

# Exploring WhatsApp groups as a digital collection sharing platform for libraries

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## ABSTRACT

**Background:** WhatsApp Groups (WAGs) are widely used as communication and collaboration tools among librarians. However, their role in digital collection sharing and informal *interlibrary loan* has received little attention, particularly in developing-country contexts. Understanding how WAGs can support library resource sharing addresses this research gap. **Purpose:** This study aims to explore how librarians use WAGs as a platform for digital collection sharing to fulfil users' information needs and to examine their potential as an informal extension of the *interlibrary loan* system. **Methods:** Non-participant observation was conducted in several WhatsApp groups of librarians in Indonesia. The study focused on how group members requested and shared digital resources, such as journal articles and ebooks, during their daily professional communication. **Results:** Findings indicated that some librarians actively used WAGs to exchange digital collections. Members posted requests for specific articles or ebooks, and others responded by sharing full-text files when available. This practice fostered collaboration and helped overcome subscription and budget constraints. However, challenges such as copyright compliance, file-size constraints, limited information organization, and data privacy and security issues were also identified. **Conclusion:** WAGs can informally replicate the functions of formal resource-sharing systems, offering flexible, low-cost opportunities for collaboration. Effective implementation requires clear regulations, membership controls, attention to privacy and security, and appropriate training. **Implications:** In practice, WAGs offer a lightweight, cost-effective model for library collaboration. Theoretically, this study contributes empirical evidence on informal digital collection sharing, informing policies and governance strategies for library digital resources and AI-adjacent platform-mediated knowledge exchange.

**Keywords:** WAGs; digital collection sharing; *interlibrary loan*; librarian collaboration; Indonesia

## INTRODUCTION

WhatsApp Groups (WAGs) have emerged as a dynamic platform for facilitating communication and collaboration among librarians in the digital age. Librarians use WAGs to maintain professional networks, exchange information, and stay updated on developments in library and information science. These groups may focus on specific themes such as academic research, information literacy, or collection development, allowing members to ask questions, share experiences, and discuss emerging issues in their daily practice (Ansari & Tripathi, 2017; Udem et al., 2020).

Beyond day-to-day communication, WAGs also enable librarians to share a wide variety of digital resources. Through built-in file-sharing features, librarians can exchange documents, presentations, research guides, instructional materials, journal articles, and ebooks that support professional development and user services (Stephen, 2019). In this sense, WAGs are beginning to function not only as a communication medium, but also as a space where librarians coordinate responses to users' information needs.

At the same time, the concept of *interlibrary loan* has evolved into a broader resource-sharing practice, in which libraries collaborate to provide access to collections beyond a single institution's holdings. Rising subscription costs drive this transformation, the growth of digital resources, and the expectation of rapid access to information. For many libraries, especially in developing countries, formal *interlibrary loan* systems and consortium agreements are not always sufficient to cover all user demand. Therefore, informal, technology-based channels are

becoming attractive as complementary mechanisms for resource sharing and document delivery.

Resource sharing and *interlibrary loan* (ILL) have long been key strategies to address the fact that no single library can meet all user needs. Classical works on library collaboration emphasize that consortia, document delivery services, and ILL agreements enable libraries to combine their collections and make them available beyond institutional boundaries (Crespo, 2022; Currier, 2022). The practices observed in WAGs can be understood as an extension of this resource-sharing tradition, but realized through lightweight, mobile technologies rather than formal systems (Agboke, 2024; Osuchukwu & Nguzoro, 2020).

Indonesia provides a particularly relevant context for examining these practices. Studies indicate that Indonesia is among the world's largest WhatsApp user populations, ranking third to fourth globally with approximately 68.8 million users and demonstrating continuous annual growth (Evita et al., 2023). This exceptionally high adoption of WhatsApp distinguishes Indonesia from many other developing countries, where professional communication may rely on a wider range of platforms. At the same time, libraries in Indonesia continue to face structural challenges, including limited budgets, workforce constraints, and logistical issues, that affect their ability to sustain formal digital services and resource-sharing initiatives. For example, research on collaboration between the Bandung City Archives and Library Office and the Indonesian Publishers Association (IKAPI) highlighted that restricted funding and staff significantly constrain literacy programs, digital collection development,

and online outreach, while infrastructural limitations impede access in remote areas (Batubara & Prijana, 2024).

The use of WAGs by librarians can also be viewed through the lens of communities of practice (Osuchukwu & Nguzoro, 2020), characterized by mutual engagement, a joint enterprise, and a shared repertoire of meanings, routines, and tools. Librarian WAGs bring together professionals who share similar roles and responsibilities and collectively negotiate how to respond to information needs, interpret licence conditions, and support each other's work (Udem et al., 2020). Therefore, digital collection sharing within these groups is not only a technical activity but also a social practice sustained by professional trust, norms of reciprocity, and a shared commitment to user service (Agyemang, 2021).

This study also relates to the study of informal or "shadow" digital infrastructures, where everyday communication platforms are repurposed to perform functions typically associated with more formal systems (Mörike et al., 2022; Ostromooukhova, 2021; Soni & Soni, 2025). In many developing countries, structural limitations such as uneven system implementation, restricted budgets, and complex licensing regimes lead professionals to develop workarounds that operate alongside official channels (Gebeyehu & Twinomurinzi, 2022; Mörike et al., 2022; Oghuvwu, 2024). WAG-based resource sharing can be seen as a pragmatic, low-cost infrastructure that provides rapid access to information while raising questions about copyright, licensing, privacy, and information security (Ostromooukhova, 2021; Soni & Soni, 2025).

The WAG offer several features that make it attractive for this purpose: its widespread use, easy access via mobile devices, and support for rapid, real-time communication among librarians. Nevertheless, its use as a platform for digital collection sharing also raises important questions about copyright, licensing, privacy, and information security (Okamoto, 2012; Sur & Goswami, 2021; WhatsApp, 2023). Existing studies largely address WhatsApp as a tool for communication, teaching, and professional development in library and information settings, with limited attention to concrete practices of digital collection sharing and their implications for *interlibrary loan* and resource sharing, particularly in developing-country contexts. Consequently, there is a lack of empirical descriptions of how librarians actually use WhatsApp to request and share digital collections, and how these practices create opportunities and risks for library services.

This paper addresses this gap by examining how librarians utilize WAGs to share digital collections and by discussing the opportunities and challenges of using WAGs as an informal resource-sharing platform. The study focuses on the everyday practices of several Indonesian librarians' WAGs and interprets them in relation to *interlibrary loan* and resource sharing. In line with this purpose, the paper seeks to answer the following research questions: How do librarians use WhatsApp Groups to request and share digital collections in their daily professional practice? What opportunities and challenges arise when WAGs are used as an informal platform for digital collection sharing and resource sharing among libraries? The

paper also proposes several practical recommendations for libraries and librarian associations seeking to develop or formalize WAG-based digital collection sharing effectively, ethically, and securely.

## RESEARCH METHODS

This study employed a qualitative descriptive approach based on non-participant observation of librarians' WhatsApp Groups (WAGs). The aim was to capture how digital collection sharing actually occurred in everyday professional communication and how these practices resembled informal *interlibrary loan* and resource sharing.

The study addressed the research questions posed in the Introduction by focusing on librarian interactions in selected WhatsApp Groups (WAGs). Participants included professional librarians from academic, special, and reference libraries in Indonesia who actively used WAGs for professional purposes and digital resource sharing.

Data were collected from several WAGs used by librarians in Indonesia between September and November 2024. The WAGs were selected using a purposive sampling strategy. These groups primarily consisted of professional librarians (e.g., academic and special librarians) who actively use WhatsApp for professional purposes and resource sharing, and the WAGs selected were groups in which the researcher was already a member (as a non-participant observer). During this period, the researcher randomly captured instances in which group members requested and shared digital resources, such as journal articles, ebooks, and book chapters. The researcher did not intervene in the

conversations but observed the flow of messages and documented relevant interactions through brief field notes and selective screenshots.

The analysis followed a simple thematic content analysis. Messages and interactions reflecting digital collection sharing were repeatedly read to identify common patterns in how requests were formulated, how other members responded, the types of resources shared, and obstacles mentioned. These patterns were then interpreted in relation to the concepts of *interlibrary loan*, resource sharing, and digital collection management, and presented narratively in the findings section using anonymous examples from various groups.

The researchers addressed ethical considerations by focusing on practices rather than individuals. The names of groups, institutions, and members were not disclosed, and no personal data of library users was reported. Only anonymous quotes from professional exchanges among librarians were used to illustrate the observed practices.

## RESULTS AND DISCUSSION

Findings were presented in relation to the research questions. First, we explored how librarians used WAGs to request and share digital collections in daily practice. Second, we examined the opportunities and challenges that arose when WAGs were used as informal platforms for sharing digital collections and resources among libraries. Accordingly, the findings were organized into three sub-sections: (1) WAGs for digital collection sharing, (2) Opportunities and Challenges, (3) Building WAGs for Library Digital Collection Sharing.

Librarians in Indonesia widely use WhatsApp Groups (WAGs) as informal platforms for requesting and sharing digital collections. Various WAGs for librarians have been developed, including groups for academic librarians, special librarians, information literacy instructors, school librarians, government librarians, and reference librarians. Librarians officially established some of these groups, while others were formed voluntarily. Initially, WAGs were created to facilitate coordination, communication, and the sharing of information and best practices. However, librarians also use these groups to request digital collections to support user needs. For example, WAG "A" consists of librarians who are members of a university library organization in partnership with the Indonesian National Library. In addition, WAG "B" was established by a well-known Indonesian reference librarian during the COVID-19

pandemic to facilitate synchronous interaction and resource sharing among librarians when face-to-face meetings were not possible. Members of this WAG commonly use the platform to request digital collections for their users.

Through WAGs, librarians can easily share resources, such as a WAG "A" member who posted a request for an article titled "Influencer Mix Strategies In Livestreams Commerce: Impact On Product Sales." After the librarian posted on the WAG, a group member replied within 1 minute with a PDF-formatted article (Figure 1). Another librarian requested the article "Mysterious Consumption: Preference For Horizontal (Vs Vertical) Uncertainty And The Role Of Surprise," and within an hour, the resource was posted in WAGs. Anyone in WAGs can share resources, leading to faster responses and, ultimately, higher user satisfaction.

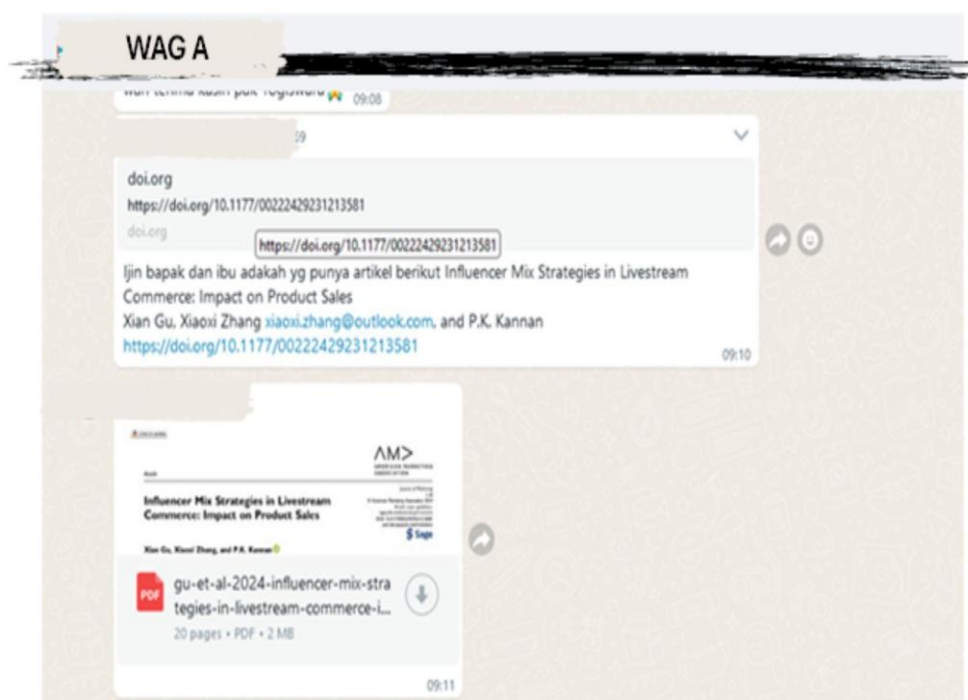


Figure 1. WAG "A": a member's request for a full-text article  
Source: WAG "A" Chat, 2025

However, not all requested articles and books were available among group members. This limitation was illustrated by a case in which a resource request went unanswered because members confirmed they did not have the material (Figure 2). This highlighted that the success of WAG resource sharing depended heavily on the collective collections of group members. Furthermore, librarians also utilized WAGs to request other digital materials,

such as specific ebooks by sending links, or to inquire about database subscriptions (Figure 3). In WAGs, librarians also sometimes asked whether any libraries had ebook collections, such as a book titled "All Organizations Are Public: Comparing Public and Private Organizations." One librarian responded that there was no ebook version, but ultimately found the ebook, including the audiobook, that she wanted from outside the group.

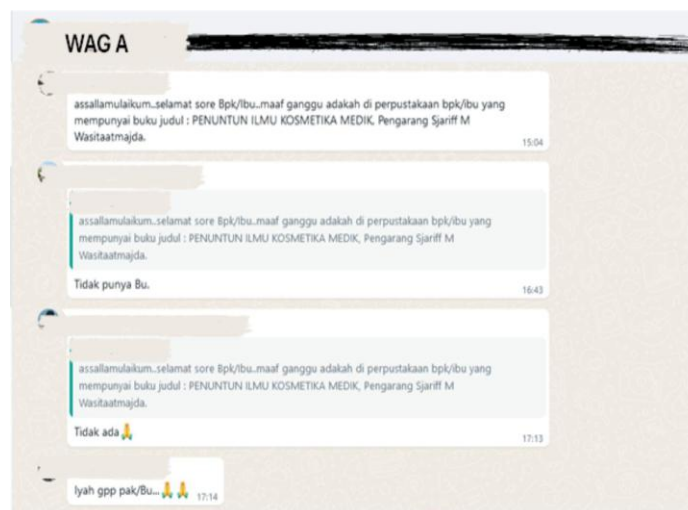


Figure 2. "WAG A": a member who does not have the requested article  
Source: WAG "A" Chat, 2025



Figure 3. WAG "B": database subscription request  
Source: WAG "B" Chat, 2025

From the case study, it can be seen that libraries cannot provide all the resources themselves due to financial constraints; they cannot afford to subscribe to or purchase every digital resource they need. Users' information needs are increasingly complex, and the literature they require is diverse, while libraries have a responsibility to meet these needs optimally. Therefore, for a long time, libraries have built consortiums to overcome these challenges. Librarians create communities or associations to benefit from improved services. By using WAG, collaboration is changing, and the consideration of using WAG among librarian communities as a platform for sharing resources to meet the information needs of library users is increasing. In the past, librarians used telephones, email, and sometimes physically delivered library collections, with very strict cooperation agreements. While currently, librarians in certain communities can make cooperation smoother and easier.

WhatsApp Groups (WAGs) offer several opportunities for librarians in facilitating resource sharing and professional collaboration. WAGs offer a flexible resource-sharing platform, where librarians can post and respond to requests at any time. When a user needs an information resource and the librarian does not have it in the library, they can request it from the community. Second, WAGs are easy to use; anyone can set up their own WhatsApp and join a specific librarian group. All sharing features, including file, image, and video sharing, are available within a single application.

Third, WAGs offer real-time communication. Librarians can receive immediate responses from other group members. Fourth, to improve access to resources, WAGs assist librarians in opening up access to e-resources by sharing content. Fifth, through WAGs, librarians can enhance collaboration on resource sharing and information exchange. Fifth, enhanced collaboration: Through WAGs, librarians can collaborate more effectively by sharing resources and exchanging information.

However, several challenges arose during the implementation of WAGs as a resource-sharing platform. For example, copyright issues needed to be considered before expanding collaboration. All materials were copyrighted, making it difficult to send and transfer electronically, even though many resources were now published in open-access format. So, WAG communities should consider copyright protection by establishing usage and transfer regulations. A second issue was file size. Some resources were very large, and not all members had ample storage space on their mobile phones. This could also pose a problem when using WAGs as a resource-sharing platform. Another issue was the limited information organization feature; WAGs were meant as communication platforms. When librarians plan to use them as resource-sharing platforms, they should consider how to organize information within the WAG, which can be challenging.

A summary of the opportunities and challenges of using WAGs for resource sharing is presented in Table 1.

Table 1

## Summary of Opportunities and Challenges of WAGs for Resource Sharing

| Category      | Key Point (Summary)                      | Detailed Explanation                                                                                                                            |
|---------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Opportunities | Flexible Resource Sharing                | Librarians can post and respond to resource requests at any time.                                                                               |
|               | Ease of Use                              | WhatsApp is easy to set up; all sharing features (files, pictures, videos) are available in a single app.                                       |
|               | Real-Time Communication                  | Librarians can receive immediate responses from other group members.                                                                            |
|               | Improved Access to Resources             | Help librarians open access to e-resources by sharing content.                                                                                  |
|               | Enhanced Collaboration                   | Strengthen collaboration in resource sharing and information exchange among librarians.                                                         |
| Challenges    | Copyright Issue                          | Needs consideration as not all materials are easily transferred electronically. WAGs community should establish usage and transfer regulations. |
|               | File Size Issue                          | Some resources have very large file sizes, which can overload members' phone storage.                                                           |
|               | Limited Information Organization Feature | Difficult to organize shared resources as WAGs are primarily communication platforms.                                                           |

Source: Research data, 2025

Table 2

## Key Aspects for Building WhatsApp Groups (WAGs) for Digital Collection Sharing

| Aspects            | Description                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Membership control | All WAG members should be verified as librarians working in a library or information/data center. This verification process can be done through a registration system managed by the WAG administrator.                                                                                                                                                                         |
| Clear regulation   | Members of the group should comply with applicable resource-sharing regulations. These regulations include whether the shared resource is affiliated with any institution; if so, that institution may hold the copyright. In addition, members should first verify whether the copyright owner of the resource permits sharing between librarians (libraries) (Okamoto, 2012). |

|                           |                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data protection           | Regarding data protection, WhatsApp offers end-to-end encryption (WhatsApp, 2023). They might take our personal data for their business, but not our messages. Therefore, the platform itself (WhatsApp) is safe, and it is up to group members to ensure the security of the information or data they share.                                                  |
| Privacy setting           | Configure group privacy settings to maximize privacy and security. Enable end-to-end encryption to protect messages from interception, and restrict group visibility to ensure that only invited members can join (Sur & Goswami, 2021).                                                                                                                       |
| Awareness and training    | All WAG members can also participate in training on topics related to resource sharing, including privacy, intellectual property rights, information security, resource organization, and more. By participating in training, WAG members will increase their awareness of these issues, enabling them to implement and use WAGs as a sharing platform wisely. |
| Moderation and monitoring | The role of a moderator in WAGs is crucial; they can monitor discussions and ensure they remain relevant, respectful, and professional. Appoint a group administrator who is responsible for monitoring discussions, enforcing group rules, and promptly addressing inappropriate behavior or content (Janavi et al., 2021).                                   |
| Information security      | Encourage WAG members to use secure file-sharing platforms for sensitive documents or data that require stronger security. This is important because many members expect multiple sources of information to use them and to ensure the documents or files they share are secure (Davies et al., 2023).                                                         |

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Source: Research data, 2025

Findings from WAGs A and B show that librarians use WhatsApp Groups as an informal yet effective mechanism for digital collection sharing. Routine interactions within these groups, ranging from rapid responses to article requests to discussions about database subscriptions, indicate that WAGs have become an important backchannel for supporting users' information needs. Regarding the first research question, the data demonstrate that librarians use WAGs to post highly specific requests for journal articles and ebooks, respond by sharing full-text files when they have access, and collectively troubleshoot access problems when requested resources are not immediately available. These findings align with studies by Udem et al. (2020)

and Agyemang (2021), which highlight that librarians use WhatsApp Groups to send specific requests, share full-text files, and collaboratively resolve access issues, reflecting informal *interlibrary loan* practices and rapid responses. These practices resemble a form of "everyday *interlibrary loan*" embedded in mobile messaging rather than in dedicated library systems. The use of WhatsApp Groups further supports previous research by Agyemang (2021), which emphasized that these interactions strengthen collaborative and community-based support among librarians. This finding is also consistent with research showing that increased digital literacy enhances the effectiveness of information-seeking and sharing activities, including the ability to use

various digital platforms (Umar et al., 2025).

Viewed from the perspective of resource sharing and *interlibrary loan*, WAG-based practices replicate key functions of traditional ILL while significantly altering the infrastructure and temporality of services, a shift consistent with a broader trend in which peer-to-peer digital sharing increasingly supersedes conventional ILL workflows (Agboke, 2024; Saarti & Tuominen, 2021). In formal ILL systems, document delivery often relies on inter-institutional agreements, standardized workflows, and, at times, complex software. In contrast, in WAGs A and B, a librarian's post requesting a specific article can be fulfilled within minutes by any member who happens to have access, reflecting the immediacy that characterizes WhatsApp-based professional exchanges (Udem et al., 2020). The examples of articles such as "Influencer Mix Strategies in Livestreams Commerce: Impact on Product Sales" and "Mysterious Consumption: Preference For Horizontal (Vs Vertical) Uncertainty..." illustrate how quickly full-text documents can circulate once a request is visible to a large peer group. This immediacy contrasts with the slower, more bureaucratic nature of many formal ILL arrangements, particularly in developing countries where systems are unevenly implemented, a pattern also noted in studies examining the uneven adoption of formal ILL infrastructures (Saarti & Tuominen, 2021). At the same time, unmet requests and silent failures within WAGs highlight that this informal mechanism cannot replace the systematic collection development or formal consortial agreements; rather, it complements and extends them, consistent with the finding

that digital sharing enhances but does not eliminate the need for formal resource-sharing structures (Agboke, 2024). Similarly, research has shown that digital literacy competencies and a supportive environment can strengthen online information exchange and collaborative practices, which parallels how librarians leverage WAGs for effective digital resource sharing (Sianturi et al., 2025).

The prominence of WAG-based sharing also reflects the structural constraints faced by libraries in Indonesia and similar contexts. Findings from WhatsApp-based library services show similar patterns across regions, where sharing digital resources via WhatsApp has become crucial due to infrastructural and financial disparities (Lo & Stark, 2020; Mustar & Nashihuddin, 2020). Limited budgets, rising subscription costs, and diverse user needs mean that no single library can subscribe to all potentially relevant digital resources. Studies on mobile and digital libraries likewise emphasize that limited funding, uneven digital infrastructure, and insufficient access to licensed content are common structural challenges that hinder equitable access to information (Khomu et al., 2023). In such settings, WAGs serve as low-cost *micro-consortia* in which librarians pool access rights and knowledge to address user requests collectively. Research on WhatsApp groups for Library and Information Science (LIS) professionals demonstrates similar behavior: librarians use WhatsApp as a practical mechanism for sharing professional information, digital materials, and timely references, bypassing traditional institutional constraints (Udem et al., 2020). This suggests that mobile messaging platforms are not merely communication tools but

are also being repurposed as pragmatic solutions to structural inequities in access to scholarly information. Evidence from WhatsApp-based reference services further demonstrates that such platforms enhance library effectiveness, support e-learning, and enable affordable access to up-to-date resources, particularly for users outside of major urban areas (Mustar & Nashihuddin, 2020). The willingness of librarians to share resources and to search beyond the group when no one else has the requested item indicates a strong professional commitment to maximizing access despite financial and technical constraints. Consistent with this, studies of librarian virtual communities reveal practices such as verifying accuracy, correcting misinformation, and actively assisting peers, demonstrating a collaborative ethos aimed at supporting collective information needs (Agyemang, 2021; Udem et al., 2020).

At a social level, the observed WAGs operate as communities of practice rather than as purely transactional channels. Members are not only exchanging PDFs but also co-constructing norms about when and how to request, what is reasonable to share, and how to handle ambiguous cases, such as database subscription information or ebook availability. The fact that some groups are initiated by library organizations and others by individual "champion" librarians shows that WAGs emerge from professional networks and shared identity as librarians. This observation is consistent with findings by Udem et al. (2020), who show that librarian WhatsApp Groups function not merely as channels for file exchange but also as spaces where members negotiate and reinforce collective norms, including social monitoring when

posts deviate from agreed-upon rules. The emergence of these groups as communities of practice also aligns with Dunsmore et al. (2022), who argue that closed platforms such as WhatsApp support the formation of shared repertoires and collaborative efforts through regular interactions and shared professional interests. Moreover, the strong role of social trust in sustaining resource sharing observed in WAGs reflects the psychological and social drivers identified by Soomro et al. (2024), who found that trust, reciprocal benefits, and the intrinsic satisfaction of helping others are key motivators of knowledge sharing on messaging platforms. Therefore, social trust and professional solidarity underpin resource sharing, which helps explain why responses can be so rapid and why members are willing to expend effort to assist colleagues from other institutions.

However, these benefits come with significant ethical and legal tensions. WAG-based sharing can be understood as a form of *shadow infrastructure* that operates alongside, and sometimes in opposition to, formal licensing regimes, echoing the analyses of shadow libraries as *illicit micro-infrastructures* that emerge to bypass access restrictions in scholarly communication (Soni & Soni, 2025). When librarians forward full-text articles obtained via institutional subscriptions to colleagues in other organizations, they may inadvertently violate licensing terms despite their intention to support users and research, a challenge similarly observed in studies showing that digital technologies often enable unintentional copyright infringement due to complex and opaque licensing conditions (Adu et al., 2024). These dynamics illustrate a clear gap between *copynorms* that prioritize

openness, collegiality, and access to information, and the formal copyright and licensing frameworks that emphasize restrictions and control, consistent with broader discussions of the tension between information ethics and legal compliance in digital library environments (Gbotosho et al., 2025). Furthermore, the use of commercial messaging platforms raises questions about data privacy and security. While WhatsApp's end-to-end encryption provides a baseline of message security, the platform was not designed as a library system, and group membership, file forwarding, and device storage limitations all impact how shared resources are handled securely and sustainably.

The governance-oriented recommendations proposed in this study aim to move from purely ad hoc practices to a more deliberate, ethical, and sustainable WAG-based resource-sharing model. Membership controls, for example, reframe WAGs as professional spaces restricted to verified librarians, thereby reducing the risk of uncontrolled redistribution of copyrighted materials. Clear regulations on what may be shared, particularly regarding institutional licensing and copyright, aim to align everyday practices with legal and ethical expectations. Similarly, concerns about data protection, privacy settings, moderation, and information security position WAGs as part of a broader organizational strategy, with WhatsApp primarily used as a coordination layer, while sensitive or large files may be delivered through more secure institutional channels. Together, these elements are an emerging governance framework for WAG-based digital collection sharing.

In terms of contributions, this study offers several novelties. Empirically, it provides a detailed description of how WAGs function as an informal *interlibrary loan* and resource-sharing mechanism among librarians in Indonesia, a dimension that has received little attention in previous research on WhatsApp use in library contexts. Conceptually, it introduces the notion of WAG-based resource sharing as a micro-consortium or backchannel infrastructure that emerges from professional networks rather than from formal agreements or dedicated systems. In practice, it translates observed practices and challenges into a set of governance principles that can guide libraries and librarian associations in using WAGs more responsibly. These contributions extend the literature on resource sharing by highlighting how everyday digital communication tools can be leveraged as flexible, low-cost access infrastructure, while underscoring the need to address the ethical and legal complexities that accompany such informal innovations. Despite the insights gained from WAG observations, this study's limitations should be acknowledged. First, the study adopted a qualitative descriptive approach that focused solely on non-participant observation of WAG interactions. While this method effectively documented observable sharing practices, it limited the ability to capture the underlying motivations, decision-making processes, or deeper personal experiences of the librarians involved. In addition, this analysis relied primarily on self-reported data (chat logs, requests, and shared files), meaning the veracity, completeness, and long-term sustainability of the shared resources could not be formally verified.

Second, the findings were drawn exclusively from librarian WAGs in Indonesia. While this context is critical for understanding resource-sharing challenges in developing countries, the specific legal framework, technological adoption rate, and professional culture may not be fully generalizable to other regions or types of library consortia. x Finally, the study's focus on the informal nature of WAGs means that quantitative data, such as request success rates or sharing frequency, were not primary. More extensive quantitative studies are needed to fully assess the scale and efficiency of WAG-based resource sharing compared to established formal *interlibrary loan* (ILL) systems.

## CONCLUSION

This study underscores that everyday communication technologies like WhatsApp cannot be considered separate from library work; they are now embedded in how librarians negotiate access, collaboration, and professional responsibilities. By situating WAG-based practices within traditions of resource sharing and *interlibrary loan*, as well as within informal communities of practice and digital infrastructures, the study highlights the need to recognize and critically engage with these bottom-up, emerging arrangements rather than ignore them as ad hoc or temporary. The limitations of this study include its qualitative, observational approach and its focus on Indonesian librarians, which may limit the generalizability of the findings. Nonetheless, the study offers concrete implications for policy and immediate practice. For established library consortia, these results provide an urgent basis for revising existing *interlibrary loan* (ILL)

policies to formally integrate, or at least acknowledge, the role of informal digital channels (WAGs) in expediting resource delivery, particularly in environments facing resource scarcity or high demand. In practice, consortia should now invest in capacity-building focused on digital ethics and data security training, ensuring that the velocity gained through WAGs does not compromise institutional compliance.

Furthermore, explicit recognition of these informal networks can guide consortium leaders in allocating support and resources, or even in developing new official 'fast-track' services that mimic the efficiencies of WAGs while providing necessary governance and sustainability. For library leaders, consortia, and professional associations, these findings point to an urgent agenda: developing governance models, ethical guidelines, and capacity-building initiatives that acknowledge WAGs and similar platforms as part of a resource-sharing ecosystem, while ensuring compliance with copyright, privacy, and information security laws. Future research could expand this work by comparing different types of messaging platforms, examining user perspectives, or exploring how informal practices can be integrated with, or gradually transformed into, more formal and sustainable infrastructures for equitable access to digital collections.

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### AUTHORS' CONTRIBUTIONS

MSI: Conceptualization, Data Collection, Writing – Original Draft. DAS: Methodology, Data Collection, Writing – Review & Editing. NEVA: Conceptualization, Formal Analysis, Writing – Review & Editing, Supervision. GR Writing – Review & Editing, Validation

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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No data were generated in this research.

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