Enhancing Cross-Generational Information Technology Literacy through the Implementation of a Posyandu Web-Based Platform in Tanjung Pule Village

[1]Pamuji UIN Raden Fatah Palembang

[1]Muhammad Arifin* UIN Raden Fatah Palembang

[1]Velia Nur Hadisa UIN Raden Fatah Palembang

[1]My Rama Wijaya UIN Raden Fatah Palembang

[1]Sister Amalia Putri UIN Raden Fatah Palembang

Abstract ,

Objectives: The rapid development of information technology has not been fully adopted by all levels of rural society, including the community of Tanjung Pule Village. The main problems identified in this village include low digital literacy, particularly the gap in technological understanding between older and younger generations, and the manual administration system used at the Integrated Health Post (Posyandu), which is vulnerable to data loss and inefficient record management. This Community Service Program aimed to improve cross-generational information technology literacy and to design and implement a web-based Posyandu information system.

Materials and Methods: This program was implemented through three main stages: observation and problem identification, inclusive information technology education through socialization and training, and the design and implementation of a Posyandu web platform. The activities involved village community members from different age groups and Posyandu cadres as the main users of the digital system.

Results: The program showed an improvement in community understanding of the positive and practical use of basic information technology. Both younger and older participants were able to recognize the benefits of digital tools in daily life and community services. In addition, the Posyandu web platform was successfully implemented and tested by cadres. The system helped simplify the process of recording, reporting, and monitoring maternal and child health data in real time.

Conclusions: This Community Service Program contributed to reducing the digital literacy gap in Tanjung Pule Village and supported the modernization of village health service governance. The implementation of the web-based Posyandu information system made administrative processes more efficient, accurate, and accessible for cadres and the local community.

Keywords : Information Technology Literacy; Cross-Generational Learning; Posyandu Web Platform; Digital Community Health Services; Village Digital Transformation.

* Correspondence : arifin@gmail.com
Correspondence autho **Muhammad Arifin**
Correspondence Author UIN Raden Fatah Palembang, Indonesia

How to Cite: Author, A. A., Author, B. B., & Author, C. C. (2026). Enhancing cross-generational information technology literacy through the implementation of a Posyandu web-based platform in Tanjung Pule Village. *NJCS*, *2*(1), 21–26.

INTRODUCTION

Development technology information and communication (ICT) has bring change for Indonesian society . With ICT society more easy access various information and support work (Yusnaldi et al., 2023)Technological developments in this modern era can bring about many changes and have a significant impact on various sectors in Indonesia. One of these is information technology . (Hakim & Putri, 2023)The transformation towards a smart village *requires* the use of technology to accelerate access to information and improve the quality of public services. One crucial public service sector at the village level is the Integrated Service Post (Posyandu). As the frontline in monitoring the health of mothers, infants, and toddlers, Posyandu operations require a fast, accurate, and secure data collection system to effectively monitor the health and nutritional status of village residents .

However, the reality on the ground shows that technology adoption is not yet fully equitable, as is the case in Tanjung Pule Village. Based on initial observations, two main issues were identified. First, there is a significant digital literacy *gap* within the community, where technology introductions among children and young people are not yet directed toward productive activities. (Holst et al., 2021)Information and communication technology literacy plays a vital role in education. It is the key and foundation of education

today. (Mohammad Nasrullah et al., 2022)Second, the health administration and recording system at the Tanjung Pule Village Integrated Health Post (Posyandu) is still conventional. Posyandu cadres rely on ledgers and paper forms, which are prone to data loss and corruption, as well as inefficient service times .

If left unchecked, this situation will hamper village progress. Manual record-keeping overwhelms cadres in summarizing monthly data, while a lack of digital literacy leaves the next generation of villagers behind in the use of information technology. (Miñarro-Giménez et al., 2019). The increased clarity and frequency of communication resulting from the use of digital platforms suggests that social support delivered through online media can remain effective in providing the support students need. (Makki Mustaqim et al., 2024)Therefore, concrete interventions are needed to bridge the digital divide and modernize the governance of basic health services in the village .

Responding to the above problems, the **Real Work Lecture (KKN) Recognition Team, Class 84, Group 23, UIN Raden Fatah Palembang** , especially from the Information Systems science group, is here to provide appropriate technological solutions. (Li et al., 2020)This intervention is realized through a series of integrated work programs that focus on cross-generational education and the digitalization of Posyandu services. The details of the programs implemented include: (1) increasing digital literacy through software education for the younger generation; (2) training in creating educational *games using the Scratch platform* to stimulate children's creativity ("From *Gamer* to Creator"); (3) testing an integrated information system (*website*) directly within Posyandu services; and (4) *the grand launching* and handover of the Posyandu *website* to the Tanjung Pule Village Government. (Kennedy & Gallego, 2019)Through this series of programs, it is hoped that Tanjung Pule Village can realize the digital independence of its community and optimize the efficiency of its health services on an ongoing basis .

METHOD

The implementation of this activity uses a direct field approach method through observation and interview data collection techniques. (*Editorial-Board_2019_International-Journal-of-Medical-Informatics*, n.d.). This entire series of activities was carried out by participants of class 84A in the even semester of the 2026 Academic Year, with a duration of implementation of 35 days and a total accumulated workload of 180 hours. (Hu et al., 2025)In practice, the field data collection process is supported by the use of instruments in the form of interview guides , field notes , and documentation tools (audio and visual) to ensure that the information obtained is valid, accurate, and academically accountable .

RESULTS AND DISCUSSION

The implementation of the Community Service Program (KKN) Recognition Program, Batch 84, Group 23, in Tanjung Pule Village focused on digital transformation efforts, realized through four main work programs. The following is a presentation of the results and discussion of each phase of the activities implemented :

1. Improving Digital Literacy through Software Education for the Young Generation , this program was implemented to respond to the problem of low digital literacy in Tanjung Pule Village, which has given rise to a gap in understanding technology across generations. The current digital era demands changes in learning methods that can influence students' interest in learning, including increasing student literacy through the use of technology (Juliper Nainggolan et al., 2025). Information and communication technology (ICT) literacy plays an important role and is the main foundation in the world of education in the modern era. Software, software or other words software (English: software) is a special term for data that is formatted and stored digitally, including computer programs, documentation, and various information that can be read and written by computers (Jurnal Publikasi et al., 2023). In this case, KKN students are required to take an active role as agents of change to bridge the progress of ICT literacy among students and the community. Factors such as a lack of local government support, the public's view that literacy is only important

for students, and a lack of outreach from academics also hamper the improvement of literacy in the area.(Prasetyo Tulodo et al., 2024)

Figure 1. Software Education

This software education aligns with efforts to fulfill core digital literacy competencies, where participants are not only taught how to operate basic devices (such as information retrieval or *internet searching*) but also guided to be able to evaluate information content critically and responsibly. The results of the activity indicate an increase in public understanding, particularly among young people, regarding the more positive and targeted use of basic technology.

2. Educational *Game* Creation Training using the *Scratch Platform* As a concrete step to change the paradigm of children from mere gadget enthusiasts to creators, the KKN team initiated an educational *game creation training using the Scratch platform* . The activity, which carries the theme "From *Gamer* to Creator", aims to stimulate creativity and instill algorithmic thinking logic in village children. Computational Learning One of the main goals of Scratch is to support computational learning, namely critical thinking and problem-solving skills related to programming (Prasetia & Vebri Valentina, 2024). In addition, the advantage of this scratch application is that children can create animated videos simply by arranging command blocks consisting of several colors (Mulanisya et al., 2022).

Figure 2. Game creation practice using *scratch*

The use of technology in interactive training like this is crucial for rekindling students' interest in learning and encouraging active student engagement, preventing monotony. Through this training, students are not only exposed to theory but also encouraged to practice creating digital works. As a result, student enthusiasm has increased significantly, and they are expected to become more aware of the importance of adapting to technological advances in the 5.0 era as an integral part of their lives.

3. Integrated Information System Trial in the Midst of Posyandu Services , one of the urgencies in Tanjung Pule Village is the Posyandu administration system which is still conventional, where cadres rely on ledger recording which is vulnerable to the risk of loss, data corruption, and inefficiency in service time. To overcome this, the KKN team designed a *website- based Posyandu Information System* . Basic health services are the main foundation in realizing a healthy and

prosperous society. One form of health service that is close to the community, especially mothers and children, is Posyandu (Integrated Service Post) (Arunita Rahmania, 2026).

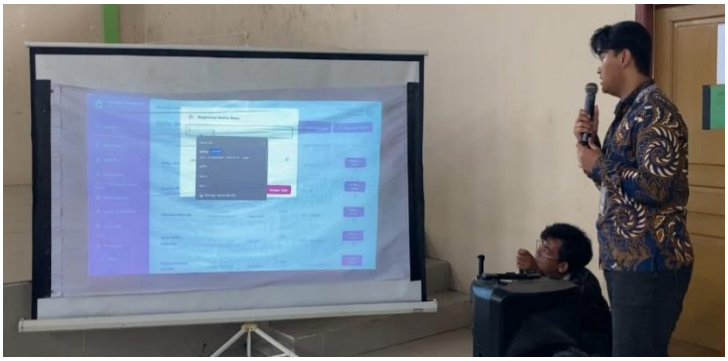

Figure 3. Posyandu Website Trial

Before the system was launched, the team conducted a *User Acceptance Testing* (UAT) approach by conducting live system trials amidst the busy activities of Posyandu (Integrated Health Post) services. This participatory approach is crucial, considering that the success of ICT empowerment and implementation is highly dependent on the ICT literacy level of the community using it. Through live trials, the team was able to evaluate the *user interface* and adjust the system's functionality to ensure it was truly relevant to the capabilities and field needs of Posyandu cadres.

4. *Grand Launching* and Handover of the Posyandu *Website* : The culmination of the technology intervention in this village was the *grand launch* and handover of the Posyandu *website* to the Tanjung Pule Village Government. The village *website* plays a crucial role in quickly disseminating information, highlighting the village's potential, and facilitating access to integrated public services .

Figure 4. Group Photo As well as Handover Website Integrated Health Post

The handover ceremony was not only symbolic but also accompanied by intensive operational training for village cadres. The implementation results showed that the Posyandu *website* was successfully operated by the cadres, effectively facilitating the recording, reporting, and monitoring of maternal and child health data in *real time* . Through this information system integration, the KKN Group 23 program successfully drove the transformation of village health service governance to become more modern, faster, and more accurate.

CONCLUSION

The implementation of the 84th Recognition Community Service Program (KKN Recognition) Group 23 in Tanjung Pule Village demonstrated success in bridging the digital literacy gap across generations while modernizing village health service administration. This was demonstrated through increased understanding of more productive technology among the younger generation and children through software education and training in creating educational games (*Scratch*). In the community service sector, the transition from manual recording to a *website- based Posyandu Information System* that has been tested and handed over to the village government has proven to be able to make the process of recording maternal and child health data more secure from the risk of loss, time efficient, and monitored in *real-time* . Overall, this technological

intervention not only solves the problem of Posyandu operational inefficiencies, but also becomes an important foundation for realizing the digital independence of the Tanjung Pule Village community towards the concept of a smart village (*smart* village) .

ACKNOWLEDGMENT

Writer say accept greatest love to all over the party that has support implementation activity devotion this . Greeting accept love intended to :

1. Head of Tanjung Pule Village and all device village , which has give permissions , data, and support full during process observation and implementation system information village .
2. Lecturer Supervisor Field (DPL), which has give direction , input , and guidance technical both technical and non- technical during implementation KKN program .
3. Colleagues Tanjung Pule Village KKN Group , for their cooperation , dedication and hard work hard in help data collection and socialization program to public .
4. Institution Research and Community Service Community (LP2M) UIN Raden Fatah Palembang, which has facilitate the way program devotion This so that can walk with fluent .

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