

Distributed Knowledge Networks in Youth Communities: A Multiple-Case Study of Everyday Digital Practices

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ABSTRACT:

Informal youth communities often use digital tools without dedicated knowledge management systems or regular external support. This study examined how practical digital knowledge remained available and how routine digital work continued across six Karang Taruna communities in Depok and Tangerang. Using a qualitative multiple-case design, the study combined six focus group discussions with 21 key participants and one or two visits per community. Cross-case analysis covered peer teaching, expertise distribution, transfer practices, member regeneration, and the continuity of everyday digital practices. Peer teaching, expertise distribution, and transfer practices appeared in all six cases, although their forms varied. Members passed practical steps through screenshots, messages, voice notes, demonstrations, buddy support, and group practice. Expertise was organized through informal helpers, rotating assistance, application specialists, backups, or shared basic skills. Participants reported routine tasks being reassigned when usual helpers were unavailable despite unequal digital abilities. Clear member regeneration was evidenced in KT-D3, where other members took over after three digitally skilled members left, but it was not established to the same degree elsewhere. The recurring pattern was not equal mastery or one standard learning model, but access to familiar helpers and another member who could handle routine work. The main contribution is to distinguish expertise distribution from member regeneration and clarify their different roles in participants' accounts of continuity. These working relationships are treated as distributed knowledge networks, not formally measured networks. The study does not compare effectiveness,

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establish causality, or assess long-term sustainability or information system resilience.

Keywords: distributed knowledge networks, expertise distribution, member regeneration, continuity of everyday digital practices, youth communities.

1. Introduction

Digitally connected youth communities may still lack dedicated knowledge management infrastructure and receive formal training only intermittently, if at all. In such settings, familiar platforms and assistance between members may help maintain practical digital work. This creates a knowledge-management question: how is practical digital knowledge distributed, transferred, and maintained when a voluntary community has no dedicated knowledge-management infrastructure? Research on technology adoption in developing-country organizations has examined technological, organizational, environmental, and appropriateness factors (Díaz-Arancibia et al., 2024; Patnaik & Tarei, 2022; Shahadat et al., 2023). A separate body of research has examined knowledge transfer, knowledge sharing, and the supports required by learning communities (Argote, 2024; Yeboah, 2023; Zamiri & Esmacili, 2024a, 2024b). These streams provide useful foundations, but they do not fully explain how voluntary youth communities distribute practical digital knowledge through everyday relationships and familiar platforms. Peer learning and digital literacy have frequently been studied through formal education, designed interventions, structured peer-feedback activities, or professional learning communities (Buchan et al., 2024; Campbell et al., 2024; García-Morales et al., 2021; Kerman et al., 2024; Liu et al., 2024; Scager et al., 2016). These studies establish the relevance of peer interaction, but their institutional settings differ from voluntary communities that have no formal curriculum, designated trainers, or regular external support. Less is known about how knowledge-sharing arrangements emerge and continue under such conditions. The unresolved issue is how peer teaching, expertise distribution, transfer practices, and member regeneration appear across youth communities, how their implementation varies between cases, and how

participants relate these practices to the continuity of everyday digital practices. Screenshot sharing is treated as one possible transfer practice emerging from the data, not as a predetermined or universal mechanism. This study asks: How are peer teaching, expertise distribution, transfer practices, and member regeneration enacted in digitally connected youth communities, and how do participants describe their relationship to the continuity of everyday digital practices? A qualitative multiple-case study examines six communities: four from different Rukun Tetangga (RT) units within Rukun Warga (RW) 15 in Limo, Depok, and two in Batuceper urban village (Kelurahan Batuceper), Tangerang. It compares recurring practices, case-specific variations, and participants' accounts of continuity where formal training was absent or intermittent. The study does not propose distributed knowledge management as a new concept. Its contribution is to distinguish three patterns that can easily be treated as the same: distributing expertise across members, developing additional or replacement helpers, and maintaining routine digital work. The six-case comparison examines how peer teaching and transfer practices supported these patterns, how implementation varied, and where clear member regeneration did and did not appear. Practically, the findings may help digital inclusion programs serving similar communities identify and strengthen peer-support arrangements that already exist. The implication is not that external training should be removed, but that sustained external support could work through local peer networks and respond to community-specific needs.

2. Literature Review

2.1. Informal Digital Learning and Knowledge Sharing

Knowledge transfer requires access to knowledge that is understandable, available, and relevant

(Argote, 2024; Yeboah, 2023). Learning communities often rely on mentoring, peer support, and accessible digital tools (Zamiri & Esmaeili, 2024a, 2024b). Informal digital learning can occur through everyday interaction, but much of the evidence comes from educational or workplace settings (Abedi et al., 2023; Karhapää et al., 2024; Kerman et al., 2024; Liu et al., 2024). Studies of peer and networked learning also stress routine participation in digital environments (Bogiannidis et al., 2023; Mayer, 2025; Pires et al., 2022; Prestridge et al., 2024; Tazhenova et al., 2024). Digital literacy and inclusion research emphasizes access, contextual support, and continued practice (Buchan et al., 2024; Méndez-Domínguez et al., 2023; Raihan et al., 2025; Reddy et al., 2023). Knowledge-sharing research stresses participation, knowledgeable peers, and digital connections (Hu & Noor, 2024; Keppler & Leonardi, 2023; Thalmann et al., 2025). Yet less is known about how voluntary youth communities organize day-to-day digital support through existing relationships, familiar platforms, and practical workarounds.

2.2. Distributed Knowledge Management and Analytical Boundary

Distributed knowledge management is an established research stream, not a concept introduced here (Wolf et al., 2025). Prior work examines knowledge creation and sharing across organizational actors, knowledge nodes, and peer-mediated systems (Eller, 2025; Keppler & Leonardi, 2023; Öberg & Lundberg, 2022; Platonova et al., 2022; Thalmann et al., 2025). In this study, it means that practical knowledge is held, exchanged, and renewed across several members rather than concentrated in one expert (Öberg & Lundberg, 2022; Thalmann et al., 2025). A distributed knowledge network refers to the relationships through which these practices occur (Eller, 2025; Keppler & Leonardi, 2023).

The gap concerns how these practices operate in digitally connected informal youth communities without dedicated knowledge management infrastructure or regular formal support. The study examines peer teaching, expertise distribution, transfer practices, and member

regeneration across six cases without assuming equal presence in every case. The outcome is the continuity of everyday digital practices. Long-term sustainability, comparative training effectiveness, and information system resilience remain outside its scope.

3. Methodology

3.1. Research Design and Focus

This study used a qualitative multiple-case design. Each youth community was treated as a separate case and as the unit of analysis. Evidence came from members responsible for digital work and from observations of community activities. The analysis followed four linked practices: members teaching one another (peer teaching), useful skills being held by more than one member (expertise distribution), the ways practical know-how was passed on (transfer practices), and members learning routine digital tasks and later becoming additional or replacement helpers (member regeneration). In each case, the distributed knowledge network referred to the working relationships through which practical knowledge moved. No formal social-network analysis was performed. Continuity of everyday digital practices referred to participant accounts that routine communication, coordination, posting, or documentation continued when the usual helper was absent or membership changed. Because the study was cross-sectional, it described practices found during the study period. It did not test causal relationships, compare the effectiveness of internal and external training, assess long-term sustainability, or measure information system resilience.

3.2. Cases and Participants

The six cases were Karang Taruna communities in the Jakarta metropolitan area. Karang Taruna is an Indonesian community-based youth organization; in the case identifiers, KT denotes Karang Taruna, while D and T denote Depok and Tangerang, and the final number distinguishes each case. Four Depok cases (KT-D1, KT-D2, KT-D3, and KT-D4) represented four separate youth communities from four different Rukun Tetangga (RT) units within Rukun Warga (RW) 15 in Limo urban village

(Kelurahan Limo), Depok. In Indonesia, an RT is a neighborhood-level community unit, while an RW brings together several RTs within a kelurahan, an urban administrative village. The four Depok cases were therefore separate communities at the RT level but shared the same broader RW and kelurahan context. The remaining two cases (KT-T1 and KT-T2) were located in Batuceper urban village (Kelurahan Batuceper), Tangerang. These communities had regular exposure to digital technology and organized digital support without designated trainers or dedicated knowledge management systems. Cases were purposively selected. A community had to have been active during the previous six months, use digital tools in its activities, and agree to participate and allow observation. Eligible key participants had to be aged 18–35, be familiar with the digital tools used by the community, and have at least one year of involvement. WhatsApp was the main platform in all six cases. Some communities also used Instagram, Google Docs, and Google Drive. The study involved 21 key participants, with three or four from each community. Their roles included WhatsApp administration, social-media management, digital documentation, and regular help with digital tasks. All had been involved in their community for at least one year. They were chosen because they knew the routines and could give concrete examples. Their accounts described practices within each case, not how common those practices were among all members.

3.3. Data Collection

One focus group discussion was held in each community. Every session involved three or four participants, lasted 60–90 minutes, and followed a semi-structured guide. Topics included the history and routine use of digital tools, the choice of platforms and responsibilities, peer help, and the ways practical knowledge reached other members. Participants also described what happened when the usual helper was unavailable, how newcomers learned, how responsibilities changed, and how technical problems were

handled. Past external training and future needs were also discussed. External training was treated only as participant-reported experience, not as a comparison group or evidence that one learning method was more effective. Each community was also visited once or twice for informal observation. The researcher observed WhatsApp coordination, the use of Google applications, social-media work, and access to digital documents. Field notes covered the task, platform, members involved, help provided, and response to a problem. Observation was limited to activities made accessible by the community.

3.4. Data Analysis

FGD transcripts and field notes were analyzed manually, one community at a time. The material was read several times and coded according to the people involved, the task, tool, problem, and response. The codes were then grouped under the four practices and the continuity of everyday digital practices. A short account of each case was prepared before the six cases were compared.

The cross-case comparison separated recurring patterns from practices found only in particular communities. A pattern was reported across all six cases only when every case record contained supporting evidence. This did not mean that every participant mentioned the same practice. Quotations served as examples, not as frequency counts. Differences were retained as case-specific findings. Credibility was checked by comparing FGD accounts with observation notes and confirming factual summaries with key participants. Distributed knowledge management was used to interpret the final themes only after the within-case and cross-case analyses had been completed.

4. Results

4.1. Case Profiles and Peer Teaching

WhatsApp was the only platform used in every case. The communities differed in active membership and in the additional tools they used (Table 1).

Table 1. Case Profiles

Community	Location	Active members	Main digital tools
KT-D1	Limo, Depok	25	WhatsApp, Instagram
KT-D2	Limo, Depok	18	WhatsApp, Google Docs
KT-D3	Limo, Depok	22	WhatsApp, Instagram
KT-D4	Limo, Depok	31	WhatsApp
KT-T1	Batuceper, Tangerang	28	WhatsApp, Instagram, Google Drive
KT-T2	Batuceper, Tangerang	20	WhatsApp

Note. KT-D1 to KT-D4 represent four different RTs within RW 15 in Kelurahan Limo, Depok; KT-T1 and KT-T2 are located in Kelurahan Batuceper, Tangerang.

Peer teaching appeared in every case record, although none described it as a scheduled class. Help usually happened during actual work and came from whoever already knew the task. A KT-D4 administrator said, "If someone doesn't understand how to post photos in the group, those who already know how to do it will teach them." The helpers were not always community leaders. KT-D1, for example, had three or four members whom others approached because they were comfortable with digital tools. "They weren't asked to be teachers. If someone is confused, they just ask them," the secretary explained.

4.2. Transfer Practices and Expertise Distribution

Learning stayed close to daily needs. WhatsApp topics included broadcasts, status updates, group management, voice notes, location sharing,

sending photos, and WhatsApp Web. Instagram learning covered activity posts and stories. Google Docs was used for basic shared documents, while Google Drive was used mainly for photo backup. Members did not try to learn every feature. As one KT-D3 member put it, "I don't teach all Instagram features, just the ones we need."

Knowledge moved through screenshots, forwarded messages, voice notes, direct demonstrations, buddy support, and group practice. Screenshots helped members move information between applications and left a simple record in the group chat. "Screenshots are like a bridge between apps," said the KT-D1 administrator. The communities used these records as practical aids, not as formal documentation. The details differed by case (Table 2).

Table 2. Digital Knowledge Practices in Each Community

Community	Main tasks or skills	Transfer practices	Evidence of expertise distribution, member regeneration, or continuity
KT-D1	WhatsApp broadcasts, Instagram posts, photographs, screenshots	Screenshot tutorials, demonstrations, hands-on practice, informal questions	Three or four informal helpers; existing members taught newcomers; more members could handle posts and routine sharing
KT-D2	WhatsApp, basic Google Docs, screenshots, file backup	Forwarded messages and buddy support	Helpers rotated and members took turns teaching; knowledge did not remain with one person; participants said no one was left behind in the group chat

Community	Main tasks or skills	Transfer practices	Evidence of expertise distribution, member regeneration, or continuity
KT-D3	Instagram stories, screenshots, WhatsApp–Instagram use	Group practice and learning while doing	Members had different skill levels; newcomers later helped others; other members took over after turnover
KT-D4	WhatsApp broadcasts, status, voice notes, group management, WhatsApp Web	Voice-note explanations and mutual sharing	Basic skills were spread across members, allowing several members to handle routine WhatsApp work
KT-T1	Instagram posts and stories, Google Drive photo backup, WhatsApp	Mentoring and task division by application	Application specialists had backups; another member could cover when the usual person was unavailable
KT-T2	WhatsApp broadcasts, screenshots, forwarded messages, feature tips	Mutual tip sharing and voice-note explanations	Members shared responsibility and knew the basics; routine broadcasting could be handled by more than one member

Expertise distribution took different forms. KT-D1 and KT-T1 relied more on particular skills but kept backups. KT-D4 and KT-T2 spread basic WhatsApp skills more widely. KT-D2 rotated helpers, while KT-D3 learned through group practice. The recurring pattern was not equal mastery of every tool, but access to help and the availability of another member who could take over a routine task.

4.3. Member Regeneration and Continuity of Everyday Digital Practices

Some cases described newcomers learning through questions, demonstrations, or practice with existing members. KT-D3 provided the clearest account of newcomers later helping others. A KT-D3 member described it this way: “When we first entered, we were taught by the old ones. Now, if someone new comes, we help them too. There are no special rules.”

KT-D3 provided the clearest turnover example. Three of its more digitally skilled members left within six months. Participants said other

members could still handle the routine work and new helpers appeared. Other cases mainly used rotating buddies, application backups, or shared basic skills. These arrangements supported the reassignment of routine work, but they are evidence of expertise distribution rather than clear member regeneration.

Communication, posting, coordination, and documentation continued during the absences and membership changes described by participants. These accounts provide the study’s evidence of continuity of everyday digital practices during the study period. It does not establish long-term sustainability or information system resilience.

4.4. External Training as Reported Context

External training was limited and uneven. KT-D4 reported none. The other cases recalled occasional activities from a local government office or university, generally without a regular schedule or continued assistance (Table 3).

Table 3. Participant-Reported Experience with External Training

Community	Reported source and topic	Timing and format	Main issue reported
KT-D1	Local government office; digital marketing	Incidental; about two years before the FGD; same material for all	Members had different interests
KT-D2	Local government office; social media	One session about three years before the FGD	No follow-up
KT-D3	Local government office; village application	Very rare; formal explanation	Material felt too complicated
KT-D4	No training reported	None	No external activity had been offered
KT-T1	University; digital literacy	Occasional one-day, academic-style session	No continued assistance or clear next session
KT-T2	University; technology	Occasional, technically focused session	Language was difficult to follow

A KT-T1 coordinator recalled that university students “came, gave a one-day training session, and then left.” Members had no one to ask when they later forgot a step or met a problem. Peer help, by contrast, was described as available when needed, easy to repeat, adjustable to different interests and learning speeds, free to the community, and tied to current tasks. Members also said that asking friends made repeated questions easier and less embarrassing.

Participants did not reject external training. They said it could be useful if it were regular, understandable, relevant to their tasks, and followed by continued assistance. The differences reported here concern availability, fit, pace, cost, and follow-up. They are not a comparative effectiveness test.

4.5. Cross-Case Findings

The six cases shared a practical logic, but not one fixed way of teaching (Table 4).

Table 4. Cross-Case Findings and Variations

Finding area	Cross-case finding	Main variation
Core platform	WhatsApp was the common starting point	Instagram, Google Docs, and Google Drive were added where useful
Peer teaching	Members helped other members during actual tasks	Informal mentors, buddies, group practice, application specialists, or mutual discovery
Transfer practices	Members passed practical steps through familiar communication and direct peer support.	Screenshots, voice notes, forwarded messages, demonstrations, buddy support, and hands-on practice were used differently by case.
Expertise distribution	Useful knowledge was available from more than one member	Some cases used specialists with backups; others spread basic skills widely

Finding area	Cross-case finding	Main variation
Member regeneration	Clearest in KT-D3, where newcomers later helped others and new helpers emerged after turnover	KT-D1 reported existing members teaching newcomers; KT-D2, KT-D4, KT-T1, and KT-T2 mainly showed rotation, backups, or shared basic skills rather than clear regeneration
Continuity of everyday digital practices	Routine work could be reassigned when the usual helper was unavailable	Backup was organized by application or through shared basic skills
Local adaptation	Members tried and shared methods that solved current problems	Tools and teaching styles followed local needs, comfort, and available skills

KT-T1 showed clearer task specialization, whereas KT-D4 and KT-T2 relied more on shared basic skills. Voice-note explanations were reported in KT-D4 and KT-T2. Screenshots appeared in KT-D1 and KT-D3, and KT-D1 also used demonstrations. KT-D3 described testing a new tip with a few members before sharing it more widely. Taken together, these working relationships were interpreted as the distributed knowledge networks examined across the six cases.

5. Discussion

5.1. Reading the Main Pattern

Across the six cases, peer teaching, expertise distribution, and transfer practices recurred in everyday digital work, although their forms varied. The working relationships underpinning these practices were interpreted as distributed knowledge networks because practical knowledge moved among members rather than remaining with one designated expert.

The main contribution is to distinguish three patterns that can easily be treated as the same: expertise held across several members, members developing into additional or replacement helpers, and routine digital work continuing when usual helpers were absent. Expertise distribution recurred across the cases, whereas clear member regeneration was evidenced in KT-D3 and was not established to the same degree elsewhere. Continuity therefore should not be read as proof of equal skills or the same regeneration process in every community.

Technology adoption studies commonly explain technology use through perceived usefulness, perceived ease of use, social influence, and supporting conditions (Davis, 1989; Venkatesh et al., 2003). More recent studies also show that technology use in small organizations and community settings is shaped by available skills, organizational readiness, and local conditions (Díaz-Arancibia et al., 2024; Qalati et al., 2022; Shahadat et al., 2023). The present study addresses a different question: how the knowledge needed to use an adopted tool remained available within the community. WhatsApp was the only platform used in all six cases, while Instagram, Google Docs, and Google Drive appeared only in some. This pattern shows a shared reliance on WhatsApp alongside case-specific use of additional tools, rather than one standardized multi-platform system. The communities used tools that members already understood and could access. This finding is consistent with research showing that a technology is more likely to fit a local setting when it matches existing abilities, daily routines, and available resources (Buchan et al., 2024; Patnaik & Tarei, 2022; Reddy et al., 2023). The present study did not compare the effectiveness of the different platforms. It only found that familiar tools became places where members communicated and exchanged practical knowledge. Because all six cases were youth communities, the findings are interpreted within a youth setting. The study did not compare these practices across age groups.

5.2. Peer Teaching and Transfer Practices

Peer teaching was visible in every case. When members had difficulty using a digital tool, they commonly asked another member who already knew how to do it. The help could be given through a message, screenshot, voice note, direct demonstration, buddy arrangement, or group practice. This support was informal. There was no fixed instructor, formal syllabus, or standard training schedule. Familiar peer relationships made repeated questions feel easier and less embarrassing and provided an accessible route for everyday digital help. This supports studies showing that peer interaction can make learning more approachable and can encourage participation, discussion, and practical problem solving (Campbell et al., 2024; Dumitru et al., 2024; García-Morales et al., 2021). Research in educational and community settings has also found that peer learning allows knowledge to move through explanation, demonstration, cooperation, and repeated practice (Flores et al., 2024; Kerman et al., 2024; Liu et al., 2024; Scager et al., 2016). Most of those studies discuss learning in more structured settings. The present study adds evidence from informal youth communities where learning happened during ordinary community activities. Members did not first enter a formal learning program. They encountered a practical problem and then sought help from another member. The study does not establish that informal peer teaching was more effective than formal training. It only shows that peer teaching was the form of support that participants reported using in their everyday activities. Familiar relationships can provide accessible sources of information and practical support (Rayland & Andrews, 2023). Guidance on youth engagement also stresses clear communication, meaningful participation, and assistance that fits young people's everyday circumstances (IPPF, 2021; Perth & Kinross Council, 2024; Youth.gov, 2023). This helps explain why participants found it easier to seek digital help from members they already knew. These sources are used to interpret the accessibility of peer support, not to claim that the practices were effective.

Members used screenshots, forwarded messages, voice notes, demonstrations, buddy support, and group practice to pass on practical steps. These practices are consistent with the view that knowledge transfer often occurs through repeated interaction and the movement of usable knowledge between people (Argote, 2024; Yeboah, 2023). Studies of digital learning also show that digital tools can support knowledge exchange when they are connected to interaction, guidance, and practice rather than being treated as complete learning solutions by themselves (Huang et al., 2023; Zamiri & Esmaeili, 2024a, 2024b). Screenshot sharing provides a clear example. It served as a simple way of passing on practical knowledge. Members could capture what they saw, send it to the group chat, and discuss it there. Screenshots were one of several methods used to explain a task; the study did not compare them with voice notes or direct demonstrations. The way members shared practical knowledge reflected the tools and support available in each community (Patnaik & Tarei, 2022). Their use of familiar tools and simple forms of assistance can also be understood as a practical response to local constraints (Sedita et al., 2022). The findings do not show whether these local constraints improved or weakened the learning process.

5.3. Expertise Distribution and Member Regeneration

Expertise distribution did not mean that every member had the same digital ability. In KT-D1, participants identified three to four informal helpers. KT-D2 used a buddy arrangement and rotating helpers. KT-T1 had members with different application skills and other members who could act as backups. KT-D3 relied on group practice, and new helpers appeared after three digitally skilled members left within six months. KT-D4 and KT-T2 showed a simpler pattern in which members shared basic knowledge and helped one another when needed.

These variations show that expertise distribution can take several forms. It may involve several general helpers, members with different specializations, rotating assistance, or shared

basic ability. The common point was that practical knowledge was not held by one formally appointed expert. This resembles established knowledge management arguments that organizational knowledge is created, shared, and retained through interaction between people rather than stored only in one person or document (Argote, 2024; Nonaka & Takeuchi, 1996). Recent studies also emphasize that knowledge sharing depends on participation, access to knowledgeable peers, and opportunities to exchange experience (Abedi et al., 2023; Karhapää et al., 2024; Liu et al., 2024). The six cases provide a small community-level example of this process. Here, distributed knowledge network is a descriptive term for the working relationships through which practical knowledge moved; those relationships were not formally mapped or measured. Member regeneration was clearest in KT-D3. Three digitally skilled members left within six months, but other members took over routine tasks and new helpers emerged. KT-D1 also reported that existing members taught newcomers. Rotating helpers in KT-D2 and backup members in KT-T1 are

evidence of expertise distribution, not direct evidence that the same regeneration pattern occurred in those cases. In this study, member regeneration therefore has a specific meaning. Member regeneration refers to members who learned routine digital tasks and later became additional or replacement helpers. It does not refer to recruitment growth, demographic renewal, or a formal succession program. Keeping this boundary is important because the evidence concerns current community practices, not organizational survival over many years. The pattern found in these communities can be considered alongside research on self-directed and continuing learning in other settings (Dempsey & Mestry, 2023; Hua et al., 2024; Kõiv & Saks, 2024; Peno, 2024). However, learning in these cases was not fully self-directed. Members still relied on more experienced peers, while some communities depended on only a few helpers. The findings also do not show that limited formal structure led to better learning outcomes. Table 5 summarizes the interpretation and boundaries of these findings.

Table 5. Interpretive Contribution and Claim Boundary

Finding	What this study adds	What the evidence does not establish
Peer teaching	Shows how members obtained practical digital help from familiar peers during ordinary community activities	Does not show that peer teaching was more effective than formal training
Transfer practices	Identifies screenshots, forwarded messages, voice notes, demonstrations, buddy support, and group practice as the practical means used to pass on knowledge	Does not compare the effectiveness of these practices
Expertise distribution	Shows that knowledge was held by several helpers, specialists, backup members, or members with shared basic abilities	Does not show equal skill distribution or a formally measured network
Member regeneration	Shows how replacement helpers emerged in KT-D3 after digitally skilled members left	Does not establish the same regeneration pattern in every case, permanent succession, or long-term sustainability
Continuity of everyday digital practices	Records participant accounts that routine digital tasks were reassigned during absences or membership changes	Does not measure information system resilience or long-term organizational continuity
External training context	Records how participants described the frequency, relevance, language, and follow-up of earlier training	Does not evaluate training providers or compare internal and external training effectiveness

5.4. Practical Implications

Across the six cases, participants kept everyday digital knowledge accessible through arrangements already in use: familiar group chats, several informal helpers, practical examples, and opportunities to practice together. Community leaders can identify members who understand particular tasks, prepare other members as backups, and keep useful screenshots, messages, and examples in spaces already used by the community. These actions do not require a new platform. They also should not be treated as evidence that informal arrangements can replace formal training or technical assistance. Skills remained uneven, and some communities still depended on only a few helpers. Participants did not reject external training. They considered it useful when it was regular, easy to understand, relevant to current tasks, and followed by further assistance. This is consistent with research that emphasizes local needs, existing skills, accessible communication, and continued practice in digital support (Buchan et al., 2024; Méndez-Domínguez et al., 2023; Ndibalema, 2025; Raihan et al., 2025; Reddy et al., 2023). External organizations could build on existing peer arrangements by involving several members, using familiar tools, and providing materials that can be shared again (IPPF, 2021; Sedita et al., 2022). These implications come from participant accounts and qualitative findings, not an evaluation of training providers or a tested training model. Misinformation, privacy, and cybersecurity risks were not examined.

5.5. Limitations and Future Research

This study covered six purposively selected communities and 21 key participants, with one focus group discussion and one or two site visits per case. Four cases represented different RTs within RW 15 in Kelurahan Limo, Depok, while the other two cases were located in Kelurahan Bataceper, Tangerang. The six cases were distinct communities but were concentrated within two kelurahan settings, so they should not be interpreted as six geographically independent sites. Because participants were selected for their knowledge of digital routines, the findings may

underrepresent members who received little support or remained unable to perform the tasks. The cross-sectional design captured only the fieldwork period. Evidence came from participant accounts and observation notes, and recurring themes should be read as qualitative patterns rather than population frequencies or statistical generalizations. The study did not use activity logs, direct task tests, training provider records, or formal mapping of relationships between members. Findings about external training therefore describe participant reports rather than provider quality or comparative effectiveness. The study does not establish causal relationships, long-term sustainability, or information system resilience. Continuity of everyday digital practices refers only to participant accounts that current tasks were maintained through combinations of peer teaching, expertise distribution, and transfer practices; member regeneration was clearly evidenced in KT-D3 and was not established to the same degree in the other cases. Future research could follow these practices over a longer period, include less active members and different community settings, observe digital tasks directly, and document relationships between helpers and learners.

6. Conclusion

The main result was not merely that members taught one another. Across the six cases, participants described routine digital work continuing through different arrangements for sharing knowledge and reassigning tasks. Peer teaching, expertise distribution, and transfer practices recurred, but communities organized them through informal helpers, rotating assistance, application specialists with backups, group practice, or shared basic skills. Responsibility for communication, posting, coordination, and documentation could be reassigned when usual helpers were unavailable or membership changed. This continuity was reported despite unequal digital abilities. Clear member regeneration was evidenced in KT-D3, where other members took over and new helpers emerged after three digitally skilled members left; elsewhere, rotation, backups, and shared basic

skills mainly showed expertise distribution rather than the same regeneration process. The study therefore separates having practical knowledge available through several members from developing additional or replacement helpers. Participants described continuity without equal skill or one standard learning model: knowledge remained reachable through familiar peers, and routine tasks could move to another member. These working relationships are described as distributed knowledge networks, not formally measured networks or a new knowledge management concept. External training was absent or occasional; participants wanted support

that was understandable, relevant, regular, and followed up. External programs could build on existing peer arrangements by involving several members and using familiar tools and reusable examples. The claims are limited to 21 key participants in six purposively selected communities and the study period; they do not establish causality, long-term sustainability, information system resilience, or that informal support works better than formal training. Within those limits, the contribution is to show why expertise distribution, member regeneration, and continuity should not be treated as the same result.

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Author Declaration

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