



GEMPATh: Gold pawn empowerment through digitalization as a solution for financial inclusion and economic resilience in Indonesia based on a systematic literature review

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ABSTRACT

Background: Financial inclusion remains a major challenge in Indonesia, particularly for low-income households and micro-entrepreneurs with limited access to formal financial services. This study examines the potential of digital gold pawning to promote financial inclusion and strengthen socio-economic resilience through GEMPATh (Gold Pawn Empowerment through Digitalization), a framework integrating digital financial services, gold-based financing, and financial literacy. **Methods:** This study employed a Systematic Literature Review (SLR) to synthesize relevant literature on digital finance, gold pawning, Islamic financial services, financial inclusion, asset-based empowerment, and economic resilience. The literature search was conducted using Google Scholar on January 12, 2026, based on predefined keywords derived from the PICO framework. Of 42 publications initially identified, 19 underwent full-text assessment and 8 met the inclusion and quality criteria for the final synthesis. The selected studies were analyzed through structured screening, thematic synthesis, and bibliometric mapping. **Findings:** The findings indicate that digital gold pawning can improve financial accessibility, operational efficiency, and transaction transparency while supporting household asset protection and financial stability. Integrating digital services, financial literacy, and asset management may extend gold pawning beyond short-term liquidity toward broader economic empowerment and resilience. However, digital literacy limitations, infrastructure gaps, and regulatory fragmentation remain significant challenges. **Conclusion:** Digital gold pawning can contribute to financial inclusion and socio-economic resilience when supported by adequate digital infrastructure, financial literacy, consumer protection, and coherent regulation. GEMPATh provides an integrative framework linking digitalization, Islamic finance, financial inclusion, asset-based empowerment, and economic resilience. **Novelty/Originality of this article:** This study introduces GEMPATh as an asset-based empowerment framework that conceptualizes digital gold pawning beyond short-term financing, integrating digital financial services, gold-based financing, and financial literacy within a unified model.

KEYWORDS: asset-based empowerment; digital gold pawn; economic resilience; financial inclusion; Islamic financial services.

1. Introduction

Financial inclusion is widely recognized as a key driver of sustainable and equitable economic growth. In Indonesia, the level of financial inclusion continues to increase, but still faces significant challenges, particularly among low-income groups, micro and small

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business actors, and communities in 3T areas (underdeveloped, frontier, and outermost regions). Limited access to formal financial services makes these groups vulnerable to economic shocks and hinders sustainable improvements in their welfare (Demirguc-Kunt et al., 2018).

The economic resilience of society is determined not only by income levels but also by the ability to manage assets, access secure financing, and face financial risks. In this context, financial inclusion serves as a strategic instrument to strengthen household economic capacity. An inclusive financial system enables people to access fairer, more transparent, and more sustainable financing options, thereby reducing reliance on high-risk informal financial practices.

Financial inclusion has gained increasing attention within the broader sustainable finance agenda, as wider access to formal financial services is considered essential for promoting economic growth that is both inclusive and resource-efficient (Chu et al., 2023a). In this context, digital financial inclusion is linked to improved resource allocation and greater support for green technological innovation. Therefore, it should be viewed not as an independent driver, but as a complementary factor that contributes to the achievement of sustainable and inclusive development (Kaur & Negi, 2025; Miftari et al., 2025).

Although various policies have been launched, such as the National Strategy for Financial Inclusion/ *Strategi Nasional Keuangan Inklusif* (SNKI), their implementation still faces structural and cultural obstacles. Relatively low financial literacy, minimal collateral, and a lack of trust in formal financial institutions are key limiting factors. Therefore, an innovative approach is needed that can bridge the needs of the community with the formal financial system. Within this context, optimizing widely used financial instruments such as gold pawning offers a practical approach to expanding financial inclusion while strengthening household economic resilience.

Gold pawn is one of the financial instruments that has long been used by the Indonesian people, both through formal and informal institutions. The main characteristics of gold pawning are ease of access, quick disbursement of funds, and the use of gold as collateral, which has a relatively stable value. This makes gold pawning a popular financing option, especially for people who do not have access to conventional bank credit (Ascarya & Yumanita, 2019). From the perspective of financial inclusion, gold pawn services have advantages compared to other financing instruments because they do not require complex creditworthiness assessments. People only need to have gold as an asset, so administrative barriers can be minimized. In addition, gold has strong cultural and economic value in Indonesia, making its acceptance relatively high across various layers of society.

However, conventional gold pawn practices still have limitations, such as manual processes, limited service reach, and lack of information transparency. These conditions can reduce efficiency and increase transaction costs for customers. Therefore, innovation is needed to improve the effectiveness and accountability of gold pawn services. The development of the concept of gold pawn empowerment is important to shift the function of pawning from merely a short-term liquidity solution to an instrument of economic empowerment. Through this approach, gold pawning not only provides financing but also encourages more productive and sustainable asset management.

Digitalization has become a major catalyst in the transformation of the global financial sector, including in Indonesia. The use of digital technology in financial services can improve operational efficiency, expand service reach, and reduce transaction costs. Fintech and digital financial services have been proven to contribute positively to increasing financial inclusion, especially for communities that were previously underserved by the formal financial system (Ozili, 2018). In the context of gold pawnshops, digitalization opens up opportunities to provide services that are more transparent, faster, and easily accessible. The processes of gold appraisal, transaction recording, and due date monitoring can be done digitally, thereby reducing the risk of errors and increasing user trust. In addition, digital platforms allow the integration of pawn services with educational features and financial literacy.

Digitalization also plays a role in strengthening the governance and oversight of financial institutions. With a data-based system, providers of gold pawn services can perform more accurate risk analyses and design products that meet customer needs. This is important to ensure the sustainability of services and consumer protection. However, digital transformation also faces challenges, such as gaps in technology access and data security. Therefore, the development of a digital gold pawn system must be accompanied by risk mitigation strategies as well as improvements in the public's digital literacy so that its benefits can be fully realized.

1.1 GEMPATh Concept: Gold pawn empowerment through digitalization

GEMPATh (Gold Pawn Empowerment through Digitalization) is an innovative concept that integrates gold pawning with digital technology as a solution for financial inclusion and economic resilience. This concept positions gold pawning not only as a financing instrument, but also as a means of asset-based economic empowerment for the community. Through GEMPATh, gold pawn services are integrated into a digital ecosystem that combines financing access, asset management, and financial education. The study also provides conceptual insights for policymakers, Islamic financial institutions, gold-pawn service providers, and digital platform developers.. Digitalization enables a more inclusive and transparent process, allowing people to understand the value of their assets, the risks involved, and the available economic development opportunities.

This concept is also in line with the principles of inclusive economic development, where technology is utilized to reach vulnerable groups and enhance their participation in the formal financial system. Thus, GEMPATh has the potential to become a strategic instrument in supporting the national agenda of financial inclusion and reducing economic disparities. Furthermore, GEMPATh can contribute to national economic resilience by strengthening the foundation of household economies. When people have access to safe and sustainable financing, their ability to cope with economic shocks, such as crises or income declines, will increase significantly.

Although previous studies have examined financial inclusion, digital financial services, and gold pawning, these topics are generally discussed separately. Existing research has largely focused on fintech, digital banking, or the operational aspects of pawn services. However, the potential of digital gold pawning as an integrated approach to financial inclusion, asset-based empowerment, and economic resilience remains insufficiently explored. This gap highlights the need to examine how digitalization may extend the role of gold pawning beyond short-term financing.

Accordingly, this study aims to examine the potential contribution of digital gold pawning to financial inclusion and economic resilience and to develop GEMPATh (Gold Pawn Empowerment through Digitalization) as an integrative conceptual framework. To achieve this objective, the study employs a Systematic Literature Review (SLR) to identify, evaluate, and synthesize relevant studies on digital financial services, gold-based financing, financial inclusion, and economic empowerment. The findings are expected to contribute to the literature by connecting digitalization, Islamic finance, financial inclusion, and economic resilience within a single analytical framework. The study also offers practical insights for policymakers, Islamic financial institutions, digital gold-pawn providers, and platform developers. As GEMPATh is developed from the synthesis of the reviewed literature, further empirical research is needed to examine its application and effectiveness.

1.2 Asset based empowerment theory

Asset Based Empowerment Theory originates from the Asset Based Community Development (ABCD) framework, shifting economic development strategies from deficit focused interventions toward opportunity based growth (Putri et al., 2025; Safira et al., 2023). Traditional welfare economics and microcredit paradigms often view low income populations through their deficiencies, such as inadequate cash flows, lack of formal

banking access, and absence of real estate collateral. This deficit oriented mindset triggers paternalistic financial interventions that foster institutional dependency or trap borrowers in debt cycles.

Conversely, Asset Based Empowerment Theory asserts that low income groups and micro entrepreneurs possess tangible financial assets in the form of physical gold reserves (Demirguc-Kunt et al., 2018). In developing economies like Indonesia, gold serves as a primary store of value due to its high liquidity, strong cultural acceptance, and intrinsic protection against inflationary currency depreciation.

Conventional pawning practices generally treat gold as passive collateral, leaving borrowers vulnerable to permanent asset loss during temporary liquidity shortages. The asset based empowerment approach reframes the role of gold through two crucial functions. First, asset preservation ensures that urgent liquidity needs do not force households to sell physical gold during economic downturns, preserving the real value of household wealth (Addiarrahman & Agustina, 2023). Second, asset leveraging converts static gold reserves into active working capital for micro enterprises, enhancing household income without sacrificing underlying asset ownership (Zainuddin & Mutaqin, 2025).

1.3 Economic resilience, islamic finance, and digital financial inclusion

Economic resilience represents the capacity of households, business units, or communities to anticipate, absorb, adapt to, and recover from financial shocks, market volatility, or systemic crises while maintaining long-term welfare (Amin et al., 2025; Kusuma et al., 2025). Rejecting the view that stability is static, this concept defines financial security as a dynamic process requiring continuous adaptation. Within the GEMPATh context, economic resilience is understood through three structural dimensions: coping capacity, adaptive capacity, and transformative capacity. Coping capacity reflects the immediate ability of households to cushion financial shocks, such as medical expenses, crop failures, or sudden revenue declines, without cutting basic necessities or selling valuable assets at a loss (Addiarrahman & Agustina, 2023). Digitized gold pawning strengthens this capacity by offering rapid, low-friction liquidity as an emergency buffer. Adaptive capacity encompasses the ability of households and MSME actors to adjust financial strategies in response to market dynamics (Ovianda et al., 2025). Integrating digital gold savings and flexible redemption structures within GEMPATh expands this adaptive range by providing users with real-time visibility into gold valuations and credit status, thereby simplifying liquidity optimization and risk diversification. Transformative capacity highlights structural change, wherein households leverage financial services to improve their socioeconomic status (Christanti et al., 2023; Sutomo, 2024). GEMPATh fosters this capacity by channeling digital gold pawn financing productively toward micro-enterprise expansion, business diversification, and wealth accumulation.

The achievement of these forms of resilience within GEMPATh is grounded in Islamic commercial law (*fiqh al-muamalat*), particularly through the *rahn* (pledge) mechanism combined with *qardh* (benevolent loan) and *ujrah* (safekeeping fee) contracts (Addiarrahman & Agustina, 2023). Conventional credit models frequently apply compound interest, unilateral risk shifting, and punitive late fees that may burden low-income borrowers. In contrast, Sharia-compliant gold pawning adheres to ethical imperatives aimed at protecting human welfare under the principle of *hifz al-mal* (wealth preservation) (Putra & Wati, 2023). Transactions are tied directly to physical gold to prevent speculative practices and interest-based exploitation. The *ujrah* fee is calculated strictly on actual storage and maintenance costs rather than on loan amounts or duration, while full ownership of the pledged gold remains with the borrower, safeguarding assets from institutional expropriation. Thus, Islamic finance provides the ethical and contractual boundaries within which gold-based financial services can contribute to household and MSME resilience.

Complementing this ethical framework, digital financial inclusion literature identifies financial technology as a vital distribution channel for expanding access to financial services

(Dutta, 2022; Ozili, 2018). Physical pawnshop operations are often constrained by geographic reach, high branch overheads, and cumbersome manual appraisal processes. Digitalization can reduce these spatial and administrative barriers by enabling financial services to be accessed through mobile platforms. Mobile applications such as Pegadaian Digital Service facilitate instant appraisal requests, digital gold savings management, online fee payments, and transparent contract tracking (Faiqoh & Mugiyati, 2025a; Sugiyanto et al., 2024). In this respect, digital financial inclusion serves not merely as a technological feature but as a delivery mechanism that extends the reach and usability of Sharia-compliant gold-based financial services, including among users located in geographically underserved regions (Chu et al., 2023; Ozili, 2018).

These theoretical components reinforce one another within the GEMPATh ecosystem. Asset-based empowerment functions as the driving philosophy by guiding financial services toward recognizing, protecting, and leveraging gold wealth, while Islamic finance establishes ethical boundaries and legal certainty through *rahn*, *qardh*, and *ujrah* contracts, preventing exploitative commodification. Digital financial inclusion acts as a catalyst for delivery by improving transaction efficiency and expanding access in remote regions (Chu et al., 2023; Ozili, 2018). The interaction of these elements ultimately contributes to economic resilience through the development of coping, adaptive, and transformative capacities (Zainuddin & Mutaqin, 2025). Accordingly, GEMPATh conceptualizes gold pawning not as an isolated financial transaction but as an integrated empowerment ecosystem in which asset-based strategies, Islamic contractual principles, and digital financial inclusion collectively support household and MSME resilience.

1.4 Theoretical framework

The GEMPATh theoretical framework follows an operational flow connecting theoretical inputs to actionable empowerment processes that generate sustainable economic resilience. The model begins with three core inputs: Asset-Based Empowerment Theory (establishing gold as real capital), Islamic finance principles via *rahn* contracts (interest-free wealth protection), and digital financial inclusion (driving transaction efficiency). These inputs converge into the core GEMPATh integration process. In this phase, digital accessibility simplifies online gold appraisals and instant fund disbursements, while embedded financial literacy features guide cash flow management and debt control. This structure enables MSME actors to acquire working capital without sacrificing asset ownership, supported by collaborative governance among Islamic financial institutions, fintech developers, and regulators. Ultimately, this integration produces measurable socioeconomic impacts across three resilience capacities. Coping capacity is strengthened through immediate access to emergency liquidity. Adaptive capacity grows as users adopt digital portfolio management habits. Finally, transformative capacity is realized when short term pawn financing is channeled into productive business capital and long term gold savings accumulation.

2. Methods

This study applies the Systematic Literature Review (SLR) method as a systematic and transparent research approach, allowing all stages of literature search, evaluation, and synthesis to be traced and re-examined. The selection of the SLR method is based on its ability to minimize potential bias and provide a more comprehensive overview of the issues being studied (Iriyanti, 2023). With this approach, various academic findings can be analyzed in a structured manner to produce stronger and more reliable conclusions. Through SLR, this study reviews the scientific literature relevant to the topic of financial inclusion, the digitalization of financial services, as well as gold pawnshops as instruments of economic empowerment. The review process is conducted to identify research trends, study gaps, and opportunities for developing the GEMPATh concept in the context of strengthening community economic resilience.

The SLR stages in this study consist of three main phases: planning, execution, and reporting. In the planning phase, the researchers formulate research questions, determine keywords, and develop a literature review protocol that includes source selection criteria. The execution phase involves the process of searching for articles in scientific databases, screening the literature, and collecting and processing relevant data. Finally, the reporting phase is carried out by presenting the review results in a systematic and analytical manner. By following these stages, this research is expected to produce findings that are valid and scientifically accountable. In addition to enriching academic studies, the results of this research are also expected to provide practical contributions for the development of policies and the implementation of digital gold pawn as a means of promoting sustainable financial inclusion.

2.1 Research questions

Based on the formulated PICO framework, the research questions are designed to serve as a guide for conducting the Systematic Literature Review. The research questions in this study are as follows: RQ1. How does the implementation of digitalization in gold pawnshop services contribute to expanding public access to formal financial services in Indonesia? RQ2. Which digital-based gold pawnshop empowerment approach is most influential in promoting financial inclusion for low-income communities and micro-entrepreneurs? RQ3. How does the level of financial inclusion and economic resilience of the community compare between the use of digital gold pawnshops and conventional gold pawnshop systems? RQ4. What are the benefits and challenges encountered in implementing the GEMPAT concept as a strategy for economic empowerment and strengthening community economic resilience.

Table 1. PICO summary

PICO	Description
Population (P)	Low-income communities, micro and small business actors, as well as groups that are not yet served or are underserved by formal financial institutions in Indonesia
Intervention (I)	Digitization of gold pawn services with an economic empowerment approach (GEMPAT)
Comparison (C)	Conventional gold pawning practices or forms of informal financing without the support of digital technology
Outcome (O)	Increasing the level of financial inclusion, economic resilience, and the capacity for community economic empowerment

2.2 Data research and collection process

The literature search was conducted systematically by selecting keywords based on the PICO framework to ensure focus and alignment with the research objectives. The literature search was conducted using Google Scholar as the primary academic database on January 12, 2026. The keywords were developed to identify studies related to financial inclusion, digital financial services, gold pawn services, and community economic empowerment.

The search string used in this study was: ("financial inclusion" OR "financial literacy") AND ("digital financial services" OR fintech OR "digital financial technology") AND ("gold pawn" OR "gold pawning" OR "gold-based financing") AND ("economic empowerment" OR "community economic resilience") The retrieved records were managed using Covidence to facilitate title and abstract screening, full-text assessment, data extraction, and subsequent analysis.

2.3 Study selection process

The study selection process was conducted using Covidence software through a structured screening procedure. This study involved two authors; however, due to

limitations in the free-access version of Covidence, the screening process was performed by one reviewer. The initial screening stage involved reviewing the titles and abstracts of identified articles to assess their relevance to the research topic. Articles were included if they discussed financial inclusion, digital financial services, gold pawn services, or community economic empowerment and fulfilled the predetermined eligibility criteria. Meanwhile, articles were excluded if they were outside the research scope, did not meet the publication criteria, were unavailable in full-text format, or lacked sufficient methodological information.

The second stage involved a full-text assessment to determine the eligibility of the selected studies according to the predefined criteria. At this stage, each article was assessed based on its relevance to the research questions, methodological quality, and contribution to the development of the GEMPATH concept. Any differences in screening decisions were resolved through discussion between the two authors and by re-evaluating the articles based on the established inclusion and exclusion criteria. This process ensured that the final selection of studies was consistent with the research objectives.

2.4 Inclusion and exclusion criteria

Inclusion criteria are used to select articles that have a direct relevance to the focus of the research. Studies considered in this review are scientific publications from the last five years that discuss topics such as financial inclusion, digitization of financial services, gold pawning, and community economic empowerment. The literature used is available in full-text form and includes both empirical research and conceptual studies relevant to the development of the GEMPATH concept. Conversely, articles were excluded from the review if they did not fit within the scope of the study, were published outside the specified period, did not provide full-text access, or were merely subjective opinions without clear methodological support. The establishment of these criteria aims to maintain the accuracy, consistency, and quality of the literature sources analyzed.

2.5 Quality assessment and thematic synthesis process

Articles that have passed the selection stage then undergo a quality assessment process. This stage is carried out to ensure that each study analyzed meets academic standards and has an adequate level of reliability. The quality assessment is conducted through a series of evaluative questions covering aspects such as publication reputation, topic relevance, novelty of the study, and completeness of the information presented. Thus, only credible literature that aligns with the research objectives is used in the SLR. The quality assessment process was conducted based on predefined criteria by the reviewer. Although the screening process was performed by one reviewer, the assessment results were reviewed and discussed by both authors to maintain consistency and ensure the reliability of the selected studies.

Table 2. Assessment criteria

Quality of literature in SLR	Criteria
Q1	Is the article from a reputable journal and has it undergone a peer-reviewed process?
Q2	Was the article published within the 2020–2025 period to ensure the relevance of financial digitalization issues?
Q3	Does the discussion in the article explicitly cover financial inclusion, digitalization of financial services, gold pawning, or community economic empowerment?
Q4	Is the full manuscript of the article available and does it meet the established inclusion criteria?
Q5	Is the article sourced from a reliable scientific database, such as Google Scholar, and does it meet the required academic standards?

Thematic synthesis was performed by systematically examining the selected studies to identify recurring ideas, similarities, and important findings across the reviewed literature. The development of themes was guided by the research questions, the PICO framework, and the results of the data extraction process. The identified themes included the digital transformation of financial services, improvement of financial access, mechanisms of community economic empowerment, and the role of digital gold pawn services in strengthening economic resilience.

Additional supporting references were utilized to complement the eight core studies selected through the Covidence screening process. These supplementary sources were not incorporated into the main SLR synthesis but were used to provide broader theoretical perspectives and contextual explanations related to the GEMPAT (Gold Pawn Empowerment through Digitalization) concept. Their inclusion aimed to enrich the discussion and support the interpretation of findings regarding digital gold pawn services, financial inclusion, and community economic empowerment.

3. Results and Discussion

An initial literature search was conducted through scientific databases, yielding 42 publications related to the research topic. All of these articles were then processed using Covidence for an initial screening based on titles and abstracts. At this stage, 23 articles were deemed irrelevant to the research focus, leaving 19 articles for more thorough full-text evaluation. After applying inclusion criteria, which included relevance to financial inclusion, digitalization of financial services, gold pawnshop practices, and economic resilience, as well as the availability of full texts, 8 articles were deemed eligible for inclusion in the main synthesis. No duplicates, access barriers, or additional clarification needs were found for these articles, allowing all of them to be fully used in further analysis.

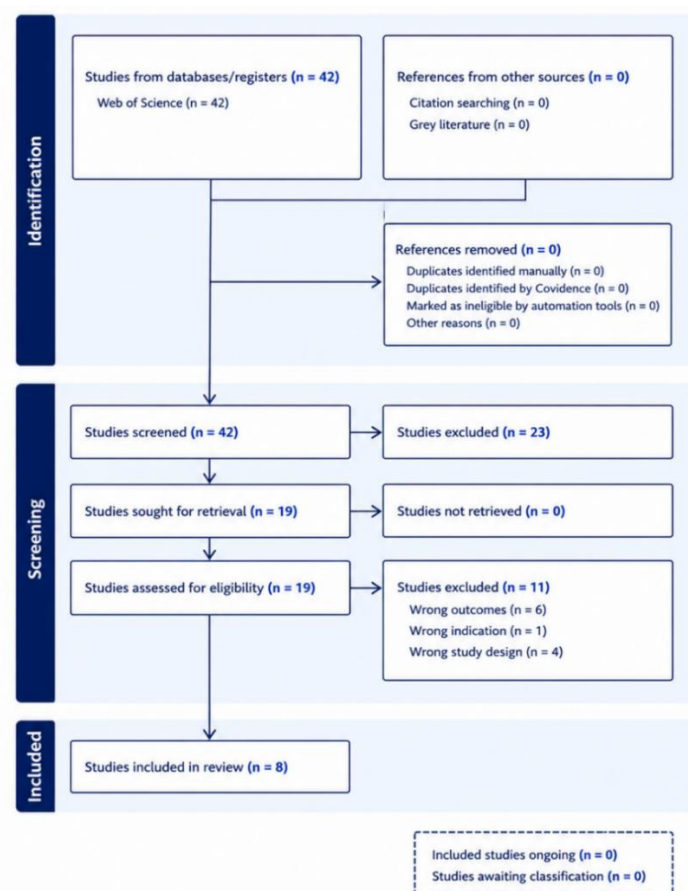


Fig. 1. Research Protocol - PRISMA Flow Diagram
Source: processed data (2025)

In addition, this study also considered a number of additional literature obtained from Google Scholar. These articles were chosen because of their relevance to the topic of gold pawnshop digitization and economic empowerment, even though they were not analyzed using Covidence or visualized through VOSviewer. This additional literature provides further perspectives on marketing strategies, product innovation, transformations in contracts, as well as the digitization of gold pawnshop services, thereby enriching the discussion, broadening the context, and supporting a more comprehensive synthesis of the research findings.

The subsequent bibliometric analysis was conducted using VOSviewer to visualize the connectivity patterns between terms in the analyzed literature. The mapping results show that the keywords study and research have a strong relationship and occupy interconnected positions, reflecting conceptual links in studies on gold pawning and digitalization of financial services. The network formed indicates that the discussion is still dominated by general and conceptual themes. This situation suggests that research related to digital-based gold pawn empowerment is still in its early stages, leaving ample opportunities for more in-depth and contextual studies, particularly in supporting financial inclusion and economic resilience in Indonesia.

The literature selection process was conducted in several stages to ensure the relevance and quality of the reviewed studies. A total of 42 records were initially identified through database searching. Following title and abstract screening, 19 articles met the eligibility criteria for full-text assessment. After applying the predefined inclusion, exclusion, and quality assessment criteria, eight core articles were retained for the final thematic synthesis. These articles served as the primary evidence base for the findings presented in this study, whereas additional literature was consulted solely to provide theoretical and contextual support and was not included in the systematic synthesis.

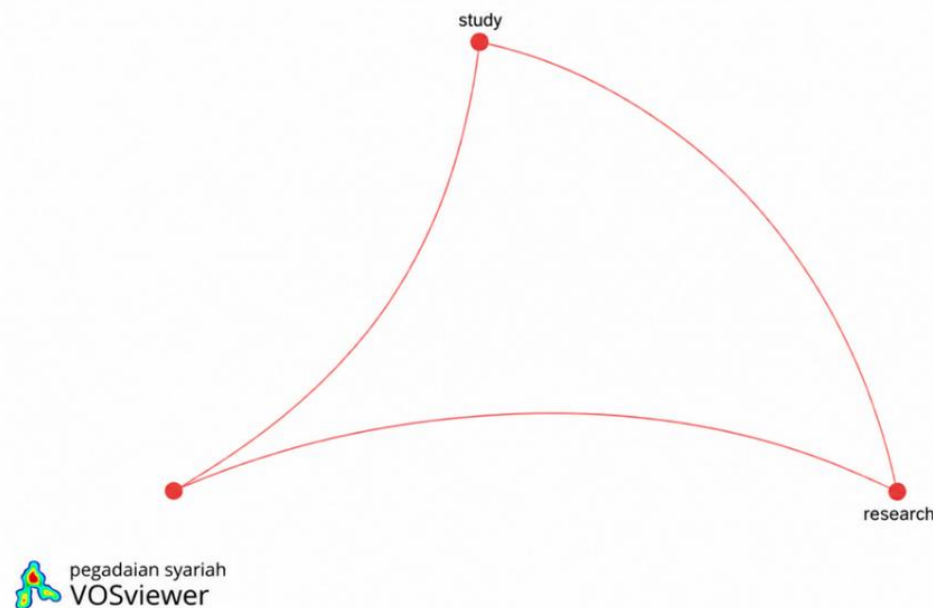


Fig. 2. Visualization of Research Keyword Network Connections
Source: processed data (2025)

The thematic findings were developed through an iterative synthesis of the eight core articles included in the final review. During the analysis, recurring concepts, research objectives, methods, and key findings were systematically identified and grouped into broader thematic categories. This process resulted in themes related to digital financial accessibility, operational efficiency, financial literacy, asset management, and economic resilience. These themes provide the analytical basis for interpreting the literature and for formulating the GEMPAT conceptual framework.

3.1 Thematic patterns of digital gold pawn research

Keyword mapping using VOSviewer shows that studies on digital gold pawning are still dominated by general, conceptual terms. The appearance of keywords such as study and research as main nodes indicates that most research is still in an early stage of development, focusing on exploring phenomena and describing practices, and has not yet led to the formation of specific, integrated thematic clusters. This pattern aligns with the characteristics of gold pawning research, which generally uses descriptive approaches, case studies, and normative analysis of Islamic financial institution practices (Addiarrahman & Agustina, 2023b).

In the literature, several main themes are relatively dominant. The first theme is the digitalization of Islamic financial services, which emphasizes the use of digital technology such as mobile banking applications and Pegadaian Digital Service (PDS) to improve operational efficiency, ease of access, and the quality of gold pawn services. Digitalization is positioned as a means of transforming services that can expand the reach of Islamic financial institutions, although it still faces challenges in digital literacy and resource readiness (Ovianda et al., 2025; Sugiyanto et al., 2021).

The second theme relates to gold pawn (*rahn* gold) as a safe and liquid sharia financing instrument. Several studies focus on aspects of compliance with Islamic law, the structure of qardh and ujah contracts, and the legitimacy of gold pawn practices from the perspective of fiqh muamalah and *maqāṣid al-sharī'ah*. Gold pawning is seen as playing an important role in preserving asset value and providing access to liquidity without having to surrender asset ownership (Addiarrahman & Agustina, 2023).

In addition, the themes of financial inclusion and socio-economic resilience are beginning to gain attention, although they have not yet strongly appeared in the keyword map. Several studies indicate that Sharia Pawnshops contribute to expanding financial access for low-income communities and MSME actors through gold pawn products, gold savings, as well as digital-based services. Digital innovation has been proven to improve customer satisfaction and accessibility, but limitations in financial and digital literacy remain a major obstacle (Faiqoh & Mugiyati, 2025; Zainuddin & Mutaqin, 2025).

The relationship between themes in the VOSviewer map indicates connections that are still partial. Digitization is generally associated with increased efficiency and marketing strategies, while the dimensions of economic empowerment and social impact are often discussed separately. Research on product innovation and marketing strategies focuses more on enhancing institutional competitiveness rather than on the direct implications for customer welfare and empowerment (Udin et al., 2025; Pratiwi et al., 2025). On the other hand, normative studies and Islamic law tend to stand alone without strong integration with issues of digital transformation and its socio-economic impacts.

The pattern shows a limitation in studies that comprehensively link digitalization, gold pawnshops, financial inclusion, and empowerment within a single analytical framework. The theme of digital-based economic empowerment is still rarely the main focus, while most studies stop at evaluating service efficiency, Sharia compliance, or institutional marketing strategies (Ovianda et al., 2025; Sugiyanto et al., 2021).

In this context, the GEMPATh (Gold Pawn Empowerment through Digitalization) research holds a strategic position by offering an integrative approach. GEMPATh views the digitalization of gold pawning not merely as a technological innovation, but as an instrument of economic empowerment that supports Islamic financial inclusion and socio-economic resilience in communities. By connecting the dimensions of technology, Islamic finance, and empowerment within a single conceptual framework, GEMPATh contributes to filling gaps in research that have not been widely explored in previous literature.

3.2 The role of digital gold pawn in increasing financial inclusion

The VOSviewer analysis indicates that digital gold pawning has not yet emerged as a distinct financial inclusion cluster. However, the reviewed studies consistently suggest that

digital gold-pawn services contribute to expanding access to formal financial services, particularly in Indonesia. The digitization of gold pawn services plays a role in expanding public access to formal financial services. The use of digital applications and mobile-based services allows customers to obtain financing through a faster, more flexible, and efficient process without having to visit a physical office. In Indonesia, the development of platforms such as Pegadaian Digital Service (PDS) and Byond by BSI has made it easier for the public, including low-income groups and MSME actors, to utilize gold as a safe and easily accessible source of liquidity (Ovianda et al., 2025). These findings support the view that digital technology can reduce geographical and administrative barriers in financial access (Dutta, 2022).

In addition to expanding access, digitalization also enhances the operational efficiency of Islamic financial institutions. Automation of service processes and the integration of digital systems reduce operational costs while increasing transaction transparency and speed. This efficiency impacts the affordability of services for customers, as shown in the Pegadaian Digital Service efficiency study, which found that digital services are more practical and time-saving (Ovianda et al., 2025; Ozili, 2018). This aligns with findings that emphasize cost efficiency as an important factor in promoting digital-based financial inclusion (Rashid, 2022).

In the context of economic empowerment, the digitalization of gold pawning enables the community to gain access to liquidity without losing ownership of valuable assets. Digital gold pawning not only serves as a short-term financing instrument but also contributes to socio-economic resilience through wealth value protection and asset diversification. The role of Sharia Pawnshops as gold banks demonstrates that integrating digital services with gold-based products can strengthen household economic stability and increase community participation in the Sharia financial system (Faiqoh & Mugiyati, 2025; Zainuddin & Mutaqin, 2025). The use of technology also has the potential to enhance public trust and capacity in managing their financial assets (Rashid, 2022).

Nevertheless, the digitization of gold pawning also presents its own challenges, particularly regarding digital literacy and access, as discussed further in Section 4.6. In addition, institutions that focus too much on efficiency and profit may shift the goal of financial inclusion from empowerment to commodification of services for vulnerable groups (Chu et al., 2023). By linking the results of VOSviewer and literature findings, it can be concluded that the digitization of gold pawning plays a strategic role in enhancing financial inclusion through expanded access, service efficiency, and the potential for economic empowerment. However, the limited representation of themes related to inclusion and empowerment in the keyword map indicates the need to strengthen research that explicitly integrates gold pawning digitization with a fair and sustainable financial inclusion agenda. In this regard, the GEMPATh research framework becomes relevant as an integrative approach that bridges technological aspects, Islamic finance, and community empowerment.

3.3 GEMPATh as an asset-based economic empowerment model

This discussion positions GEMPATh (Gold Pawn Empowerment through Digitalization) as an advancement beyond conventional gold pawning practices, which have traditionally focused on meeting short-term liquidity needs. Within the GEMPATh framework, gold pawning is reconceptualized as an asset-based economic empowerment mechanism that integrates Sharia-compliant financing, financial literacy enhancement, asset management, and digital technology support. This approach expands the role of gold pawning from a temporary financing tool into a strategic instrument for improving community welfare.

The transformation of gold pawning under GEMPATh is reflected in a shift from immediate cash access toward medium- and long-term economic capacity building. Previous studies affirm that gold pawning holds strong Sharia legitimacy as a mechanism for asset protection and liquidity provision (Addiarrahman & Agustina, 2023; Khera et al.,

2021; Sudarwanto & Muthoifin, 2026). However, GEMPATh extends this function by positioning gold not merely as collateral, but as a productive asset that can be strategically managed to support sustainable economic outcomes. This perspective aligns with asset-based development approaches, which emphasize leveraging existing community resources as the foundation for economic growth.

A key strength of the GEMPATh model lies in its integration of gold-based financing with financial literacy and asset management. Improving financial literacy is essential to ensure that communities understand the value, risks, and long-term potential of their gold assets. Prior research highlights that limited financial and digital literacy remains a significant barrier to the effective utilization of Sharia-based digital financial services, particularly among low-income populations (Faiqoh & Mugiyati, 2025; Zainuddin & Mutaqin, 2025). In response, GEMPATh embeds educational initiatives and mentoring within the financing process, reinforcing empowerment rather than dependency. Similar integrative approaches have been shown to enhance income-generating opportunities when combined with entrepreneurship training and capacity-building programs (Çekim, 2025; Masrurh, 2024).

Digital technology plays a central role in GEMPATh as an enabling tool for empowerment rather than merely an operational support system. Digital platforms facilitate the integration of financing services, educational content, and asset monitoring within a single, accessible ecosystem. Studies on the digitalization of pawnshop services demonstrate that technology adoption enhances efficiency, transparency, and service outreach, while also encouraging greater community participation in economic decision-making (Ovianda et al., 2025; Sugiyanto et al., 2021). Enhanced access to information and improved asset control increase the likelihood of sustainable financial independence among users.

Overall, GEMPATh (Gold Pawn Empowerment through Digitalization) represents a sustainable economic empowerment model that combines asset-based development, integrated financing and literacy initiatives, and digital technological support. This approach has the potential to generate long-term impacts, including increased household income, strengthened economic resilience, and greater community self-reliance, as evidenced in asset-based community development studies (Safira et al., 2023). Nevertheless, the effectiveness of GEMPATh depends on sustained institutional support, inclusive policy frameworks, and adequate levels of digital literacy to ensure that technological innovation genuinely promotes empowerment rather than reinforcing existing inequalities.

Within the sustainable finance agenda, GEMPATh may support inclusive and resource-efficient economic development by improving the transparency, accountability, and efficiency of household asset management through digital financial inclusion. Previous studies link digital financial inclusion to better resource allocation, more sustainable financial service delivery, and greater support for green technological innovation (Chu et al., 2023; Kaur & Negi, 2025; Miftari et al., 2025). Nevertheless, the environmental implications of digital gold-pawn services require further empirical investigation.

3.4 A theoretical comparison of digital and conventional gold pawning systems

To deepen the analytical contribution of RQ3, this subsection reframes the comparison between digital and conventional gold pawning systems using a theoretical lens encompassing institutional, technological, and social dimensions. This framework enables a more systematic evaluation of how digital transformation reshapes governance structures, service delivery mechanisms, and socio-economic outcomes. By applying this multidimensional perspective, the analysis clarifies the relative strengths and limitations of each system and highlights the value of integrative models such as GEMPATh.

By applying an institutional technological social framework, this comparison demonstrates that digital gold pawning extends beyond operational efficiency to influence governance structures and socio-economic outcomes. While conventional systems provide legal certainty and stability, digital platforms offer greater potential for empowerment and

economic resilience when embedded within inclusive and well-regulated institutional arrangements, as conceptualized in the GEMPATh model.

Table 3. Institutional, technological, and social comparison of digital and conventional gold pawning

Dimension	Digital gold pawning	Conventional gold pawning	Key references
Institutional Regulatory Governance	Regulatory compliance varies across platforms; risks arise when services operate outside formal licensing frameworks	Embedded within established legal and Sharia governance structures	(Addiarrahman & Agustina, 2023; Ulya, 2023)
Institutional Consumer Protection	Protection depends on transparency, supervision, and platform accountability	Stronger protection through standardized contracts and dispute resolution mechanisms	(Putra & Wati, 2023)
Institutional Market Orientation	Often market-driven and efficiency-oriented, with potential emphasis on scalability	Primarily service-oriented with social and religious compliance objectives	(Faiqoh & Mugiyati, 2025)
Technological Service Delivery	Relies on digital platforms, mobile applications, and automated processes	Delivered through face-to-face interactions and manual procedures	(Manihuruk et al., 2025; Sugiyanto et al., 2021)
Technological Accessibility	High accessibility across time and space for digitally connected users	Accessibility constrained by physical presence and operating hours	(Dutta, 2022; Ovianda et al., 2025)
Technological Risk Exposure	Exposed to digital risks such as cybersecurity threats and digital exclusion	Lower technological risk but limited scalability	(Ulya, 2023)
Social Financial Inclusion	Expands inclusion through digital access, particularly for remote and urban populations	Inclusion limited to communities with physical access to service outlets	(Faiqoh & Mugiyati, 2025b; Zainuddin & Mutaqin, 2025)
Social Asset Utilization	Encourages strategic management of gold as a productive asset	Treats gold primarily as collateral for short-term liquidity	(Zainuddin & Mutaqin, 2025)
Social Economic Resilience	Supports long-term resilience through asset diversification and empowerment	Functions mainly as a short-term coping mechanism	(Zainuddin & Mutaqin, 2025)
Social Alignment with GEMPATh	Highly compatible with asset-based empowerment and integrated literacy models	Requires additional interventions to achieve empowerment outcomes	Author's synthesis

3.5 The contribution of GEMPATh to community economic resilience

GEMPATh (Gold Pawn Empowerment through Digitalization) contributes to community economic resilience by integrating digital, asset-based financing with financial literacy initiatives, social capital, and collaborative governance. Rather than operating merely as a short-term liquidity mechanism, GEMPATh positions digital gold pawning as a resilience-oriented tool that enables households to withstand economic shocks, preserve valuable assets, and sustain financial stability over time. A key contribution lies in facilitating rapid access to financing during periods of economic uncertainty. Through digital gold pawning, households can convert existing assets into liquidity without permanently relinquishing ownership, which is particularly important when conventional credit channels become less accessible. This function is further reinforced through multi-stakeholder collaboration involving local governments, communities, and private actors, helping ensure that financial access remains adaptive and inclusive (Kusuma et al., 2025).

Evidence from community-driven initiatives further indicates that participatory approaches can enhance local adaptive capacity. For example, action-oriented learning programs at the village level have been shown to strengthen business resilience and improve the ability of micro-enterprises to respond to economic shocks (Christanti, 2023).

Beyond improving access to financing, GEMPATh contributes to resilience by prioritizing asset protection rather than asset liquidation. The use of gold as collateral within a digital framework enables households to maintain long-term ownership while meeting short-term financial needs, consistent with asset-based development perspectives that emphasize strategic resource management as a critical component of sustainable resilience. Digital platforms can further improve transparency and monitoring of asset utilization, supporting more informed financial decision-making and reducing the risk of distress-driven asset sales, particularly among economically vulnerable households (Losada-Rojas et al., 2024). In this respect, the combination of asset preservation and digital monitoring allows households to address immediate liquidity needs while retaining resources that may contribute to their longer-term economic security.

Financial capability represents another important pathway through which GEMPATh can strengthen household economic stability. Embedded financial literacy programs enhance individuals' capacity to manage financial obligations, allocate resources effectively, and channel financing toward productive activities. Empirical studies consistently report a positive relationship between financial education and the performance and sustainability of micro, small, and medium enterprises, underscoring the role of financial capability in reinforcing household economic stability (Sutomo, 2024). Context-specific literacy interventions are particularly relevant because they enable households to align financial strategies with their socioeconomic environment and respond more effectively to localized economic risks. Thus, access to financing alone is insufficient; its contribution to resilience also depends on households' ability to manage and utilize financial resources effectively.

The resilience generated through GEMPATh is further supported by social capital and collective action. Trust-based networks facilitate knowledge exchange, mutual support, and collective responses during periods of economic disruption. Community capital frameworks demonstrate that resilience is strengthened when financial, human, and social resources are mobilized in an integrated manner (Losada-Rojas et al., 2024; Christanti, 2023). However, reliance on community-led initiatives alone may overlook broader structural constraints. Sustained economic resilience therefore requires complementary state involvement, particularly through regulatory support, infrastructure provision, and policies that strengthen digital inclusion. This institutional dimension is important because the effectiveness of community-based financial innovation depends not only on individual and collective capabilities but also on the wider institutional environment in which such initiatives operate.

Taken together, GEMPATh enhances community economic resilience through interconnected mechanisms involving crisis-responsive financing, asset protection, financial capability, social capital, and collaborative governance. The model combines bottom-up community empowerment with digital financial innovation while recognizing the importance of institutional and public policy support for its long-term sustainability. Accordingly, GEMPATh can be understood as a hybrid resilience model that connects digital financial services, asset-based empowerment, and community capacity-building within a broader institutional framework.

3.6 Challenges in implementing the GEMPATh framework

The implementation of GEMPATh as an asset-based digital gold pawning empowerment model faces a range of interrelated challenges spanning systemic, organizational, and technological dimensions. These constraints may limit the effectiveness of integrating digital financial services with broader objectives of financial inclusion and community empowerment if they are not addressed in a coordinated manner.

At the systemic level, the lack of standardized operational procedures and harmonized regulatory frameworks across digital gold pawning providers leads to inconsistencies in gold valuation, pricing transparency, and consumer protection mechanisms. Such variations create uncertainty for users and may undermine public trust in digital financial services. In addition, the limited availability of economic assessments evaluating cost efficiency and long-term impacts of asset-based digital models reduces institutional willingness to invest and scale up GEMPATh initiatives (Marshall et al., 2024).

Organizational challenges further complicate implementation. Weak coordination among financial institutions, local governments, and community organizations can hinder the integration of digital platforms with financial literacy and empowerment programs. Moreover, limited human resource capacity particularly in digital literacy and asset-based empowerment approaches constrains the effective operationalization of GEMPATh at the grassroots level (Katy & Trinkley, 2023).

From a technological perspective, insufficient digital infrastructure and suboptimal data management systems remain significant barriers, especially in rural and underserved areas. Continued reliance on manual or semi-digital processes reduces efficiency and restricts service scalability. Concerns related to data security and privacy protection also represent critical challenges, as user trust in digital gold pawning services depends heavily on the assurance of secure and transparent data governance (Cholke, 2024).

Overall, these challenges indicate that technological innovation alone is insufficient to ensure the successful implementation of GEMPATh. A comprehensive and integrated approach encompassing digital literacy development, infrastructure enhancement, regulatory alignment, and robust data security frameworks is essential for GEMPATh to function effectively as a sustainable and inclusive economic empowerment model.

3.7 Synthesis of findings and research implications

The synthesis of findings positions GEMPATh as an integrated digital gold pawning-based empowerment model that connects financial digitalization, financial inclusion, and community economic resilience. Drawing on thematic mapping and comparative analysis from the literature, this study demonstrates that the digital transformation of gold pawning extends beyond transactional efficiency to redefine gold pawning as an asset-based empowerment instrument (Dutta, 2022; Zainuddin & Mutaqin, 2025). In other words, the findings suggest that GEMPATh has the potential to support financial inclusion and economic resilience; this is a proposed conceptual contribution of the present study rather than a claim directly demonstrated by the reviewed literature, and it therefore requires empirical testing before it can be generalized. Positioned alongside existing microfinance and hybrid community-empowerment models, GEMPATh shares their asset- and capacity-building orientation but differs in explicitly combining Sharia-compliant gold-based financing with digital delivery and financial-literacy support within a single framework, rather than treating credit access, literacy, and digitalization as separate interventions.

In addressing RQ1, the literature mapping indicates that digital gold pawning is strongly associated with key themes such as digital finance, financial inclusion, asset-based development, and community empowerment. These thematic linkages reflect a paradigm shift from viewing gold pawning merely as a short-term liquidity mechanism toward recognizing its potential contribution to sustainable and inclusive economic strategies (Ulya et al., 2023). Regarding RQ2, the findings show that GEMPATh enhances empowerment outcomes by integrating access to financing with financial literacy, asset management, and social capital, thereby strengthening household economic capacity and the sustainability of micro-level enterprises (Sutomo, 2024; Christanti, 2023).

With respect to RQ3, the comparative assessment between digital and conventional gold pawning systems reveals that digital models offer superior accessibility, operational flexibility, and scalability, particularly in supporting household economic resilience. Through the lens of coping, adaptive, and transformative capacities, GEMPATh contributes to households' ability to absorb economic shocks, adjust financial behavior, and achieve

longer-term asset-based transformation (Faiqoh & Mugiyati, 2025; Losada-Rojas et al., 2024). However, the realization of these benefits remains contingent upon adequate institutional support and governance arrangements.

In response to RQ4, the study identifies persistent implementation challenges, including disparities in digital literacy, infrastructure limitations, regulatory fragmentation, and data security concerns. These interrelated barriers may constrain the effectiveness of GEMPATh if not addressed through coordinated policy and institutional interventions (Marshall et al., 2024).

Policy Implications and Directions for Future Research From a policy standpoint, the findings underscore the importance of regulatory harmonization, strengthened consumer protection, and sustained public investment in digital infrastructure and financial literacy initiatives to support inclusive implementation of GEMPATh (Putra & Wati, 2023). Enhanced cross-sector collaboration among government agencies, financial institutions, and community organizations is also essential to maximize empowerment outcomes.

Future research should employ empirical and longitudinal approaches to assess the long-term socio-economic impacts of digital gold pawning based empowerment models. Further studies should also examine contextual variations across regions to ensure that synthesis-based conclusions do not overlook local institutional and social dynamics.

3.8 Research limitations

This study acknowledges several limitations that need to be considered when interpreting the findings. The final synthesis was derived from eight core articles that met the eligibility criteria through the Covidence screening process. Although additional references were used to provide broader theoretical and contextual support, these sources were not included in the main SLR analysis. Therefore, the findings should be understood as a conceptual synthesis based on existing literature and should not be interpreted as direct empirical evidence of the implementation or effectiveness of the GEMPATh framework.

Moreover, the limited number of eligible studies may restrict the extent to which the findings can be generalized to different communities and contexts. Further empirical research involving larger samples, longitudinal designs, and field-based evaluations is required to validate the applicability of GEMPATh and assess its actual contribution to financial inclusion and community economic resilience.

4. Conclusions

This study confirms that the digitization of gold pawnbroking is not merely a technical innovation in financial services, but a conceptual transformation that expands the function of gold pawnbroking as an asset-based economic empowerment instrument. Through a systematic literature synthesis, this study shows that the integration of digital technology with gold pawn financing enables a paradigm shift from short-term liquidity mechanisms to a model of sustainable household economic capacity building. These findings enrich the study of financial inclusion by positioning gold as a strategic asset that can be optimized to improve economic resilience, particularly in the context of low-income communities and micro-entrepreneurs.

The main contribution of this research is the development of GEMPATh (Gold Pawn Empowerment through Digitalization), a conceptual framework that integrates the digitalization of Islamic financial services, asset-based empowerment, and financial literacy into a unified model. By extending the analysis of gold pawnbroking beyond operational efficiency and sharia compliance, GEMPATh positions digital gold pawning as a mechanism for expanding inclusive access to Islamic financial services, strengthening household financial capability, and enhancing socio-economic resilience. Within the sustainable finance agenda, its contribution is primarily situated in the social and economic dimensions by promoting more efficient, transparent, and accountable household asset management.

However, any potential environmental implications of digital gold-pawn services require further empirical investigation.

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Author Contribution

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