



# The role of digital gold pawn services in encouraging financial inclusion of the unbanked community: A systematic literature review

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## ABSTRACT

**Background:** A number of studies show that asset-based financing, such as gold pawning, can be part of financial inclusion. This study aims to analyze the influence of Pegadaian's gold pawn services via the TRING application on the financial inclusion of the unbanked community compared with formal banking in Indonesia. **Methods:** This study uses the systematic literature review (SLR) method by analyzing journal articles obtained from Scopus and Google Scholar in the 2022–2025 period systematically using the PRISMA model and the PICOS framework, so that 22 articles were obtained that were analyzed based on the financial inclusion framework and asset-based financing. **Findings:** The study shows that digitalization through the TRING application increases financial participation, despite the impact of financial literacy, as it depends on users' digital literacy. These findings strengthen the theory of financial inclusion and affirm the role of gold pawns as a financial inclusion instrument to formal banking. **Conclusion:** This study concludes that integrating asset-based financing with digital service delivery is an effective strategy for accelerating equitable financial inclusion in Indonesia. **Novelty/Originality of this article:** The novelty of this research lies in the synthesis of the PICOS framework, which specifically compares the role of digital gold pawns and formal banking in encouraging financial inclusion of the unbanked community in Indonesia.

**KEYWORDS:** gold mortgage; financial inclusion; pawnshop; unbanked communities; financial digitalization.

## 1. Introduction

In order to support sustainable economic development, there is one important element, namely, financial inclusion. Financial inclusion is defined as a situation where people have access to various quality formal financial services with flexible, smooth, secure access and provide affordable costs according to their needs and abilities, so that they can improve people's welfare, such as reducing poverty, inequality, and encouraging economic growth (Directorate General of Economic and Fiscal Strategy, 2025). Align with (Amelia & Izmuddin, 2025; Huang et al., 2025) findings convey the benefits of financial inclusion are to increase public access to the reach of financial services, increase the availability of financial services through financial service business actors that are in accordance with the needs and capabilities of the community. Financial inclusion can also encourage increased income and local economic growth by providing access to financing for the community, thereby indirectly increasing financial literacy. Therefore, financial inclusion should be able

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to reduce inequality in society, but in reality, this is not the case. In the report World Bank Group (2025) mentioning that currently measured globally, there are still challenges regarding financial inclusion as shown by data that 1.4 billion people in the adult category globally are said to be Unbanked, or the condition when a person does not have a formal bank account or access to financial literacy. Also reported through Katadata (2024) that in Indonesia there are challenges regarding financial inclusion, because it is included in the 4th place that has a population with the status of Unbanked. Groups of unbanked communities, most of them consist of rural communities, MSME actors, and informal workers. The group is often trapped in a loan circle with an interest rate of 5-20%, and when they need access from loans to conventional banks as a step-in business capital, education costs, and other needs, this group does not meet the requirements of conventional banks, which often require fixed salary slips, credit history, and property collateral. This reason is what makes the group unbanked, which makes them reluctant and lack understanding in accessing financial services.

The above conditions are certainly not in line with the current era of globalization and digitalization, where financial inclusion should be a solution in empowering all levels of society to achieve fair and equal access to financial services. Therefore, it is very important for many parties involved in achieving financial inclusivity in Indonesia. One of the institutions that has provided the solution is PT Pagadaian Indonesia, especially through the gold pawn feature, which was recently launched. As a bridge in overcoming the financial inclusion gap, Pagadian presents application-based digital financing services as financial inclusion which is a solution for people in the unbanked category.

Pegadaian's contribution through this service reaches IDR 94 trillion in pawn loans throughout 2025, of which as many as 70% of customers come from the lower economic segment. In financing services, it offers advantages in the form of disbursement of funds in 15 minutes, low interest of 0.79% per day, and the absence of BI checking. This is also supported through 5,000+ national outlets and through a digital pawnshop application called TRING! which allows users to reach remote areas (Usmayani, 2022). The digitization of financial services allows for the simplification of the transaction process, increased transparency, and the expansion of the range of services without having to rely on the physical presence of financial institutions (Ashari & Dewantoko, 2025; Nathan et al., 2022). In this context, Pagadian, through the TRING application, offers financing service innovations to improve accessibility and efficiency. This application allows the public to obtain information, conduct financing simulations, and access gold pawn services more easily and quickly, thereby reducing the main geographical and administrative obstacles. The advantages of this service include the simplicity of the mechanism, the speed of fund disbursement, and the lack of administrative requirements. Unlike bank loans, which require income-based eligibility and financial history, this service focuses on the value of physical assets that can be verified directly. In line with what is described in financial inclusion theory by Ozili (2020), where financial inclusion is supposed to provide ease and availability of access to basic financial services for all elements of society, ensuring that individuals and businesses can access financial products that meet their needs in a sustainable manner. Thus, Pegadaian's solution has the potential to be the initial entrance for the community to connect with the wider financial ecosystem.

However, the implementation of digital services still faces various challenges, such as low digital literacy in public finance, limited internet access in several regions, and low levels of trust among some unbanked people in digital financial services, so the effectiveness of expanding financial inclusion has not been optimal. In addition, some unbanked people still have a low level of trust in application-based financial services due to concerns about data security, transaction risk, and a lack of understanding of digital service mechanisms.

Some research by Arcuri et al. (2026); Christy et al. (2025); Muat et al. (2025); Pebriansyah et al. (2026), discuss the role of digital financial services and fintech in increasing the financial inclusion of the unbanked community, especially through easy access to financing, transaction efficiency, and expanding the reach of formal financial services. Thus, most of the research still focuses on fintech services in general, mobile

banking, and digital wallets, so studies that specifically discuss the transformation of Pegadaian's digital services through TRING App in the context of the unbanked community are still relatively limited. In addition, previous research has tended to focus on the benefits of digital services on financial inclusion, while discussions on implementation barriers, the readiness of the unbanked community to adopt digital services, and the effectiveness of digital Pagadian services in reaching financially excluded groups have not been comprehensively studied.

Financial Services Authority / *Otoritas Jasa Keuangan* (OJK) (2025) also stated that PT Pegadaian's digital services are effective in increasing financial access without requiring complicated verification processes. Empirical studies conducted by Zainuddin & Mutaqin (2025) mentioned that digital services help reduce the risk of public inflation, as many as 72% of the respondent population make gold as a long-term investment and another 65% agree that gold is more effective than cash, in addition to that as many as 80% think that Pegadaian's digital services are able to improve financial accessibility even though they are still constrained by digital literacy. This is also reinforced through empirical studies conducted, where it is explained that Pagadian has a significant contribution in increasing access to financial services for the public Unbanked and underserved. The gap shows the need for further research to understand how Poladian's digital services can effectively support financial inclusion while addressing the various barriers faced by the unbanked community.

Based on the research gap, this study aims to analyse and map the various findings from previous research on the role of digital financial services in supporting the financial inclusion of the unbanked community, with a focus on Poladian's digital financing services via the TRING App. This research was conducted using the Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize the literature on the relationship between financial services digital inclusion and the challenges of technology adoption in the unbanked community. The scope of the research includes a discussion of the benefits of digital services in increasing access to formal finance, factors that affect the use of digital services by the unbanked community, and various obstacles to implementing digital financial services to support financial inclusion. Thus, this research is expected to provide a more comprehensive understanding of the effectiveness of Padania's digital services as an instrument of financial inclusion, as well as a reference for developing digital financial services strategies that are more inclusive and adaptive to the needs of the unbanked community.

Academically, this research contributes to enriching the literature on digital financial inclusion, especially in the context of non-bank financial institutions such as Pegadaian, which is still less widely discussed than research on digital banking and fintech. This research also provides a systematic mapping of research trends, foci, and developments related to digital financial services for the unbanked. Theoretically, this research contributes to expanding the understanding of the implementation of financial inclusion theory in application-based digital financing services, especially in the context of Pegadaian's digital transformation. This research also clarifies how digital services can expand access to formal finance, increase the accessibility of financial services, and reduce financial exclusion among the unbanked community. In practice, this study provides PT Pegadaian with insights into various factors that affect the effectiveness of TRING App's digital services in supporting the financial inclusion of the unbanked community. The results of the research are expected to serve as a basis for evaluating the development of digital services that are more inclusive, accessible, and aligned with the needs of people who are not yet connected to the formal financial system. In addition, this study aims to analyze how the concept of financial inclusion is reflected in the transformation of Pegadaian's digital services, an effort to expand access to financing for community groups that have not been reached by formal financial services.

Based on this background, this study takes a position to systematically examine the role of Pegadaian's digital services through the TRING application in encouraging financial inclusion of the unbanked community in Indonesia, by comparing it with formal banking.

Through the Systematic Literature Review approach, this study aims to synthesize relevant empirical and theoretical findings in order to gain a more comprehensive understanding. Thus, this research is expected to make a significant contribution to the development of science, as well as a reference for policymakers and practitioners in designing a more inclusive, adaptive, and equitable financial inclusion strategy in Indonesia.

### *1.1 Digital financial inclusion*

Digital financial inclusion is an effort to expand access to formal financial services through digital technology, enabling people to obtain them more easily, quickly, and affordably. This concept focuses on increasing the accessibility of financial services for all levels of society, including the unbanked group who previously had limited access to formal financial institutions. The development of digital financial services is expected to support increased financial inclusion through easier transactions, greater service efficiency, and the expansion of digital-based financing coverage. Various studies show that the digitalization of financial services increases public participation in the formal financial system, but its effectiveness is still influenced by financial literacy, technological readiness, and the level of public trust in digital services.

### *1.2 Fintech adoption*

Fintech adoption refers to the public's acceptance and use of financial technology services in transaction and financing activities. The adoption of fintech services in the unbanked community is an important factor in supporting the success of digital financial inclusion, as technology-based services are believed to overcome geographical and administrative access limitations that previously hindered the use of formal financial services. Several studies show that ease of use, transaction efficiency, and service flexibility are factors that drive the use of fintech services. However, various studies also show that low digital literacy, limited internet infrastructure, and a low level of trust in the security of digital services remain the main obstacles to adopting fintech services in the unbanked community.

### *1.3 Asset based financing*

Asset-based financing is a form of financing that uses assets as collateral in the financing process. This financing model is considered more accessible to people with limited access to conventional bank credit because financing assessments focus more on the value of assets than on users' administrative ability and credit history. In the context of digital transformation, PT Pegadaian offers digital financing services through the TRING App to expand public access to asset-based financing, including for the unbanked. However, most previous research has focused on fintech lending and mobile banking, so studies on digital asset-based financing at non-bank financial institutions, such as Pegadaian, remain relatively limited. In addition, previous research tends to emphasize the benefits of digital services rather than their effectiveness in supporting the financial inclusion of the unbanked community. Therefore, further studies are needed to analyze how asset-based digital financing services can support the expansion of financial inclusion while addressing barriers to access to formal financial services in the unbanked community..

## **2. Methods**

The research uses the Systematic Literature Review (SLR) method to address problems related to the role of digital pawnshop services in promoting financial inclusion for the unbanked community in Indonesia. This approach was chosen because ontologically, research views reality as a collection of scientific knowledge that has been produced previously, while epistemologically, knowledge is obtained through an interpretive process

and the systematic synthesis of the findings of previous research. Systematic Literature Review (SLR) has various important objectives in scientific research, including to present a comprehensive overview of the latest knowledge developments in a field of study and identify research gaps that can be addressed in future studies (Auliya & Koestoer, 2024). The literature search process was carried out through the academic databases Google Scholar and Emerald, the keywords used were 'digital financial inclusion', 'fintech adoption', 'unbanked society', 'digital lending', 'formal banking' and 'Pegadaian digital services'. The selected articles are empirical and relevant to the research focus, and were published in the 2020–2026-time frame.

The researcher used the Population, Intervention, Comparison, Outcome, and Study Design (PICOS) framework to determine the inclusion and exclusion criteria for the analyzed articles. The use of the PICOS framework to ensure that the selected literature aligns with the research focus, namely digital financing services supporting the financial inclusion of the unbanked community, as presented in the following table.

Table 1. PICOS

Component	Description
Population (P)	Unbanked people in Indonesia with income categories below the UMR who use Pegadaian's digital services.
Intervention (I)	Digital services (TRING) as an alternative to fast financing based on gold assets.
Comparison (C)	Conventional formal banking digital services
Outcomes (O)	Increased financial access (usage rate) and financial inclusion
Study Design (S)	Empirical article

The selected articles were empirical studies relevant to the research topic, available in full text, and focused on digital financing services, financial inclusion, and comparisons between access to digital financial services and digital services provided by conventional formal banks. Articles that did not align with the research focus, duplicate studies, and non-scientific publications were excluded from the analysis. Based on the PICOS framework, the researchers formulated the following research question (RQ): Does digital services affect the financial inclusion of the unbanked community compared to formal banks in Indonesia?

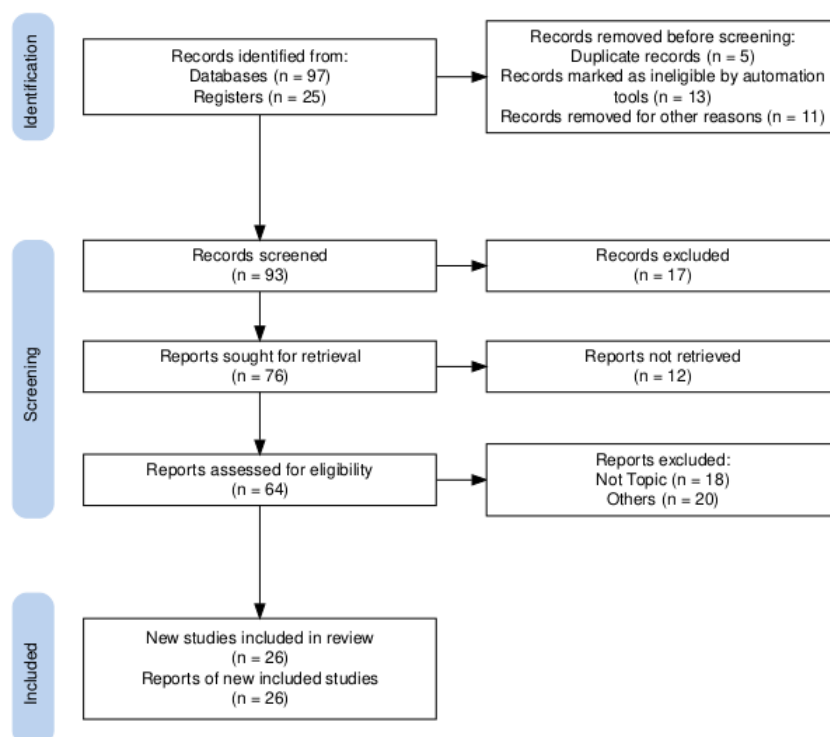


Fig 1. Prisma Flow Diagram

The article selection process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a systematic, transparent literature screening. The PRISMA stages include Identification, Screening, Eligibility, and Included Studies. The process of identifying and selecting articles in detail is presented in Fig. 1.

## 2.1 Systematic searching strategies

### 2.1.1 Identification

The identification stage in this study includes the systematic exploration of scientific articles through Google Scholar and Emerald, the main database chosen because it provides context for Pegadaian's digital services, namely TRING, and the specified time period, 2022–2025. During this stage, the researcher formulated a search strategy using specific keywords, namely "digital financial inclusion", "fintech adoption", "unbanked society", "digital lending", "formal banking" and "Pegadaian digital services" to ensure the suitability of the article with the focus of the research and minimize thematic incompatibility. Clear and precise keyword formulation serves as the basis for extracting all potentially relevant articles while allowing the research process to be replicated by other researchers in the same context.

### 2.1.2 Screening

At the screening stage, articles are selected based on the suitability of the title, abstract, keywords, and the study's focus on the PICOS framework that has been set. The main focus of this study is the unbanked community in Indonesia, especially low-income groups or below the UMR, who use Pegadaian's digital services as an alternative to fast financing based on gold assets. Thus, articles that only discuss financial digitalization in general, with no connection to financial inclusion, unbanked societies, digital services, asset-based financing, or comparisons with formal banks, are excluded from the follow-up analysis.

The initial search results at the identification stage resulted in 122 articles. Then the researcher considered potential duplication, content mismatches, and initial inclusion criteria based on titles and abstracts published between 2022 - 2025, discussions about financial inclusion and the need to adjust the specified keywords, and other contexts determined by the researcher regarding the journal. The number of articles in the identification phase was systematically recorded to document the breadth of the available literature before further screening in the screening phase. Articles that are still seminar proceedings, chapter books, popular essays, or are not thematically relevant are eliminated at this stage. As a result, a number of articles were rejected because they did not meet the initial inclusion criteria or fell outside the set publication time coverage, leaving 38 articles that met the criteria.

### 2.1.3 Eligibility

After the screening stage, the remaining articles will enter the eligibility stage. At this stage, the suitability of the article is no longer judged only by the title or abstract, but by the full content of the article. Articles are declared eligible if they contain empirical evidence that can be mapped into at least three elements of PICOS, namely Population, Intervention, Outcomes, and Study Design. In the context of this study, Population is not only explicitly limited to the term unbanked but also includes groups substantively close to this category, such as low-income people, micro MSME actors, informal workers, women in suburban areas, underbanked communities, and non-bank customers who use Pegadaian services. This approach is necessary because some articles do not necessarily use the term unbanked, but describe groups with similar barriers to formal financial services. The results of this feasibility evaluation process showed that 122 articles that passed the screening stage were

fully examined, and 26 met all eligibility criteria to proceed to the final synthesis and analysis phase in this study.

### 3. Results and Discussion

#### 3.1 Screening results

Based on the screening process, articles that pass can be grouped into four main clusters. First, an article discussing the adoption of fintech and the financial inclusion of the unbanked community. Second, articles discussing Pegadaian's digital services, including Pegadaian Digital Service (TRING). Third, articles that discuss gold savings, gold pawns, or gold asset-based financing. Fourth, articles that discuss formal bank digital services, such as branchless banking, mobile banking, or bank agent services, such as BRILink. In general, the screening results indicate that the available literature remains spread across several study streams. Some articles discuss fintech adoption and financial inclusion, but have not specifically linked it to Pegadaian. Some other articles discuss Pegadaian's gold products, but have not always placed them in the context of digital services and the unbanked community. Meanwhile, articles on formal banks emphasize expanding access through digital channels or agents, but have not compared it much to fast financing based on gold assets. These initial findings show that this research has a contribution space, as it integrates three themes that have tended to be discussed separately, such as digital financial inclusion, fintech adoption, and asset-based financing.

#### 3.2 Eligibility result

Nahwan (2025), which discusses the adoption of fintech among the unbanked population in Bandung, is relevant because it directly addresses informal entrepreneurial groups, women, and marginalized communities that face barriers to accessing formal financial services. The study also shows that fintech adoption among low-income groups is still hampered by infrastructure, costs, and digital literacy, and is influenced by age, business type, and income. The finding that MSMEs in the food sector are 4.5 times more likely to adopt fintech than households shows that the need for microtransactions and operational efficiency is a key driver of digital service adoption. Thus, at the Eligibility, the article to be defended is an empirical article that provides evidence on access to and use of digital financial services, societal barriers to the unbanked in accessing formal banks, the role of digital pawnshops, gold savings, gold pawns, or gold-based financing, and direct or indirect comparisons with formal banking digital services.

#### 3.3 Digital services expand access, but not automatically increase inclusion

Key findings from the articles screened indicate that digital services have the potential to expand financial access for the unbanked community, but these effects do not occur automatically. Digitalization will only have an impact on financial inclusion if people not only know the existence of services, but also are able to use these services actively, safely, and sustainably. In other words, financial inclusion is not enough to measure the availability of applications or digital channels; it must be measured by usage rates, frequency of use, ease of transactions, and the ability of these services to meet the financial needs of the community.

Study Leste et al. (2025) shows that fintech can drive inclusion through simplifying KYC processes, enabling small-value transactions, and using alternative data for credit scoring. However, obstacles such as uneven network coverage, data costs, low device ownership, and low digital literacy continue to limit the use of fintech by low-income groups. This shows that digital services have the potential to narrow the access gap, but still require infrastructure readiness, literacy, and user trust.

These findings align with a study on digital financial inclusion, which confirms that digital services can expand financial access for poor and underserved groups, but their success is influenced by the quality of infrastructure, service costs, consumer protection, and users' ability to use services safely. In the context of developing countries, Onyejiaku et al. (2024) states that digital services can lower transaction costs and expand reach, but can also pose new risks such as cost exploitation, over-indebtedness, and misuse of data if it is not accompanied by strong governance.

### *3.4 Pegadaian digital services have inclusive potential, but application quality is the main requirement*

Winarsa et al. (2025) shows that the digitization of Pegadaian can expand customer access to pawn services, installment payments, gold savings, and transaction status monitoring. In the case of Terendam's Pawnshop, the TRING application has shown digital adoption at the branch level, with an average of 563 active users per month and 6,756 customer installs by 2025. However, the same findings also show that application penetration does not automatically reflect satisfaction and loyalty, as some users still choose conventional services due to perceived system insecurity, slow processes, and lack of security guarantees.

This finding is important because it shows that Pegadaian's digital services cannot be judged solely by the number of app downloads or installs. The quality of digital services, the speed of complaint responses, transaction security, and system stability are factors that determine whether users will continue to use these services or return to conventional services. In the same article, complaints related to application failures, transaction failures, and unresponsive customer service communication are said to have the potential to reduce customer satisfaction and loyalty (Badar & Mandala, 2025; Rohana et al., 2022).

### *3.5 Gold asset-based financing differentiates pawnshops from formal banks*

In the Sharia Pegadaian Gold Savings product, customers can buy gold in stages through the buy-deposit system. Gold balances can be stored, minted into physical gold, or resold when customers need funds. This product allows people to start owning gold from a small nominal amount, even from 0.01 grams, making it more suitable for low-income groups who have limited initial capital (Himmah & Qodariyah, 2022). In addition to gold savings, Rahn products or sharia pawns also show the advantages of asset-based financing. Haidar et al. (2023); Hidayah & Adiaman (2025); Bahri & Hardiansyah (2022) mentioned that Rahn's products are intended for customers who need fast funds with sharia principles, with collateral in the form of gold, BPKB, or other valuable assets. This service is available at Sharia Pawnshop branches and provides access to financing for people who need loans with relatively simple procedures.

The findings strengthen the case for asset-based financing. In formal banking services, access to financing typically relies on an account, credit history, income slip, formal employment status, or collateral that meets the bank's standards. In contrast, Pawnshops use the logic of asset-based financing, in which gold or other valuable goods can serve as collateral for liquidity. For unbanked people without a credit history or formal proof of income, this mechanism is more inclusive because it shifts the basis of assessment from administrative feasibility to the value of the assets they own. This is where the main difference lies between digital pawnshops and formal bank digital services. Digital formal banks are expanding transaction channels, while digital pawnshops are expanding access to financing through digital channels connected to gold assets. In other words, Pegadaian's strength does not only lie in digitalization, but in the combination of digital access and asset-based liquidity.

### 3.6 Theoretical discussion

#### 3.6.1 Digital financial inclusion

In theory Digital Financial Inclusion in Ozili (2020) conveyed that financial inclusion is not only understood as the availability of digital financial services, but also includes access, use, affordability, security, and quality of services. Based on the results of the synthesis, Pegadaian digital services and formal banks both expand access. However, the level of inclusion generated differs depending on whether the service is actually actively used by the community Unbanked.

These findings reinforce the view Huang et al. (2025) that Usage Rate is an important indicator in this study. Digital apps that are available but rarely used cannot be said to be successful in increasing inclusion. In the case of TRING, installation and active user data show adoption, but there is still a lot of room to improve daily usage through service quality improvements. This suggests that digital access must be translated into sustainable use in order to generate substantive financial inclusion. Thus, the discussion of this research moves beyond an approach that only sees digitalization as an expansion of service channels. In the context of society Unbanked, digital financial inclusion should be seen as a gradual process: first, services are available; second, trusted services; third, services are used; Fourth, services provide real benefits to financial needs.

#### 3.6.2 Fintech adoption: Convenience, trust, risk, and supporting conditions

The findings of the article can also be explained through theory of Fintech adoption, especially UTAUT, TAM, and Diffusion of Innovation (Sari, 2025). Within the framework of UTAUT, technology adoption is influenced by benefit expectations, convenience expectations, social influences, and supporting conditions. However, the article on sharia digital pawn shows that in gold-based financial services, the variables of trust, security, risk perception, and user attitude are also important factors. A study on the intentions of Indonesian millennials using digital sharia pawn platforms to save gold shows that performance expectations, social influences, and supporting conditions affect attitudes, while risk and security perceptions are related to trust; Ultimately, attitudes and beliefs affect the intention to use the service.

The findings are relevant to TRING services because the unbanked community not only considers whether the app is easy to use, but also whether transactions are secure, data protected, fees are clear, and the service is trustworthy. In low-income communities, the risk of losing funds or failing transactions has greater consequences than middle-to-upper income users. Therefore, trust and security are not additional factors, but rather a basic requirement to encourage adoption and repeat use.

From the perspective of Diffusion of Innovation, Pegadaian's digital services can spread faster if users see relative advantages compared to formal banks, suitability for daily needs, low complexity, and evidence of benefits that are easy to observe. A Bandung fintech study shows that adoption is higher in groups that have microtransaction needs, such as MSMEs in the food sector, because the benefits of digital are more directly felt in business activities.

#### 3.6.3 Asset-based financing: Gold as a bridge between credit exclusion and rapid liquidity

The asset-based financing theory explains that financing can be provided based on the value of the assets owned by the customer. In this study, gold assets are a key element because they can function as savings, investments, collateral, and a source of liquidity. This model is important for unbanked people because they are often constrained by formal bank requirements, such as payslips, credit history, active accounts, or productive collateral.

Himmah & Qodariyah (2022) His findings show that customers can buy gold gradually, deposit gold balances, print physical gold, or resell gold when they need funds. This mechanism shows that gold not only serves as an investment instrument, but also as a liquid

asset that can be used when there is an urgent need. At this point, digital pawnshops have a conceptual advantage over formal bank digital services. Digital formal banks accelerate transactions in the banking system, while digital pawnshops allow people to turn gold assets into quick access to financing. Thus, Pegadaian's digital services can be understood as a form of Asset-mediated digital financial inclusion, i.e. digital financial inclusion mediated by ownership or asset value.

### 3.6.4 Comparison of pawnshop and formal bank digital services

A comparison between Pegadaian's digital services and formal bank digital services shows that both play a role in expanding financial inclusion, but work through different mechanisms. Formal banking digital services, such as mobile banking, and digital banking, essentially expand people's access to the formal banking ecosystem. Thus, digital formal banks emphasize more on expanding banking service channels through applications, agents, EDCs, and transaction networks connected to the bank system (Fadhilah, 2024; Rizkiyaningsih et al., 2025; Zainuddin & Mutaqin, 2025).

However, although formal bank digital services are capable of expanding access points, the model remains within the logic of formal banking. This means that people still need to enter the bank system, either through accounts, administrative identities, transaction history, or certain requirements to obtain more complex services such as credit. For the community Unbanked Low-income people, this barrier can still be a barrier because not everyone has a credit history, fixed income, payslip, or collateral that meets banking standards (Gupta & Srivastava, 2025; Mogaji et al., 2021).

Unlike formal banks, Pegadaian's digital services have a more specific character because they not only provide digital transaction channels but also connect financial services with community-owned assets, especially gold or valuable goods. Kamran & Uusitalo (2024); Leste et al. (2025); Lutfiansyah et al. (2025) said that the TRING application allows customers to access services such as pawns, installment payments, gold purchases, and transaction status monitoring. In this context, digital pawnshops not only function as a means of transactions but also as an entrance for the public to obtain quick liquidity through asset-based financing.

Pegadaian uses asset values as the primary basis for financing. Gold, in this case, plays the role of an asset that is relatively easy to value and liquidate, and whose economic value is widely known to the public. Studies on Sharia Pawnshops also show that gold-based products such as gold savings, gold installments, and gold pawns have the potential to encourage asset diversification and sharia-based financial inclusion (Zainuddin & Mutaqin, 2025).

Thus, Pegadaian's digital services are more relevant to the public Unbanked who need quick funds and lack adequate access to formal bank credit. In the context of people with incomes below the UMR, this model can be more appropriate because financial needs are often urgent, of small to medium value, and cannot always be met through bank credit procedures. Therefore, digital pawnshops can be understood as an alternative to financial inclusion that is both technology- and asset-based.

However, Pegadaian's digital services also have obstacles, Mahdzan et al. (2023); Rey-Ares et al. (2024); Rukiah (2025) shows that the quality of Pegadaian's digital services remains a challenge, particularly due to user complaints about slow systems, failed transactions, login issues, underperforming installment payment features, and inadequate customer service responses. To really push Usage Rate and financial inclusion, Pegadaian's digital services must provide a stable, safe, easy-to-use, and trusted transaction experience for users.

Based on this comparison, Pegadaian's digital services and formal bank digital services cannot be positioned as mutually exclusive services. Both have different inclusion functions. Digital formal banks are more effective at expanding access to accounts, payments, transfers, and other banking transactions. Meanwhile, digital pawnshops are stronger at providing fast, asset-based financing, especially for gold. In the context of this research,

Pegadaian's advantage lies in its ability to bridge the unbanked community's limitations in accessing formal credit through asset-based mechanisms. Thus, the influence of digital services on the financial inclusion of the unbanked community is not only determined by the digitization of services, but also by the suitability of the financing model with the socio-economic conditions of the target group.

### 3.7 Analytical insights

Compared to previous studies, this study provides stronger insights because it does not stop at the question of whether fintech or digital services increase financial inclusion. This study explains the mechanism of how inclusion occurs. Based on the synthesis of the article, the mechanism can be explained in the following figure.

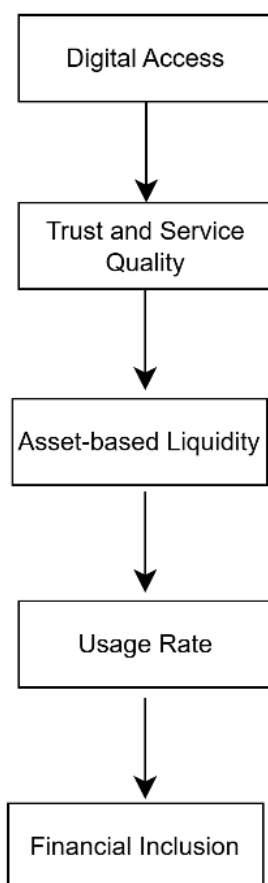


Fig. 2. Framework

The model shows that digital access is the initial stage that can increase inclusion if users trust the system, gain a good service experience, and can use the service to meet real financial needs. At Pegadaian, this need primarily relates to fast liquidity based on gold assets. Therefore, the main contribution of digital pawnshops is not only in digitizing services, but also in connecting gold assets with fast financing through digital channels. This insight distinguishes this study from fintech adoption studies that generally emphasize only convenience, benefits, risks, and trust. In the context of Pawnshops, the asset factor is an important variable that strengthens the relevance of digital services for the unbanked community. Similarly, this study differs from the gold savings study, which discusses gold only as an investment, by treating it as an instrument of financial inclusion and rapid financing.

### 3.8 *Do digital services affect the financial inclusion of the unbanked community compared to formal banks in Indonesia?*

Based on the synthesis, digital services affect the financial inclusion of the unbanked community in Indonesia, but this influence is conditional. Digital services can increase inclusion if they reduce barriers to access, increase actual use, build trust, provide easy, secure services, and meet the financial needs of low-income people. Compared to formal digital banking services, Pegadaian's digital services are more inclusive in the context of quick financing because they use gold assets as a basis for liquidity, rather than solely credit history or administrative feasibility.

However, the advantages of digital pawnshops do not automatically occur just because of the TRING application. The article provides evidence that app quality, transaction security, customer service response time, and user trust remain factors that determine successful adoption. Therefore, TRING application can be a more suitable alternative for the unbanked community than formal banks if they can combine three things: easy digital access, reliable service quality, and fast financing based on gold assets.

## 4. Conclusions

Based on the results of the SLR synthesis, digital services affect the financial inclusion of the unbanked community, but these effects are not automatic. Digitalization will only have an inclusive impact if services are truly accessible, used sustainably, trusted, safe, affordable, and in accordance with the needs of low-income communities. In comparison with formal banks, Pegadaian's digital services have a distinct character because they not only expand transaction channels but also provide fast financing backed by gold assets. This model is more suitable for unbanked people who do not have a credit history, income slips, an active account, or formal collateral, as is generally required for banking services. Thus, digital pawnshops can be understood as an alternative to financial inclusion that works through digital access and asset-based liquidity mechanisms, while formal digital banks play a more dominant role in expanding access to transactions and general banking services.

This study contributes to the literature by integrating three approaches that have often been discussed separately, namely digital financial inclusion, fintech adoption, and asset-based financing. Theoretically, this study shows that digital financial inclusion for the unbanked community is not adequately explained by the availability of applications or by technology adoption, but also by the suitability of the financing model to users' socio-economic conditions. Practically, the results of this study imply that Pegadaian needs to strengthen the quality of its TRING/Pegadaian Digital Service through improvements in system stability, transaction security, customer service response, cost transparency, digital education, and gold product literacy. For future research, empirical studies are needed to directly test the relationship between the use of Pegadaian digital services, usage rate, satisfaction, trust, and increased financial inclusion of unbanked people with incomes below UMR, including through quantitative comparisons with users of formal bank digital services.

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### **Author Contribution**

The sole author contributes fully to all stages of research and writing of this manuscript. These contributions include conceptualizing the research, such as designing the methods; collecting, curating, and analyzing the data; interpreting the results; and preparing an initial draft of the manuscript. The author is also responsible for the substantial review and editing of the manuscript, data visualization, supervision of the entire research process, and project administration. The author approves the final version of the manuscript submitted for publication.

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### **Ethical Review Board Statement**

This study is a systematic literature review that uses secondary data in the form of published scientific articles, so that it does not involve human, animal, or direct intervention that requires ethical approval.

### **Informed Consent Statement**

This study is a systematic literature review that uses secondary data from scientific publications and does not involve human participants directly.

### **Data Availability Statement**

The data supporting the findings in this study came from journal articles that have been published and can be accessed openly through the Google Scholar database. No primary data were generated or analyzed directly in this study. A list of articles used in the systematic literature review process is available from the author upon reasonable request. Furthermore, the screening results are presented in the appendix and can be accessed through the following link:  
[https://drive.google.com/file/d/1JW\\_LGP8LkCbzHJ3zizpW0BrzUHTzXFfa0/view?usp=drive\\_link](https://drive.google.com/file/d/1JW_LGP8LkCbzHJ3zizpW0BrzUHTzXFfa0/view?usp=drive_link)

### **Conflicts of Interest**

The author stated that there was no conflict of interest in this study. The research did not receive funding from any party, and therefore there was no role of the funder in the design of the research; data collection, analysis, or interpretation; script writing; as well as in the decision to publish the results of the research.

### **Declaration of Generative AI Use**

During the preparation of this work, the author used SciSpace to assist in the extraction and organization of relevant scientific articles during the literature review process. After using this tool, the author reviewed, verified, and edited all extracted information as needed and took full responsibility for the content, analysis, interpretation, and conclusions presented in this publication.

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