Social Adaptation through Digital Literacy among LIS Students in Post-COVID-19 in Indonesia

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Abstract

The emergence of digital technology in information fields amidst the conditions of the global post-pandemic crisis has promised a variety of solutions because of its inherent multi-facilities on the one hand. However, because of those as well significant threats have emerged on the other hand, such as hoaxes and fraud. The question of how to make this technology a solution must be lived based on digital literacy. Social adaptation in post-COVID-19 requires strengthening digital literacy to produce the expected social conditions. This research employed a qualitative method based on the interview with 25 LIS students chosen due to their connectivities with current digital literacy issues and the pandemic at five universities in Indonesia. Those students' voices have been considered enough to represent studied phenomena after investigation. The interview data were analyzed using Miles and Huberman's three steps of data display, reduction, and verification. The research found that the way of Gen Z society actualizes itself in adjusting to the post-pandemic environment is vital in several aspects that consist of identity, critical reasoning, social participation, and societal empowerment. Besides, digital literacy in the context of social adaptation functions as a means of society, strengthening the position of rights, responsibilities, citizenship, and community safety. The research has successfully discovered the phenomena of those aspects based on in-depth qualitative analysis. Unfortunately, it is limited to the descriptive analysis framed in a narrative condition. Therefore, further research needs to consider the quantitative trends to discover the generation's adaptability level in encountering the COVID-19 pandemic.

Keywords: Social Adaptation; Digital Literacy; LIS Student; Social Media; Post-COVID-19

1. Introduction

The world health crisis due to COVID-19, which has devastated almost all aspects of people's lives, has begun to be adapted after about two years of uncertainties (Eslahchi, 2022). The uncertainty due to economic, social,

cultural, and religious turbulence is starting to find common ground through a process of social adaptation, which is social convergence, especially the Generation Z (Gen Z) facing the era of advanced technology (Ahmed et al., 2021; Mer & Virdi, 2023). The world of

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technology, which has experienced rapid progress and its impact on social, cultural, religious, and economic lives, has built a metamorphosis into a digital society. They live and thrive in digital technology schemes. Their lives must be connected to technological issues, especially new media technology, in response to information and knowledge digitisation (Alghnimi & Chaudhry, 2022). The development of these digital technologies does not necessarily support and benefit people's lives. Its use requires knowledge and awareness at a certain level to get the most out of the new media (Anthonysamy & Sivakumar, 2022; Nikou et al., 2022).

Gen Z society lives and thrives through technological mediation. Social networks, religion, culture, and economy cannot be separated from technological construction, especially new digital media in the form of social media (Rosida & Azwar, 2021). Therefore, this kind of social condition requires a relevant process of social adaptation. The community's adaptation process will examine their abilities related to the current and future conditions in a social context. This social adaptation refers to a person's ability to adjust their cognition and behaviour to handle changing social demands and situational threats (Mackey et al., 2013; Nurdin & Saufa, 2020). In responding to this phenomenon, society has built a path toward social adaptation by strengthening competence in digital media. Strengthening this competency is known as digital literacy (Kozanoglu & Abedin, 2021; Levitskaya & Fedorov, 2021).

Paul Gilster (1997) introduced digital literacy in the late 90s through an educational framework dealing with the internet to carry out the school's mandate in dealing with technological developments. Digital literacy is the ability to access the internet, read, understand critically, and be responsible for using this technology (Meyers et al., 2013; Phippen et al., 2021). This term was born as a key concept to help educational actors, such as teachers and lecturers, understand competition's needs in a digital society. Digital literacy includes understanding and using the information in various formats from various sources when presented via computers and internet-based digital media (Bawden, 2001; Pangrazio et al., 2020). The technological developments above have been developed into various digital literacy frameworks by various institutions to adapt and adopt technology into everyday life.

Digital literacy has emerged in various frameworks following the context and goals of developing a digital technology-based society. For example, Canada's Center for Digital and Media Literacy was developed from the information and communication technology innovation perspective. Australia's Edith Cowan University was initiated in five things: (a) digital technology; (b) information, academic, media and data literacy; (c) citizenship and digital identity; (d) digital creation and communication; and (e) digital learning, which is professional and lifelong. The University of British Columbia designed a digital literacy framework that includes research and information literacy, critical thinking, problem-solving and decision-making, creativity and innovation, digital citizenship, communication and collaboration, operations, and technology concepts. Meanwhile, through the National Council for Special Education, Ireland has developed six digital literacy skills: access,

management, integration, collaboration, creation, and communication (Tinmaz et al., 2023).

In referring to the model frameworks above, digital literacy can be summed up in two important ways, which illustrate its significance in producing the welfare of modern society, namely, self-actualization and societal means. As self-actualization, digital literacy builds identity awareness, critical thinking, participation, and empowerment. Meanwhile, as a societal means, digital literacy explains people's rights, responsibilities, citizenship, and safety. Both are interpretation entities of digital literacy adapted to society's needs (Tinmaz et al., 2023). Therefore, the two important discourses will be investigated in the living Gen Z, which has been defined as a generation born between 1995 and 2010. It is characterized by the mediation of digital technology through social media, which has become a new trend in the world of work, tending to be more valuable work quality, transparency, and welfare dimensions compared to more organizational commitment (Lev, 2021; Mahapatra et al., 2022).

Based on those two issues, this research formulated two essential questions, namely how do the members of Gen Z actualize themselves within the framework of digital literacy-based social adaptation, as well as how does digital literacy function as a social means to keep their roles in the post of the multidimensional crisis due to the COVID-19 pandemic. Therefore, social adaptation through digital literacy among students is a strategic study to understand the current post-pandemic society in five universities in Indonesia. Those universities are located in three different islands, three of which are in Java, one in capital

city and the other two are in different provinces. Besides, those universities are located in different cultural bases, such as Javanese, Bugisese, and Malay.

2. Literature Review

A dramatic social phenomenon involving fundamental aspects of modern society, such as the economy, culture, and religion, is the world health crisis under the control of World Health Organization through its announcement of a world pandemic (Nurdin & Agusta, 2021). From a health crisis to a multidimensional crisis, the world has experienced stagnation and even a social and humanitarian disaster. The fatal consequence of the world health crisis in the form of the COVID-19 pandemic has prompted significant changes in almost every element of society (Ratten, 2021). How these changes are adapted by society is a conceptual discourse that will be discussed in three crucial points.

2.1 Social adaptation in Gen Z society

The post-millennial era is characterized by technological advances and an explosion of information, which provides challenges and opportunities in dealing with increasingly complex and instantaneous social interactions (Hällgren & Björk, 2023). Challenges, such as hoax news and economic rights violations, appear in various forms. In contrast, the community, such as access to fast information and communication between citizens, can utilize various opportunities. Today's social interactions are getting easier and, at the same time, provide the possibility of various activities at every level of society (Islam et al., 2022). These various potentials are supported by technological advances that are increasingly

advanced daily regardless of the social situation. In the world health crisis during the COVID-19 pandemic, digital technology has become a key element in maintaining and driving community activities, such as in the economic, educational, and cultural fields (Kazakov, 2022; Yakubu et al., 2022). The presence of technology has encouraged online activities and replaced offline activities due to health reasons and community lockdowns (Anthony & Noel, 2021).

The presence of this technology has become a social solution in dealing with the emergence of the COVID-19 pandemic, which has caused a world health crisis and a global economic downturn. Even though this solution cannot be wholly overcome, economic damage and death rates can be suppressed and neutralized (Vahdat, 2022; Yazdi et al., 2022). This situation illustrates the beginning of digital technologybased social adaptation, although it is still limited to specific sectors, such as education and local transportation businesses. These social solutions are still technological emergencies to facilitate the continuity of educational activities and local traffic to facilitate culinary businesses (Agarwal et al., 2024). This process is a social adaptation that creates the capacity to cooperate and compromise with various environments. This adaptation includes the role of emotions, thoughts, usefulness, social sensitivity, and interpersonal relations (Neely-Prado et al., 2021). This study of social adaptation can be seen in depth through a qualitative approach in looking at the phenomena that occur in post-pandemic community behavior.

According to Terziev (2017), social adaptation can be seen in four main issues: social, psychological, moral, and legality. The social

adaptation of the community will describe a condition that is free from conflict and stabilization of the social community. Psychologically, social adaptation contains mental awareness, flexibility, and maturity built on the stability of social systems and structures. Social adaptation ability is also determined by the actions of social actors based on cultural arrangements and social conventions, binding on each self, which grows in social organisms through social policies. It is reinforced by AlZboon (2013) that social adaptation refers to individual harmony between reality, thought, and culture. This alignment does not negate differences, but there is a strong urge to establish positive relationships based on vulnerability and mutual influence, which leads to social adaptation (Huda, 2022) in a digital society, especially those who are grouped as Gen Z. This generation group was born between 1995 and 2010, namely the generation known as the open-minded generation, a second generation from the last generation, namely Gen Alpha, whose ages range from 0 to 11 years old (Dewantari, 2022). Gen Z is people who have now entered a productive era with the power of technology, which in this research was used by 25 informants as an effort to read their digital literacy-based social adaptation abilities.

2.2 Digital literacy as social capital

Digital literacy in the development of millennial society and the following generations, like Gen Z, has become a catalyst and key conceptually and pragmatically (Abror et al., 2022). Related to this, Gen Z's choice to look at post-COVID-19 community behavior regarding social adaptation based on digital literacy is an important study of the relationship between

technology and social phenomena in society. Technological developments through new digital media and mainstream social media movements in almost every social interaction have ensured the urgency and fundamentality of technological competency sets in digital literacy. The urgency of digital literacy in dealing with societal development is a certainty to use technology and explore it for the needs of society (Antunovic, 2022). Digital literacy is a competency or ability to select and use digital devices, create digital content, present digital presentations, and be responsible for socializing various digital messages in society, primarily through library services. Digital literacy has a strategic and decisive position in every action of post-modern society because its excesses and impacts quickly reach all circles (Buchanan & Sparagowski, 2022).

The development of the post-modern society has made technology the basis and framework for their perspective in interacting at all levels and social statuses. The presence of technology has printed every action and potential for community activity. Whether in politics, culture, economics, and law, everything is subject to technological power (Islam et al., 2022). Therefore, digital literacy has become significant and urgent in every situation modern society faces. The social adaptation carried out in every aspect and space of social interaction places technology as the primary tools of action (Ibrahim, 2022; Logan, 2019). Digital technology and new media in the form of social media have become an inseparable part of society's social world. Various approaches emerge from various groups, all of which seek to adapt to the conditions in which they live and develop (Abror et al., 2022; Wilhelm, 2000). This literature was studied using a qualitative approach to look in depth at the social phenomena that occur as a result of technological domination and mediation, especially in facing the post-COVID-19 situation. Based on the literature review, it was found that each institution's digital literacy frameworks have differences and uniqueness. These frameworks emerged to answer their social conditions' needs (Samsuddin et al., 2021).

A digital literacy framework with the Macquarie University scheme in Sydney has designed a digital dexterity model in six primary areas. Those are digital identity and well-being; information literacy, media literacy and data literacy; digital learning and development; Information and Communications Technology skills and productivity; digital creation, problem solving and innovation; and collaboration, communication, and participation. Comprehensively, this framework can be seen in two critical spectrums concerning the social adaptation of society based on the strength of people's understanding of technology. These spectrums are firstly as a means of selfactualization in four points: strengthening identity awareness, critical thinking, social participation, and participation in empowerment. The second one is literacy as a civic or societal means, which consists of rights, responsibilities, citizenship, and safety (Tinmaz et al., 2023). Digital literacy as a competency capacity for technological means is a capital power because it increases the ability to achieve a person or group. The presence of social media as a new product of technology is a new social power for everyone, which in this case is referred to as social capital (Utz & Muscanell, 2015).

2.3 Social establishment in post-pandemic

Post-pandemic is a new era when people are required to work hard to build a new habit, which requires cultural, ideological, and structural processes to restore normalcy in social practices (Waterman, 2004; Yang & Wu, 2022). Normality is intended as a condition in which people need an adaptation due to changes in their lives (Shaffril et al., 2013). The end of the adaptation process is the establishment era which can be realized through the above structural, cultural, and ideological strengthening. The involvement of these three elements will lead to a social establishment that will strengthen the new social normalcy in a phenomenon of social practice in society (Regus, 2022; Yin & Mahrous, 2022). In facing an era of social turbulence, the integrity and solidity of people's perceptions are urgent elements in presenting a representative solution for their sustainability (Winston, 2021). At this point, constructivist studies of the social implications of technology are important to see the behavior of generations dominated by digital technology, such as social media. This qualitative study can look at current social phenomena, especially the social conditions of Covid-19.

The COVID-19 pandemic, which has recently destroyed the foundations of culture, religion, and other social harmonies, has begun to enter a new era to re-recognize local wisdom, which was stopped due to the pandemic. An essential part of episodes of interactional social shifts in the form of digital literacy has become recognized (Abror et al., 2022; Haryadi & Malitasari, 2020). Digital literacy competence is considered one of the

foundations for interacting and communicating in building a new post-pandemic civilization (Sá et al., 2021). Modern society, especially Gen Z society, is a generation that cannot be separated from technology which has become a fundamental and acute part of their lives. One of these groups is those who are part of the academic community, including academics and students. They are a Gen Z group proliferating due to technological developments (Vogels, 2019).

The development of new technology and social establishment cannot be separated from one another in order to build social harmony (Candelon et al., 2017). Technological developments always move fast and are often detached from ethics and social perspectives on the one hand. In contrast, the social establishment is an effort to familiarize and harmonize people's behavior and tendencies, which would be impossible to realize if they did not have digital literacy competence on the other hand (Soepriyanti et al., 2022). Therefore, a social establishment has a mutual relationship with digital technology, which is currently living in and developing society. These developments will always be an inseparable part of all social practices of society. Gen Z was deliberately taken as informants to discover new technological practices that were thought to illustrate the social implications of adapting to post-COVID-19 conditions. Gen Z modern social life experiences technological, social assimilation, and acculturation. The extent of technological mutualism will always determine all forms of relations with their cultural, religious, and ideological wisdom to become a unified community (Simuziya, 2022).

3. Research Method

This research uses a descriptive method with a qualitative approach. Research with a descriptive method is a study that seeks to explain research narratively, as it is so that the object of research is adequately exposed (Sugiyono, 2013). Meanwhile, qualitative research provides explanations and arguments in an interpretive and constructive manner to the data presented in a descriptive narrative way. Interpreting data through a constructivist paradigm will present arguments and critical analysis, making the research results comprehensive and heuristic. In addition, the meaning can go beyond descriptive narratives so that the research can show new findings in conclusions (Denzin & Lincoln, 1994).

The data collection technique used is interviews supported by observation. The interviews took 25 Library and Information Science (LIS) students from five universities. The number was deliberately limited to 5 informants for each location. It was not to represent the population using survey models and percentage techniques but to get a holistic picture of the phenomena in qualified data. The limitation of informants to the only LIS field is motivated by at least two fundamental reasons, namely first, this research will look specifically at the issue of social adaptation based on digital literacy among students in the LIS field, which is a field whose daily activities are related to the world of information and digital technologies. Second, the COVID-19 event has affected a lot of the library world, which is an important area of knowledge for LIS students, and even the library will be their place of work in the future. Besides, the data of those informants are considered to reach saturation points. Geographically, the informants consist of three major islands: Sulawesi, Java, and Sumatera. The three islands have some differences and unique situations, as well as at a certain level, representing the uniqueness of other regions not covered in this study. Meanwhile, demographically, the informants have different cultural areas from one another and are limited to groups of students who, in terms of age, included the same generation, namely Gen Z. Table 1 explains those informants as follows.

Those informants were interviewed between the 6th and 29th of February 2023, which was carried out intensively for a week combined with observation activities to ensure that the data obtained was valid by researchers at each research location. Carrying out such research is an effort to practice data validation techniques. The results of the interview as the primary research data confirmed validity through triangulation techniques in the form of source triangulation and technical triangulation. Source triangulation validates data by comparing interviews with several informants to ensure data validity is achieved (Sugiyono, 2013). The subsequent validity is to use the observation sources owned by researchers. Is the source data relevant to the observation findings? If yes, they cited those data as valid data and used them as a source to explain the object of the study. They found no conflicting data during the research in the informants' interviews. It was just that each had its breadth, which showed variations in situations that occurred among informants.

The conceptual construction analyzed includes two main things related to social adaptation based on digital literacy: self-actualization and societal

Table 1. Demographic & Geographical Information of Informants

No.	Informant	Institution	City	Semester	Gender	Island
1	Info.UI-01	Universitas Indonesia	Jakarta	6	Female	Java
2	Info.UI-02	Universitas Indonesia	Jakarta	3	Male	Java
3	Info.UI-03	Universitas Indonesia	Jakarta	2	Male	Java
4	Info.UI-04	Universitas Indonesia	Jakarta	7	Male	Java
5	Info.UI-05	Universitas Indonesia	Jakarta	6	Female	Java
6	Info.Alaud-01	UIN Alauddin	Makassar	7	Female	Sulawesi
7	Info.Alaud-02	UIN Alauddin	Makassar	7	Male	Sulawesi
8	Info.Alaud-03	UIN Alauddin	Makassar	7	Male	Sulawesi
9	Info.Alaud-04	UIN Alauddin	Makassar	2	Female	Sulawesi
10	Info.Alaud-05	UIN Alauddin	Makassar	3	Male	Sulawesi
11	Info.UB-01	Universitas Brawijaya	Malang	6	Female	Java
12	Info.UB-02	Universitas Brawijaya	Malang	6	Female	Java
13	Info.UB-03	Universitas Brawijaya	Malang	6	Female	Java
14	Info.UB-04	Universitas Brawijaya	Malang	6	Male	Java
15	Info.UB-05	Universitas Brawijaya	Malang	6	Female	Java
16	Info.Suka-01	UIN Sunan Kalijaga	Yogyakarta	4	Male	Java
17	Info.Suka-02	UIN Sunan Kalijaga	Yogyakarta	6	Male	Java
18	Info.Suka-03	UIN Sunan Kalijaga	Yogyakarta	4	Female	Java
19	Info.Suka-04	UIN Sunan Kalijaga	Yogyakarta	2	Male	Java
20	Info.Suka-05	UIN Sunan Kalijaga	Yogyakarta	4	Female	Java
21	Info.Rafah-01	UIN Raden Fatah	Palembang	7	Female	Sumatera
22	Info.Rafah-02	UIN Raden Fatah	Palembang	10	Male	Sumatera
23	Info.Rafah-03	UIN Raden Fatah	Palembang	10	Female	Sumatera
24	Info.Rafah-04	UIN Raden Fatah	Palembang	8	Female	Sumatera
25	Info.Rafah-05	UIN Raden Fatah	Palembang	9	Male	Sumatera

facilities. Each of both has four elements, as seen in Table 2.

The two key concepts described in the eight elements above can be seen in more detail as follows. The first key concept, identity awareness as the first element, is intended as the fundamental core of literacy, which places a person in the correct identification of his identity, such as

Table 2. Aspects of Social Adaptation through Digital Literacy

No.	Main aspects	Adaptational elements	Goals in social adaptation through digital literacy	
1	Self-actualization in social conditions	a)Identity awareness	Knowing the experience, appreciation, and adaptation of self-identity through social/digital media skills.	
		b)The presence of critical thinking	Exploring ways to adapt to society through ability and critical reason towards digital technology.	
		c)Implementation of social participation	Knowing participation in society through skills and insights into technology and social media.	
		d)Empowerment in society	Knowing the role in society through the use of digital technology.	
2	Means of society in social adaptation	a) Awareness of rights	Knowing self-adjustment in society through awareness of individual and social rights.	
		b)Having a responsibility	Understanding responsibilities that are carried out through technological capabilities.	
		c)Citizenship status	Knowing the role of citizenship status in providing a solid ability to exist in a digital era society.	
		d)Community safety	Knowing aspects of public safety guaranteed through technological capabilities and social media.	

understanding what is known or done. Second, critical reasoning is an attitude that can give someone a different perspective from other people so that someone can make a change. Third, social participation is inherently a literate behavior of people who use their knowledge to be responsible in their social environment or the surrounding community. Finally, community empowerment is considered an urgent component of digital literacy. This element becomes one of the drivers of change comprehensively, where negative actions or limited communication effects such as technology-based hoaxes and fraud can be avoided. Productive actions, such as the involvement of Gen Z in technology learning in society, can be well developed (Buchanan & Sparagowski, 2022).

The second key concept is the first regarding awareness of a person's and society's rights. This awareness of rights refers to two dimensions, namely internal and external. On the internal dimension, a person or society can recognize their rights in social struggles, which is why within certain limits, they can also recognize the rights of others on the external dimension. Second, responsibility is an individual or group attitude in society, which is a basic principle of literacy. They become determinants of the level of social harmony. Understanding their individual responsibilities will also shape their socially responsible understanding. Third, citizenship is the behavior of a person's nationality who understands his position as part of the outside world, which has territorial boundaries that determine his every action in society, locally, regionally, and internationally. Finally, social security is the final key to literacy, namely that every interaction, both individual and group, local and regional, and internal and external, aims to create safe conditions, especially to adapt socially to the current conditions faced in the post-COVID-19 era (Abror et al., 2022; Tinmaz et al., 2023).

The last point is that data analysis, which is according to Miles and Huberman (1994) consists of three essential components: data reduction, data display, and conclusions drawing/verification as can be illustrated in the following.

Figure 1 shows that data analysis refers to data collection. The collected data can be in interviews, observations, and documentation. In essence, the data is a material object of a study. According to Miles and Huberman (1999), the material object that has been obtained and filtered requires analysis stages, which are grouped into those three stages. These were used gradually and systemically in analyzing the research data. The data reduction is used to localize data in order to achieve a focused discussion, which is framed in the material objects. All reduced data are excluded

from the research problem under study. All irrelevant data were reduced and brought out into another data group. The original data were kept as first-group data, considered relevant data for the discussion of the research. This stage ended with displaying data as a second stage that covers all data of intended issues of this research. The coverage of this activity is to provide the third stage to achieve certain levels of investigation that become a basis for making conclusions or followed by verification. Therefore, this stage can stop with the final results, or vice versa, rotating backward to data reduction.

4. Result and Discussion

The results and discussion consist of two essential parts: a glance at the research places and a description of findings with analysis. The first one explained the relations between the five universities and the culture around them in a fast way. The second is the data findings that are described and analyzed based on conceptual frameworks. The analysis can help readers to understand the results of the research. The following illustrates the subject's condition and the research location as in Table 3.

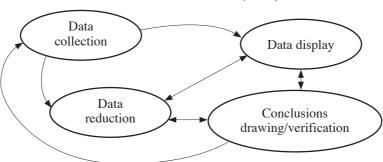


Figure 1. Components of Data Analysis by Miles and Huberman (1994)

Informants No. Institution Male Female Number 1 Universitas Indonesia Jakarta 3 2 5 2 1 5 Universitas Brawijaya Malang 3 3 2 5 UIN Sunan Kalijaga Yogyakarta 4 3 2 5 UIN Alauddin Makassar 5 UIN Raden Fatah Palembang 2 3 5

Table 3. Number of Informants, Gender, and Institution

4.1 A glance at research places

This research took five universities in the province and three different islands to get a holistic picture of LIS students' views in Indonesia regarding the process of social adaptation experienced based on digital literacy. The five universities consist of two universities under the Ministry of National Education and the Ministry of Religion. Universities under the Ministry of Education are Universitas Indonesia Jakarta, located in the State Capital of Jakarta, and Universitas Brawijaya Malang, located in East Java Province. The tertiary institutions under the Ministry of Religion are Universitas Islam Negeri (UIN) Sunan Kalijaga Yogyakarta, located in D.I.Y Province (Special Region of Yogyakarta); UIN Alauddin Makassar, in South Sulawesi Province; and UIN Raden Fatah Palembang, in South Sumatera Province (Handini et al., 2020; Kementerian Agama Republik Indonesia, 2021).

The five universities are located in different cultural and linguistic areas. Universitas Indonesia Jakarta has students who generally come from urban backgrounds and the economic level of the community who tend to be more stable and capable compared to students who are under the Ministry of Religion. The status of this tertiary institution is relatively equal to that of Universitas Brawijaya Malang, both of which are under the Ministry of Education, Culture, Research, and Technology. The latter is farther from Jakarta but takes place in the Student City of Malang, specifically in the valley area around the Malang City, East Java mountains. The cultural character in this area is Javanese culture which is more open because it is outside the royal palaces of the Sultanate. The Javanese system of society is marked by a kinship system, which upholds culture and ancestry and is open to other regions (Universitas Brawijaya, 2023; Universitas Indonesia, 2023).

The other three universities are the first UIN Sunan Kalijaga Yogyakarta, located in the Student City, and the City of Culture, whose cultural and linguistic characteristics are more refined due to its proximity to royal culture, the Yogyakarta Palace. The culture and language are Javanese. However, because dominant students are from the outside, the culture and language that lives in are diverse. The second is UIN Alauddin Makassar, located in the four major ethnic groups: Bugis, Makassar, Mandar, and Tator. Thus, the culture and language

that develop automatically come from the four tribes. The last is UIN Raden Fatah Palembang, whose society is dominated by ethnic Malays. Albeit its territory is on the island of Sumatera, the area takes place at the end of the island adjacent to the island of Java, which is more colorful. Many people from the island of Java move and settle in the area and are one of the dominant ethnic groups living in the area. This move is a transmigration program in the framework of increasing living standards, employment opportunities, and the development of areas outside the island of Java (Universitas Islam Negeri Alauddin, 2019; Universitas Islam Negeri Rafah, 2020; Universitas Islam Negeri Suka, 2019).

4.2 Analysis

Digital literacy-based social adaptation was carried out by students in five research locations consisting of 25 informants, as can be seen in Table 1. The research results describe several findings, summarized in two terms: self-actualization and social means. Based on these two things, this study found several vital phenomena, as explained in the following discussion.

4.2.1 Self-actualization

Digital literacy as a tool for social adaptation in dealing with post-COVID-19 within the framework of self-actualization contains four aspects: identity awareness, critical thinking, social participation, and societal empowerment. Twenty-six informants have responded to these four aspects from five universities. The phenomena among students show some information about their self-actualization efforts in dealing with the post-pandemic. The description and analysis of these four aspects can be seen below.

(1) Awareness of identity

The technological competency-based social adaptation process has shown post-millennial society, particularly Gen Z, among students illustrated by some critical phenomena, including strengthening technology ethics, validating multiidentities, channeling talents, and self-branding. Strengthening ethics is needed in order to maintain their existence and social harmony. Social media ethics is a crucial adaptation process to maintain relationships and communities of various levels and capacities of digital literacy. This ethic has significantly correlated with other phenomena, such as talent channeling and open self-branding. Channeling skills and self-branding require the application of technological ethics to help gain social legitimacy in attracting public attention to gain positive credit (Abror et al., 2022; Wijaya & Nasution, 2022). Social legitimacy becomes vital because the positive response from the community will help social media activists get social opportunities and rights, which indirectly affects their self-branding. In this regard, interviews with several informants can be seen, among others, as follows.

"I have two identities; the first one is for personal branding. I build my image on social media as I want. The second one is for communication with close people, like family and friends." (Info. UB-03)

"I think ethics or morality is needed in social media. All these help us brand our personality; we need to maintain our communication with others. So, I only follow IG and FB with clear ethical standards." (Info. Alaud-04)

"Through social media, I find many things that shape my identity, like for self-development, trust building, value restoration, self-branding... a big freedom to express ourselves." (Info. UI-02)

The interviews illustrate that identity is essential in adapting and communicating with others. They realize that social interaction, especially within the framework of post-pandemic use of new media, requires several supports to realize social adaptation (Li & Yu, 2022). This support is explicitly stated in the form of ethics, which will later become the primary tool of social adaptation. These ethics encourage insightful digital interactions, which is called digital literacy. The results help self-development, personal branding, trust building, value search, and other self-disclosures that describe their existence in society (Shih & Jeng, 2023; Wijaya & Nasution, 2022).

(2) Critical thinking

Post-pandemic life demands various approaches to have the ability to participate. To be able to participate, they cannot be direct as in the previous normal situation. However, the urgent step is to adapt socially, providing maximum movement space. Therefore, mastery of technological means needs to be possessed (Agustin et al., 2022; Soroka, 2022). At this stage of mastery of technology, people can utilize technology more directed, systematically, and maximally. Conditions like this have illustrated the nature of digital literacy as a critical thinking tool needed to understand digital potential. In the end, social adaptation can be harmonious (Purwanto et al., 2023). The sustainability of post-pandemic society among students shows a more intensive social adaptation within the framework of technological mediation. In this context, their critical thinking works through several strengthening issues, including careful use of technology, efforts to understand the ins and outs of technology to know the good and bad that can arise, technological developments are continuously followed, and so on (Buschman, 2022). Critical thinking in the form of detailed and comprehensive thinking accompanied by caution has been described by the following informants:

"Digital technology requires the ability to realize and adapt to change, enrich our skills, and think deeply, critically, and carefully before sharing certain information because much information tends to hoax... as you know what we have today is still related to the pandemic." (Info. Rafah-03)

"With increasingly advanced technological developments, we must develop ourselves with knowledge and skills related to technology so that we can adapt to advances in digital technology." (Info. Suka-05)

"Today's society can consume much viral content, whatever it is, as long as it is viral, it is likely that it will be followed. In a society like that, I adapt myself to what I consider good, I will take or follow, and what is bad; in my opinion, I don't follow." (Info. UI-01)

New technological developments marked by the emergence of social media have brought significant changes. New traditions and behaviors have emerged as social adaptation among people at almost all levels and psychological and other backgrounds (Singh et al., 2022). This new technology in the form of social media needs to recognize the type and background of the community. This media has penetrated all groups, from remote villages to urban centers, from laborers to professionals and executives, from passive to active people, and so on (Abror et al., 2022). This technological mediation process is a must in the development of society so that people must have technological competence according to their level of needs. For students, digital literacy is a must to maximize its functions in an academic environment. Digital literacy is a fundamental basis for socially adapting, especially in dealing with this post-pandemic situation (Meinck et al., 2022).

(3) Social participation

Community participation is essential in adapting socially, especially in the digital era, marked by the speed of information and communication. In this era, people can move quickly, and their reach is more expansive than in previous eras (Economic Commission for Latin America and the Caribbean, 2021). Society gets time privileges that are more dynamic and positively open to being creative on the one hand and to high-risk potentials on the other. Creative and professional utilization through mastering digital literacy competencies will birth better and harmonious community development (Abror et al., 2022). However, based on something other than digital literacy capabilities, as in the library framework, this technology will have the potential to produce hoax news and social disharmony (Apuke & Gever, 2023; Bhat, 2021). So, social engagement must be supported by a digital literacy-based adaptation process. Student social participation in dealing with post-pandemic society can be seen in the following interview.

"I usually help share news when I feel it's important, especially in a small scope to my family; for instance, I am involved in sharing vaccine information from the official web of the government or my friends to my community." (Info. UB-02)

"My participation in society, apart from being a user of Socmed, I become a teacher in my community unfamiliar with technology or social media. I invite them to learn together about technology." (Info. UI-03)

"I participate in society through my skills in technology and social media, also involved in socializing community events through social media and participating in some studies through social media during the pandemic until now." (Info. Alaud-02)

Digital technology-based community participation with social media platforms moves dynamically. All forms of involvement are a social adaptation to new conditions that must be accustomed to in social practices. Technology's influence is pervasive and even determines every action of society (Marston et al., 2020). Based on the interview results, community participation includes several things, such as information communication and social education. Information communication is students' social involvement in opening access to information so that the public can get correct information from suitable sources. For example, using an official website as a source of information illustrates one of the digital literacy practices (Ishimura & Fitzgibbons, 2023). This digital literacy step will encourage good social adaptation and direct them to the right destination. Student participation also takes the form of educational involvement and

assistance. This participation is essential in facing the post-pandemic era through a participatorytechnological tradition (Apuke & Gever, 2023).

(4) Empowerment in society

Empowerment in society is a necessary form of the social adaptation process. Empowerment in the context of the digital technology era demands the leading role of technological means. With technological means in the digital era, empowering a society becomes easier. Therefore, such social adaptation must be connected to digital literacy competencies, which have become keywords in almost every social action of today's society. In order to realize community empowerment in the new media era of digital technology, several interviews with informants have described several essential things to understand.

"Hoax is one of the negative impacts of information technology, specially nowadays post-COVID-19. So, we extremely need filtering information before sharing is important. It can prevent hoaxes... having information literacy skills is one of the solutions." (Info. Alaud-05)

"I always support positive activities and provide suggestions concerning techniques for dealing with fake news, helping the community master digital technology, and guiding how to know correct information for decision making." (Info. Rafah-01)

"Digital technology plays an important role, such as helping work in creating, changing, storing, conveying, and disseminating information quickly... with quality and efficiency to the surrounding environment." (Info. UI-05)

Based on the interviews, it is clear that community empowerment based on social media requires digital competence in the communication process. This communication will make them gradually understand the quality of information and its correct and appropriate sources for their needs. From that process, they can distinguish real news from hoax news (Anthonysamy & Sivakumar, 2022). Achieving this technical qualification is the entry point for societal empowerment (Sutirman et al., 2022). The ultimate goal of empowerment in society is the ability to make decisions. People who can make the right decisions will create a harmonious social community and generally have a high quality of social adaptation in dealing with post-COVID-19. A digital society full of information dynamics has faced various social and technological challenges (Al-Quran, 2022). Social confusion in the technological era can occur if the community does not hold digital competencies. As a result, social disharmony can occur, and even horizontal conflicts can occur and destroy the local wisdom traditions of the community (Abror et al., 2022; Dyanggi et al., 2022).

4.2.2 Societal means

Digital literacy also functions as a social tool, where people place technology as a fundamental tool. Society in the new media era has relied on technological capabilities in their daily social practices related to the profession and other social activities. Therefore, they create new patterns of interaction to build community relations in creating social harmony. Social adaptation through digital literacy in post-COVID-19 has four aspects of social power as follows.

(1) Awareness of rights

The digital era requires a deep understanding and awareness of rights. This awareness is urgent because new media technology provides a very open and accessible space for everyone to express themselves with limited control to promote democratic rights. Minimal control opens up freedom. Uncontrolled freedom has the potential to give birth to actions that exceed rights. The presence of awareness concerning rights will create conditions of mutual understanding and social harmonization. Awareness of rights as a social adaptation is fundamental in digital literacy to face the post-pandemic era. This condition occurs in various phenomena among students, as seen in the following interview results.

"When I am on social media, like IG, FB, etc. I try to respect all rights because I believe that protecting others' rights is like protecting my own, so postings that can hurt others must be avoided." (Info. Suka-02)

"When I made a tweet or post, I always thought about the impact on other people and questioned whether doesn't it violate people's rights... etc." (Info. UB-05)

"I realize that everyone has different backgrounds. Thus, we need to understand those differences with mutual tolerance so that social life can run comfortably and peacefully... at least we contribute a good thing in today of the postpandemc." (Info. Alaud-03)

The results of interviews with these informants illustrate that individual and community rights have a vital position in maintaining social harmony. Interacting within the framework of technological media, especially social media,

requires a high awareness of rights. The interview illustrates that posts need to be controlled by everyone because they contain the potential to violate other people's rights, which consequently hurts them (Graves et al., 2022). Every statement on social media is a node of individual and social rights that must be maintained to foster harmonious social adaptation among people. The achievement of this harmonious social adaptation is awareness of the rights of differences among people. The difference is everyone's right. Every action places these differences as a basis for consideration in social media, which is as a way to enggage to the solution of pandemic problem (Aytac, 2024).

(2) Responsibility

Responsibility is one of the means of society to create social adaptation within the digital literacy framework. The digital ecosystem is the foundation of the modern world. It is currently constructing new media that provides unlimited space for individuals so they are no longer dependent on institutional access and information. Everyone has equal rights and access to an open world (Abror et al., 2022; Liu & Su, 2022). Community interaction in adapting to postpandemic life has given social responsibility to contribute to creating a better world after the health and social disaster caused by COVID-19. The responsibility of the community, especially students, illustrates several points, as seen in the following interview.

> "Ethics in communication is fundamental in social media. Ethics and moral values are needed in technology to avoid conflict." (Info. Rafah-05)

"The use of technological media, especially social media, as recreational facilities at the right time, not exceeding, in my opinion, is also one of the responsibilities towards oneself in maintaining emotional stability. It is practiced in work, study, etc." (Info. Suka-03)

"We are responsible for all the consequences, otherwise when we are not ready with all the consequences, meaning not responsible... that is why responsibility is needed in social media because it relates to a comfortable life for everyone." (Info. UB-01)

The interviews illustrated that the responsibility in social media and other technology contains aspects of ethics and balance. Ethics is related to the values that society has. The ethical aspect will provide control over respect for differences in values held by society (Harlander & Morrison, 2020). Appreciation will result in understanding each other and social harmony. The aspect of balance is related to actions that are not excessive or reduced. That is, one's responsibility is to create a condition that everyone can accept (Muttagin et al., 2022). In addition, responsibility also contains benefits and consequences. Responsibilities, in a sense contained in the interview results, have been explained by other informants whose content is more or less similar. Therefore, benefits and consequences are the end point of every social action among students (Purwanto et al., 2023). They state that both approaches are essential in social media. They consider that the community's responsibility in facing the new post-pandemic era demands a mindset that can elevate these two values to arrive at the desired social life.

(3) Citizenship

Citizenship as a fundamental status in social interaction, which currently seems as if territorial boundaries are no longer exclusive, requires a new awareness to maintain coexistence in diverse cultures and nationalities. Therefore, the issue of citizenship in digital literacy becomes urgent because new technology characterizes modern life. Modern society is dynamic and fast-paced. The need for digital literacy is essential because social adaptation can be achieved if people have the technological competence to overcome social impacts. Digital technology-based social adaptation must be addressed because almost every action cannot be separated from the role of technology, especially social media, which is currently an integral part of people's daily lives (Abror et al., 2022). Citizenship issues in the social media spectrum can be seen in several ways, such as relations between countries and differentiation. Responses to this issue can be seen in the following interviews.

"In digital media, easy to promote and introduce ourselves, our country, what we have, what is interesting, culture, language, etc." (Info. Suka-01)

"As citizens, we must adapt to the digital era because, for now, digital technology is fundamental, at work and in everyday life, locally and internationally." (Info. Rafah-04)

"As social media users, we must maintain the good name of the country and not be influenced by foreign cultures, which is not educating and having a negative influence." (Info. UI-04) The interview results illustrate that the post-millennial generation is aware of the importance of citizenship status in social media. Citizenship is a fundamental construction of nationality in international society (Suphattanakul & Maliwan, 2021). In addition, to promote the country in its various characteristics, such as diverse cultures and languages, students also realize the importance of maintaining their values by trying to avoid getting caught up in foreign influences different from the nation's culture. This awareness is essential in adapting to post-pandemic conditions. Such awareness will fortify foreign influences that can erode culture and national identity (Martono et al., 2021).

(4) Societal safety

Digital literacy is closely related to aspects of community safety, so social adaptation concerning the impact of the COVID-19 pandemic uncovers the crucial position of digital literacy (Sá et al., 2021). The aspect of community safety is one of the essential elements in the context of civil facilities, built from a digital literacy perspective (Tinmaz et al., 2023). Community safety is one of the corridors of social adaptation in the post-pandemic era. Such social transformation requires qualifications of knowledge and ideas in constructing perspectives that can provide social choices based on the nation's diverse cultural characteristics leading to the safety of society (Dyanggi et al., 2022). The issue becomes important in the following interviews.

> "I don't think all of them will guarantee the safety and security of accounts perfectly because applications made by people will always change. But remember there are many weaknesses... so safety belongs solely

to God, community safety cannot be fully guaranteed by technology albeit those are expert in technology. So, humans are just having efforts." (Info. Suka-04)

"What we know is that the development of digital technology is very influential on people's lives. We must make the best use of digital technology and not misuse it. When you use it properly, safety will come. You will become a part of the problem solver, specially in our age of postpandemic." (Info. Rafah-02)

"Understanding the use of social media is a solution to ensure safety for this post-COVID-19. If you don't understand the use of social media wisely, it can be fatal and spread negative impacts to society." (Info. Alaud-01)

The interview results show that safety is seen from horizontal and vertical perspectives. Horizontal as an initial point relates to humanitarian efforts because humans try their best to address sophisticated technology. Technological advances in social media have been designed for public interests due to their powerful impacts on society (Purwanto et al., 2023). The other point is spiritual-religious. Human effort is limited to actions. All actions can be successful if God desires, so maximum human measures do not automatically guarantee the safety of society. The above analysis illustrates that human efforts can lead to two paths of salvation: Qadariyah (human effort) and Jabariyah (God's desire) (Mahmuddin & Syandri, 2020). The risk of social adaptation facing the post-pandemic era can be minimized by strengthening digital technology competencies. With these competencies, people can carefully

carry out digital-based communication activities. Some posts are vulnerable to fraud. Thus, they must verify the file type to avoid account hijacking and theft. In principle, every action has two sides: positive and negative. Further, the impact of both sides occurs based on human awareness and action, primarily determined by how far their literacy level is in using technology (Bhat, 2021; Haddock et al., 2022).

In general, the results of the analysis above regarding social adaptation in the digital literacy framework that has been developing among Gen Z, especially those currently studying at university, can be seen in Figure 2 below.

5. Conclusion

Post-pandemic issues are still a hot and dynamic discussion. The form of policies implemented also varies in various places. Such practices become commonplace, and everyone has different responses, and differences become commonplace. The tolerant response to differences due to information disclosure born from the latest technological advances shows the accumulated effect of social adaptation to technology. The emergence of new technology in the form of social media has helped society adapt to global and multidimensional crises, such

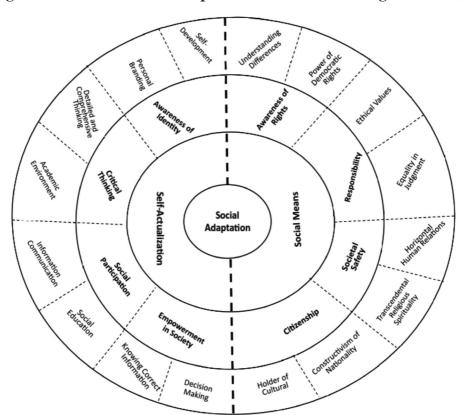


Figure 2. Circle of Social Adaptation in the Frame of Digital Literacy

as economic downturns and health disasters. COVID-19, as a world health crisis, has disrupted the balance of other areas of life. Postpandemic is currently still being adopted by society. At this point, the research conclusions can be seen in two accumulated social aspects of the implications of digital literacy. These aspects are self-actualization and societal means.

Self-actualization includes four things, namely identity awareness, critical reasoning, social participation, and empowerment in society. The issue of identity awareness has become essential in adapting and communicating with others. This issue has allowed Gen Z society to compare their existence through social media (Johnson, 2017) and provided a framework for post-pandemic use of new media that requires support to realize social adaptation (Li & Yu, 2022). At this point, found a potential for the mobility of social values or trust building in the realm of criminology (Shih & Jeng, 2023), consisting of ethics to encourage insightful digital interactions, called digital literacy. The research found that the identity issue promoted self-development, personal branding, trust building, value search, and other selfdisclosures that describe the existence of multiidentities in society (Shih & Jeng, 2023; Wijaya & Nasution, 2022).

Critical reasoning includes systematic and focused efforts in technology and carefully translating various phenomena that arise in their social practices. Gen Z has a critical capacity to see opportunities because digital literacy has given them sound reasoning in a digital frame to participate (Trang et al., 2024). Social participation is implemented in the form of information communication and social education.

Community involvement is more open because access is available and without discrimination so that social education can run dynamically. Meanwhile, empowerment in society is intended as a space where people understand the quality and sources of information, which lead to independence in decision-making. Their very participatory engagement in the digital world illustrates a positive effect because they have become a solution amid the spread of hoaxes and fraudulent news, such as providing digital learning and even entrepreneurial opportunities to people in need (Abdullah et al., 2022).

Likewise, societal facilities contain four things: awareness of rights, responsibilities, citizenship, and community safety. Awareness of rights is urgent in digital communication because the flow of information is high-speed and potentially sensitive. The presence of social media opens access and distribution of information without control, so awareness of rights needs to be maintained so as not to violate the rights of others. Posting information is a personal right on the one hand and the right for other people's convenience on the other hand. Awareness of rights has implications for one's tolerance, automatically resulting in an attitude of mutual understanding of different backgrounds, such as ethnicity, religion, and sexual orientation (Arcila & Griffin, 2023; Simuziya, 2022). Awareness of these rights then gives birth to responsibility, which is a societal means, which is essential to fulfill so that social harmony can be achieved. This issue involves various issues, such as ethics in the social or academic domains that need to be maintained, and digital literacy can be considered the basis (Chou & Pan, 2020). Similar to citizenship, new media

technology opens democratic access across space and time on the one hand, but cultural and national identities as conventional determinants on the other. Gen Z realizes the importance of citizenship in the digital world. Cultural, social, and national boundaries will be tested, and the extent of the digital literacy capacity of their generation will be determined. If they have literacy capacity, any negative influences can be adequately handled (Anthonysamy & Sivakumar, 2022). Public safety is a fundamental aspect of digital literacy. The issue of safety is understood from two perspectives: purely human effort and dependence on God's desire. It ultimately creates a spiritualreligious point of view in facing post-COVID-19 in Indonesia.

In this research, the emphasis is placed on the more in-depth narrative aspects because the approach used is qualitative descriptive so that the results of the studies obtained are automatically qualitative and interpretive in terms of data from several informants. The results presented are phenomena related to Gen Z digital literacy-based social adaptation processes amid post-COVID-19 social conditions, mapped into the two major groups above. As a consequence of choosing a research method approach, this research leaves some essential issues to be researched in the future, including the level of social adaptation among society in general and Gen Z, in particular. This level of social adaptation is vital because it will reveal how critical digital literacy is in guiding people to reach their level of social adaptation in certain conditions, such as the COVID-19 pandemic.

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Appendix A

I. Questionaries

1. Social adaptation through self-actualization based on digital literacy in post-COVID-19

No	Indicator	Question
1	Awareness of identity	How do you experience, live, and adapt your identity through social/digital media capabilities?
2	Critical thinking	How do you adapt to society through the ability to be critical of digital technology?
3	Social participation	How do you participate in society through your skills & knowledge of technology and social media?
4	Empowerment in society	How is your contribution to society through digital technology?

2. Social adaptation through the means of digital technology in post-COVID-19

No.	. Indicator	Question
1	Awareness of rights	How do you fit into society through awareness of individual and social rights?
2	Responsibility	How can the responsibility owned be fulfilled through technological capabilities?
3	Citizenship	How does citizenship status provide a solid ability to exist in a digital age society?
4	Community safety	How can public safety be guaranteed through technological capabilities and social media?

II. Observation

No.	Object	Detail of exploration
1	Infrastructure	Understanding the condition of the location, both city and village as well as building and architecture of the universities.
2	Facilities	Looking at the rooms for student discussion and student center, such as health center, sport center. art center, etc.
3	Activities	Discovering performances of student academic and non-academic or social and cultural ones, etc.
4	Administration	Understanding bureaucratic issues, structural relations, and related rules about students at universities, such as rights and obligatory among students.
5	Environment	Looking at the atmospheres of the education, village, and city, both in internal and external relations.
6	Backgrounds	Understanding the conditions of ethnicities, culture, religiosities, and etc.

印尼圖資領域學生透過數位素養於 後COVID-19疫情時代進行社會適應之研究

Social Adaptation through Digital Literacy among LIS Students in Post-COVID-19 in Indonesia Nurdin Laugu¹, Laksmi², Andi Ibrahim³, Mulyadi⁴, Mukhlis⁵, Muhammad Solihin Arianto⁶

摘要

在後疫情危機下萌生於資訊領域的數位科技,因其多功能提供許多解方,卻也帶來詐欺等重大威脅。如何善用這些科技,依賴數位素養;在後COVID-19疫情時代下,更需透過數位素養進行社會適應以維持社會狀態。考量圖資領域與當前數位素養問題和疫情之聯繫,本研究針對25位來自印尼5所大學的圖資領域學生進行質性訪談研究;再以Miles與Huberman的資料呈現、限縮與驗證三階段進行分析。研究發現數位素養達成的社會適應,影響Z世代於身分認同、批判性推論、社會參與、社會賦權的自我實現,亦增強了社會權利、責任、公民意識與社群安全。本研究透過深度訪談方法發現上述現象,但僅限於敘事情境下的描述分析,後續研究應考慮透過量化趨勢探討該世代面臨COVID-19的適應程度。

關鍵字: 社會適應、數位素養、圖資領域學生、社群媒體、後COVID-19疫情時代

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