacy within rural society is steadily progressing in tandem with technological advancements, aligning with the nation's goals for digital literacy programs in Indonesia.

Keywords: Rural Society, Digital Literacy, Cyber Law

# **1** Introduction

The development of the times continues to move dynamically along with technological, economic, social, and cultural advancements in society. It is undeniable that, alongside this progress, the accelerated use of technology has become crucial in human lives. This technological development must be balanced with the public's understanding of technology and the internet, ensuring their proper and wise usage [1]. Understanding the use of technology is referred to as digital literacy [2].

Digital literacy refers to the capacity to comprehend and apply information in diverse formats originating from an extensive array of sources that are accessible via computing devices. [3]. The American Library Association (ALA) defines digital literacy as as the ability to utilise information and communication technology (ICT) to locate, analyse, generate, and transmit information. This requires both cognitive and technical competencies. [4]. The application of digital literacy can contribute to enhancing the well-being of the community through various means. These include expanding access to information, enhancing the quality of technology-driven education, fostering economic development at both local and national levels, facilitating faster delivery of information and healthcare services, promoting participation and connectivity in social discourse, and facilitating government and political engagement.

It is imperative for all groups, particularly those residing in rural areas, to acquire digital literacy skills. Rural communities frequently lack attention due to their small size and limited access to information and technological advancements. However, it is crucial to prioritize the implementation of digital literacy in remote villages in Indonesia. This initiative aims to foster equitable digital comprehension and enhance the well-being of rural communities by effectively utilizing existing technological developments.

The implementation of digital literacy in rural communities can be classified as an initiative aimed at empowering and advancing the village community [5]. Village community empowerment is an effort to develop community independence and welfare through the utilization of resources, augmentation of knowledge, attitudes, skills, behavior, abilities, and awareness, and improvement of living conditions and standard of living for the greatest good of the village community. This is accomplished through the establishment of policies, programs, activities, and assistance that are in line with the fundamental issues and priorities of the village community [6]. Digital literacy plays a key role in enhancing the quality of life and welfare of rural people. Previous studies have primarily concentrated on research and application platforms, neglecting to thoroughly examine the implications of digital convenience, particularly in relation to digital literacy.

The objective of this study is to investigate the significance of Digital Literacy and Cyber Law in rural areas, specifically in relation to Literacy, by conducting a comprehensive review of existing literature. There are multiple research inquiries that can be identified, which are outlined as follows:

RQ1. What are the characteristics of Transformation in Digital Literacy in the Village Environment?

RQ2. What is the relationship between Digital Literacy and Cyber Law in the Village Context?

This study aims to enhance comprehension of the phenomenon of Transformation in the Village, with a particular focus on examining the correlation between digital literacy and the community's comprehension of legal elements. The project aims to provide practical guidance for practitioners and academics in enhancing the implementation and comprehension of digital literacy within rural communities.

This study comprises multiple components, specifically. Section 1 provides an elucidation of the comprehension of digital literacy and its association with rural populations. Section 2

provides an elucidation of the fundamental tenets of digital literacy as they pertain to the framework of laws and regulations within the context of Indonesia. Section 3 presents the technique employed in this study. Section 4 provides an analysis of the synthesized findings pertaining to the attributes and interplay of Digital Literacy and Cyber Law within the context of a village setting. The final section of the document offers the conclusions that have been derived.

# 2 Background

The Digital Literacy programme is an initiative led by the government of Indonesia aimed at enhancing the fundamental digital competencies of its citizens. The implementation of this initiative involves the use of diverse online courses and freely accessible training resources for the entire community. These materials are designed based on the four fundamental principles of digital literacy, [7], which include:

- 1. Digital Skills refer to the proficiency of persons in comprehending, utilising, and navigating information and communication technology (ICT) hardware, software, and digital operating systems in their daily activities.
- 2. Digital Ethics refers to an individual's capacity to recognise, conceptualise, adjust, deliberate, and cultivate principles of ethical conduct in the realm of digital technology within their everyday existence.
- 3. Digital Safety refers to an individual's capacity to identify, comprehend, implement, evaluate, contemplate, and enhance their awareness of digital safety on a regular basis.
- 4. Digital Culture refers to the capacity of individuals to engage with, interpret, become acquainted with, analyse, and cultivate a sense of national understanding, Pancasila values, and Unity in Diversity within their everyday existence.

The comprehension of Digital Literacy by the Village Community constitutes one of the Six Pillars that form the primary foundation for Smart Villages [8]. The government has implemented initiatives aimed at enhancing digital literacy within rural communities, necessitating the provision of adequate legislation to ensure its effective implementation and seamless integration within the community. As an illustration, the National Development Planning Agency of Indonesia (Bappenas) elucidates that the advancement of technology and acquisition of skills inside a digitalized village should be harmonised with the Sustainable Development Goals (SDGs) to attain sustainable development [9]. The government has actively promoted the use of digitalization in numerous urban and rural areas as a means of fostering socio-economic progress.

The term "cyber law" is presently employed on an international scale to refer to legal concepts pertaining to the utilisation of information and communication technologies. The term "telematics law" refers to the amalgamation of telecommunications law, media law, and informatics law. In the context of Indonesia, there exist multiple regulatory frameworks pertaining to cyber law that govern the use of technology, particularly in relation to the implementation of digital literacy initiatives into rural areas. These regulations encompass the following aspects:

1. The subject of discussion is Law No. 19 of 2016, which pertains to the amendment of Law No. 11 of 2008 on Electronic Information and Transactions,

commonly referred to as the ITE Law. The legislation formerly known as Law No. 11/2008 pertaining to Electronic Information and Transactions.

- 2. The subject of discussion is Law No. 6 of the year 2014, which pertains to the governance and administration of villages.
- 3. The subject of discussion is Law No. 6 of 2023, which pertains to the establishment of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation.
- 4. The subject of discussion is Law No. 19 of 2016, which pertains to copyright.
- 5. The subject of discussion is Law No. 27 of 2022, which pertains to the protection of personal data.
- The regulation titled "Minister of Communication and Informatics Regulation No. 20/2016" pertains to the safeguarding of personal data within electronic systems.

The symbiotic relationship between digital literacy and cyber legislation is essential for fostering favorable circumstances and facilitating the attainment of equitable digital comprehension within rural areas in Indonesia. The necessity and ongoing expansion of research and community service pertaining to digital literacy in rural communities are evident. Consequently, this study aims to examine and document the progress of digital literacy and cyber law in rural communities, drawing upon the findings of literature reviews conducted across multiple articles.

### **3 Method**

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) systematic review model was employed to address research inquiries pertaining to cyber law and digital literacy within the context of a village. By searching, identifying, and validating numerous variables in relevant research, this methodology intends to empirically synthesize the results. Planning, execution, and reporting comprise the three phases of the SLR implementation procedure.

## 3.1 Planning

The first step was to search for literature in two databases, Science Direct and Google Scholar. These two databases were chosen as literature sources because they provide relevant publications related to Digital Literacy, especially in the Indonesian context.

The inclusion selection is articles published in the range of 2018-2023, open-access article types, and articles that use Indonesian and English. After being obtained, an abstract reading was carried out which was relevant to the research question.

The keywords carried out on Science Direct are

Code A1, "Digital Literacy" AND "Rural Society"

Code A2, "Cyber Law" AND "Rural Society"

In an effort to locate research pertinent to the Indonesian context, the following keywords were entered into Google Scholar:

Code B1 "Digital Literacy" AND "Rural" AND "Cyber Law" AND "Indonesia"

Code B2 "Literasi Digital" AND "Desa" AND "Cyber Law"

## 3.2 Conducting

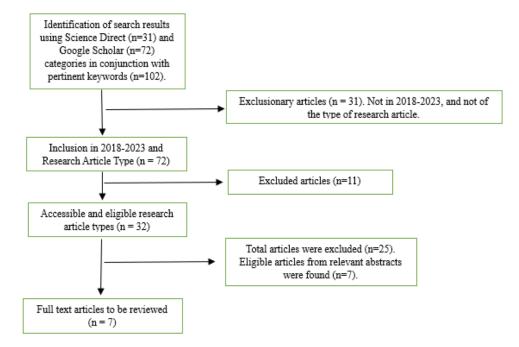
The second step was to synthesize the identified problems on digital literacy and village rules and the impacts. The synthesis follows several steps as shown in Figure 1 and Table. 1

		ence rect	Google	Scholar		Total	
Code	A1	A2	B1	B2	A1 + A2	B1 + B2	All
Keyword	12	19	53	19	31	72	103
Years (2018-2023)	9	13	32	18	22	50	72
Types of Research Articles	9	7	19	8	16	27	43
<b>Open Access</b>	4	2	18	8	6	26	32
Relevant	2	2	2	1	4	3	7
Abstracts	2	2	2	1	4	3	/
Full Text	2	2	2	1	4	3	7

 Table 1. Identification, Inclusion dan Exclusion

The outcomes of the search procedure are observable in Table 1. In the identification step, a total of 102 publications were identified, with 31 papers retrieved from Science Direct and 72 publications from Google Scholar. The subsequent step in this stage involves the identification of inclusion criteria, wherein articles from the years 2018 to 2023 are chosen. A total of 72 publications were identified through this method. Subsequently, a careful curation process was undertaken to identify research articles that were readily available, resulting in a compilation from a pool of 32 scholarly journals. An attempt was made to evaluate the 25 journals based on their pertinence in addressing the research inquiries, resulting in the identification of just 7

publications that effectively addressed the research questions in this investigation.



#### Fig 1. Flow of Literature Search

The outcomes of the search procedure are observable in Table 1. In the identification stage, a comprehensive search was conducted using two prominent academic databases, namely Science Direct and Google Scholar. This search yielded a total of 102 papers, with 31 publications retrieved from Science Direct and 72 publications from Google Scholar. The subsequent step in this stage involves the identification of inclusion criteria, wherein articles from the years 2018 to 2023 are selected. A total of 72 publications were identified through this method. Subsequently, a careful curation process was undertaken to choose research articles that were readily available, resulting in a compilation from a pool of 32 scholarly journals. An attempt was made to evaluate the 25 journals based on their pertinence in addressing the research inquiries, resulting in the identification of just 7 publications that effectively addressed the research questions in this investigation.

### 3.3 Reporting

This study involved the analysis and documentation of the literature, consisting of seven studies. Furthermore, a thorough examination was conducted on the seven publications to identify any citations or sources referenced within them. Subsequently, the findings derived from this study are analyzed in order to address the research inquiry: Identifying Transformations in Digital Literacy and Cyber Law within Rural Communities.

# 4 Result and Discussion

This section discusses the results and discussion of the SLR process. Findings related to RQ1 and RQ2 can be seen in Table 2 below.

No	Title	Research Objective	Research Methods	Result
1	Rural E-marketing in Iran; Modeling villagers' intention and clustering rural regions [10]	This study aims to investigate the aspirations of villagers to adopt e-marketing strategies in their companies and develop a model for piloting e-marketing initiatives in specific areas.	The data was gathered from a sample of 1000 villages that were equipped with information and communication technology (ICT) offices throughout the province. Subsequently, these data points were geographically mapped using the Geographic Rural Economy and Planned Behaviour model.	According to the findings, a significant proportion of villagers, namely 76%, express their intention to embrace e-marketing. These results were obtained by employing the Geo TPB model, which was applied to villages that possess sufficient access to technology and individuals that exhibit the capability to utilise such technological tools. This study revealed that communities characterised by lower levels of development priorities emerged as a more favourable cohort for the deployment of e-marketing strategies.
2	To migrate or not to migrate: Internet use and migration intention among rural youth in developing countries (case of Malang, Indonesia) [11]	The impact of Internet utilisation on the phenomenon of augmenting migration intentions among rural youth in emerging nations.	The statistical methods employed in this study encompassed the utilisation of Mann-Whitney U, Kruskal-Wallis, Kendall's Tau, and stepwise regression analyses.	The utilisation of Internet technology enables rural youth to transcend geographical isolation by establishing connections with the global community. Consequently, it is imperative to further cultivate the advancement of digital literacy in rural regions of less developed countries as a means to address the issue of rural migration.

Table 2. Results of SLR Process

		1		
				Underdeveloped nations continue to face
				challenges in terms of
				inadequate internet
				infrastructure and the
				absence of
				complementary facilities.
				The utilisation of the internet has been found
				to have a beneficial
				influence on rural
				communities; yet, it has
				been observed that these
				communities exhibit a
				reluctance to employ
				internet-based platforms
				for the purpose of
				seeking migration-related
-				information.
3	ICT for	This study	Narrative	Information and
	socio-economic	addresses the	research	Communication
	development: A	aforementioned	methods	Technologies (ICTs)
	citizens'	gap by examining		possess the capacity to
	perspective [12]	individuals'		exert a significant impact
		perspectives on the		on various dimensions of
		relationship		economic and social
		between		endeavours, including
		information and		but not limited to Gross
		communication		Domestic Product (GDP)
		technology (ICT)		expansion, employment
		and		rates, productivity levels,
		socio-economic		poverty mitigation,
		growth in		overall well-being,
1		developing		educational
1		nations. It aims to		advancements, and
1		shed light on the		healthcare improvements.
1		role of ICT in		The impact of
1		facilitating		information and
1		socio-economic		communication
1		progress.		technologies (ICTs) in
1				socio-economic
1				development is shaped
1				by the social
1				representations and
1				beliefs held by
				participants.

4	Building cyber security awareness in a developing country: Lessons from Myanmar [13]	Acknowledge the significance of security awareness in fostering a nation's economic advancement.	This paper presents a comprehensive typology of cybersecurity policies that encompass the involvement of the government, corporate sector, and international society.	The promotion of digital literacy within rural areas can be achieved through the utilisation of localised material, which effectively captures the interest of the intended audience. This content aims to educate individuals on the utilisation of the internet and its associated advantages. Cybersecurity awareness plays a crucial role in bolstering the resilience of productivity-enhancing services, such as mobile banking and electronic payment systems, so contributing to economic growth. Digital literacy security awareness plays a crucial role in safeguarding individuals from cyber bullying, hate speech, and theft. Additionally, it serves to fortify institutions that combat cybercrime and illicit computer activity.
5	An analysis of Cambodia's e-commerce and way forwar [14]	This study examines the e-commerce landscape in Cambodia both before to and during the pandemic, with a focus on providing recommendations for future development. The analysis is based on secondary data obtained from government and	This study aims to investigate the landscape of e-commerce in Cambodia by a targeted examination of a sample of e-commerce clients, with a particular focus on individuals aged 30 and above.	The advent of e-commerce in Cambodia has been observed in recent years, with its utilisation experiencing a notable surge amidst the global COVID-19 pandemic. This unprecedented situation has compelled businesses to shift their operations online, hence emphasising the necessity of conducting commercial activities through digital platforms.

7	Optimalisasi	In order to	SWOT analysis	The objective of
	Hukum Siber	mitigate fraudulent	with EFAS,	countering cyber crime,
	(cyber law)	activities	IFAS, and SFAS	particularly online fraud,
	dalam	conducted through	matrices	involves various
	Penanggulangan	the Internet and		strategies such as early
	Kejahatan	safeguard		detection in the economic
	Penipuan melalui	individuals'		sector, enhancing cyber
	Internet dalam	well-being, it is		crime-related functions,
	Menyelamatkan	imperative to		conducting regular
	Kehidupan	undertake a		competency-based
	Masyarakat. [16]	comprehensive		training for security
		examination of		personnel, fostering
		cyber law. By		collaboration with social
		utilising the		media and electronic
		Internet as a		media platforms,
		medium, it has the		engaging with anti-cyber
		potential to		crime/internet activist
		significantly		community groups, and
		contribute to the		augmenting resource
		preservation of		capacity to effectively
		human lives.		address the rapid
				evolution of cyber crime,
				including internet-based
				fraud.
				The evolution of
				cybercrime, namely in
				the form of computer
				fraud, has undergone
				significant change
				throughout time.

The synthesis of Table 2 reveals that a crucial factor in the transformation of digital literacy is the presence of appropriate infrastructure that can be effectively utilised by rural areas. The advancement of Information and Communication Technology (ICT) holds the capacity to influence diverse dimensions of economic and societal endeavours [12]. For instance, the aforementioned factors encompass employment generation, enhanced efficiency, betterment of living standards, and facilitation of educational and healthcare accessibility. Furthermore, the role of information and communication technology (ICT) encompasses its impact on societal representations and individual beliefs, which in turn contribute to socio-economic growth.

The findings of the literature review indicate that developing countries have already recognized the significance of digital literacy. In the context of Iran, it has been observed that a significant proportion of individuals residing in a sample of 1000 villages express a desire to embrace digital technology, with a majority of 76% indicating their inclination towards its adoption [10]. The inclination of individuals to embrace digital technology stems from its inherent convenience. The integration of digital technology has facilitated enhanced comfort,

productivity, and connectivity in individuals' everyday lives, particularly within the realm of e-marketing.

Moreover, in the context of Myanmar [13], the delivery of digital literacy can be enhanced by utilising localised content that effectively engages the target population, providing education on internet usage and highlighting its beneficial effects on rural areas. The significance of cybersecurity knowledge cannot be overstated in its contribution to the sustainability of productivity-enhancing services, including but not limited to mobile banking services and electronic payment systems, hence fostering positive economic growth. Furthermore, possessing digital literacy skills in the realm of security provides individuals with a safeguard against many cyber risks, including but not limited to online harassment, the dissemination of hate speech, the unauthorised use of personal information, and aids in the fight against cybercrime and harmful computer operations.

According to sources in Cambodia (14), it is evident that electronic commerce (E-commerce) occupies a significant position within the realm of digital marketing. Furthermore, there has been a notable surge in the number of individuals utilizing E-commerce platforms during the Covid-19 pandemic. This surge may be attributed to the necessity for businesses to transition their operations online in response to the prevailing circumstances. In the present setting, it is vital to comprehend the level of digital literacy throughout the community, as it aligns with endeavors aimed at fostering digital innovation.

Research has been conducted in the Malang area of Indonesia, specifically focusing on the statistical modeling of youth residing in rural villages [11]. The utilization of the internet for information retrieval has been observed to have a beneficial influence on rural areas, particularly among the younger population. This study does not place much attention on the subsequent phase of the Digital Literacy domain.

In the broader scope of digital literacy and cyber law within rural communities, it is strongly advised to enhance the comprehension of digital literacy among community members. This aligns with endeavours to foster digital innovation, including the establishment of startups in this domain, while concurrently fortifying the legal framework pertaining to e-commerce and cybersecurity facets. This initiative aims to facilitate the comprehension of legislation among rural populations and encourage their active participation in internet browsing activities.

The existing body of research extensively elucidates the significant role of digital literacy within the framework of rural communities, encompassing various aspects such as communication, online transactions, and community integration. The existing research lacks a comprehensive examination of socialisation efforts pertaining to digital literacy and comprehension of laws within rural communities. In the context of rural communities, it is imperative that the regulations, particularly the Information and Communication Technology (ICT) Law, are aligned with the level of literacy prevalent within these areas.

# **5** Conclusion

This study aims to examine the process of digital literacy transformation within rural communities, drawing upon existing literature that highlights the regulatory support provided

by various countries. The findings of this study indicate that digital literacy is a government initiative aimed at promoting the expansion of Indonesian citizens' knowledge and understanding of the digital realm. This includes efforts to reach out to rural areas, who are safeguarded by the Information and Electronic Transactions Law and other relevant legislation. The findings of the literature review indicate that the progress of digital literacy in rural communities is on the rise, in tandem with advancements in technology. This growth is crucial for the attainment of Indonesia's objectives regarding digital literacy projects. Digital literacy has been effectively cultivated in some nations through the implementation of suitable rules. Further investigation and increased social engagement are necessary to ascertain the extent of digital literacy maturity among the Indonesian population in various activities. The importance of digital literacy in enhancing the quality of life in rural communities is contingent upon its appropriate implementation and adherence to relevant legal frameworks.

# References

- M. Maulana, "Definisi, Manfaat, dan Elemen Penting Literasi Digital," Seorang Pustakawan Blogger, zv. 1, %1. vyd.2, pp. 1-12, 2015.
- [2] H. A. Naufal, "Literasi digital," Perpektif, zv. 1, %1. vyd.2, pp. 195-202, 2021.
- [3] P. Gilster, Digital Literacy, New York: Willey Computer Pub., 1997.
- [4] B. Bangun, M. Ritonga, R. Muti'ah a S. Sulaiman, "Upaya Peningkatan Literasi Digital Masyarakat Desa Tanjung Medan," *Jurdimas (Jurnal Pengabdian Kepada Masyarakat) Royal*, zv. 5, %1. vyd.3, pp. 341-346, 2022.
- [5] Y. S. Pongtambing, S. Pitrianti, A. Novitasari a E. A. M. Sampetoding, "Transformasi Informasi pada Literasi Digital di Desa dengan ISO 29995:2021," rev. *Konferensi Nasional Literasi Digital dan Kerelawanan (KNLDK)*, Semarang, 2023.
- [6] Presiden Republik Indonesia, UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 6 TAHUN 2014 TENTANG DESA, Pemerintah Indonesia, 2014.
- [7] KOMINFO, "Literasi Digital," Kementerian Komunikasi dan Informatika Republik Indonesia, [Online]. Available: https://literasidigital.id/profil. [Cit. 25 10 2023].
- [8] E. A. M. Sampetoding a M. ER, "Digital Transformation Of Smart Village: A Systematic Literature Review," rev. CENTERIS - International Conference on ENTERprise Information Systems, Porto, 2023.
- [9] A. A. Aziizza a T. D. Susanto, "The smart village model for rural area (case study: Banyuwangi Regency)," rev. *Conference Series: Materials Science and Engineering*, 2020.
- [10] S. J. Alavion a A. Taghdisi, "Rural E-marketing in Iran; Modeling villagers' intention and clustering rural regions," *Information Processing in Agriculture*, zv. 8, %1. vyd.1, pp. 105-133, 2021.
- [11] A. R. Hidayat, K. Onitsuka, C. P. Sianipar, M. Basu a S. Hoshino, "To migrate or not to migrate: Internet use and migration intention among rural youth in developing countries (case of Malang, Indonesia)," *Digital Geography and Society*, zv. 4, pp. 1-14, 2023.

- [12] P. Palvia, N. Baqir a H. Nemati, "ICT for socio-economic development: A citizens' perspective," *Information & Management*, zv. 55, %1. vyd.2, pp. 160-176, 2018.
- [13] L. Y. Chang a N. Coppel, "Building cyber security awareness in a developing country: lessons from Myanmar," *Computers & Security*, zv. 97, pp. 1-10, 2020.
- [14] R. Chan, "An analysis of Cambodia's e-commerce and way forward," *Journal of Management, Economics, & Industrial Organization (JOMEINO)*, zv. 6, %1. vyd.3, pp. 88-100, 2022.
- [15] L. Jasmontaite a P. D. Hert, "Access to the Internet in the EU: A Policy Priority, a Fundamental, a Human Right or a Concern for eGovernment?," *BRUSSELS PRIVACY HUB WORKING PAPER*, zv. 6, %1. vyd.19, 2020.
- [16] S. Soecipto, "Optimalisasi Hukum Siber (cyber law) dalam Penanggulangan Kejahatan Penipuan melalui Internet dalam Menyelamatkan Kehidupan Masyarakat," *EKNOLOGI NUSANTARA*, zv. 4, %1. vyd.2, pp. 34-46, 2022.