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Regulation, digitalization, and governance of bullion business and sharia gold pawn services in Indonesia: A systematic review

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ABSTRACT
Background: Gold plays a strategic role in Indonesia's financial system as both a store of value and a liquidity instrument, particularly through bullion business and gold pawn services. The expansion of sharia gold pawn services and the rapid digitalization of financial activities have introduced new regulatory and governance challenges. Existing studies remain fragmented across legal, financial, and technological perspectives, creating gaps in policy understanding. This study aims to systematically review the literature on the regulation, digitalization, and governance of bullion business and sharia gold pawn services in Indonesia, with particular attention to legal certainty, sharia compliance, consumer protection, and financial inclusion. **Methods**: This article adopts a systematic literature review based on the PRISMA guidelines. Relevant studies were identified from Scopus, Web of Science, and Google Scholar and screened using predefined inclusion and exclusion criteria. Twenty-five core studies published between 2010 and 2025 were included in the qualitative synthesis and analyzed through a thematic regulatory governance framework integrating legal and sharia perspectives. **Findings:** The review finds that Indonesia's regulatory framework for bullion business and sharia gold pawn services remains sectoral and fragmented, particularly in responding to digital innovation. Governance challenges persist in ensuring effective sharia compliance, transparency, and consumer protection, especially in fintech-based pawn services. While digitalization enhances access and supports financial inclusion, it simultaneously increases legal risks related to regulatory lag, data protection, and physical gold custody. These findings support regulatory and governance theories emphasizing adaptive regulation in digitally mediated financial services. **Conclusion**: An integrated regulatory and governance framework is essential to harmonize regulation, digitalization, and sharia principles in Indonesia's bullion and gold pawn sector. **Novelty/Originality of this article:** This article offers an original interdisciplinary synthesis integrating regulation, digitalization, and sharia governance into a single framework, offering policy-oriented insights for Otoritas Jasa Keuangan to strengthen legal certainty, public trust, and financial inclusion.

KEYWORDS: bullion business; digital finance; financial governance; Indonesia; pawnshop regulation; sharia gold pawn.

1. Introduction

Gold has long played a strategic role in Indonesia's economic and financial system, functioning not only as a store of value but also as a liquidity instrument that supports households and micro, small, and medium enterprises (MSMEs). In Indonesia, gold-based financial services, particularly gold pawn services (*gadai emas*), have historically provided short-term liquidity and risk mitigation for communities with limited access to formal

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banking institutions (Abubakar, 2017; Agus & Yasen, 2018). Within this context, bullion business and gold pawn services operating under sharia principles through *rahn* contracts have become increasingly important components of the national financial ecosystem (Roficoh & Ghozali, 2018).

The development of bullion-related activities and pawnshop services in Indonesia has been encouraged by financial authorities as part of broader efforts to deepen domestic financial markets and expand financial inclusion. Regulatory oversight of these activities involves institutions such as *Otoritas Jasa Keuangan* and Bank Indonesia, reflecting the multi-layered governance structure of Indonesia’s financial system. In sharia gold pawn services, regulatory supervision is complemented by sharia governance mechanisms, including compliance with Islamic legal principles and fatwas issued by authorized religious bodies (Lestari & Hanifuddin, 2021; Hiyanti, 2016). Prior legal and economic studies emphasize that effective governance and regulatory clarity are essential to maintaining legitimacy, consumer trust, and ethical integrity in sharia-based financial services (Abubakar, 2017; Ruhaniah et al., 2021).

A growing body of prior research has examined specific legal and operational dimensions of *rahn*-based gold pawn practice that inform the present review. Yuniarti et al. (2018) analyzed the compliance of *rahn* contracts with DSN-MUI fatwa provisions at an Islamic rural bank and found that formal contractual documentation did not always correspond to the substantive requirements of the fatwa, particularly regarding the separation of the loan (*qardh*) and safekeeping (*ijarah*) components. Similarly, Ali and Rahma (2019) examined the utilization of *rahn* in non-cash gold transactions at Islamic banks and highlighted persistent ambiguity in how administrative and safekeeping fees are calculated and disclosed to customers. Sharif et al. (2022) extended this discussion by identifying tensions between *wadiah* (safekeeping) and *ujrah* (fee) structures in al-*rahn*u products, arguing that fee arrangements can drift toward a *tawarruq*-like structure that warrants closer sharia scrutiny. In the context of gold-based financing more broadly, Yusup (2019) showed that multi-contract (*multi akad*) arrangements combining *rahn* with other Islamic contracts are frequently used to justify gold mortgage products, although the legal basis for combining multiple contracts within a single transaction remains contested among fiqh scholars. Comparative regulatory studies offer further relevant lessons, Junio & Tan (2022) compared fintech regulatory frameworks across ASEAN jurisdictions and found that regulatory sandbox mechanisms, while useful for encouraging innovation, differ considerably in scope, entry requirements, and consumer safeguards, with direct implications for how Indonesia's own sandbox mechanism might be strengthened for gold related fintech products. Complementing this regulatory perspective, empirical evidence from Jagtiani & Lemieux (2018) on fintech lending in underserved markets indicates that digital financial services can meaningfully extend access to populations historically excluded from formal credit, a finding consistent with the financial inclusion rationale often invoked for digital gold pawn platforms in Indonesia.

Beyond *rahn* specific studies, the wider Islamic finance literature offers additional grounding for the present review. Alam et al. (2017) outlined core sharia investment principles, including the prohibition of riba, gharar, and maysir, that inform how gold based financial products, whether physical or digital, must be structured to remain sharia compliant; these principles recur throughout the studies reviewed in later sections of this article. At the regulatory level, Alfaris et al. (2019) compared sharia fintech regulatory models in Indonesia, Malaysia, and the United Kingdom and concluded that Indonesia's framework for sharia based digital financial services remains comparatively underdeveloped relative to jurisdictions with dedicated sharia fintech regulations, reinforcing this review's attention to regulatory fragmentation. Notably, much of this prior research examines *rahn*, sharia compliance, or fintech regulation as separate strands of inquiry, typically confined to a single institution, a single fatwa, or a single jurisdiction. Few studies, however, systematically connect regulatory frameworks, sharia governance mechanisms, and digitalization trends specifically within the context of bullion business and gold pawn services in Indonesia. This gap is precisely what the present systematic review seeks to address by integrating these dimensions into a single, evidence based analytical framework.

These comparative and empirical insights are further reinforced by developments in Indonesia's own regulatory architecture. Under OJK Regulation No. 3 of 2024 concerning Financial Sector Technological Innovation, which replaced the earlier POJK No. 13/2018, Indonesia's regulatory sandbox now provides a more structured testing and licensing pathway for digital financial innovations, including provisions addressing consumer protection, data protection, and institutional oversight. While this regulatory update signals growing attention to fintech governance, it remains a general purpose instrument that does not specifically address the custody, verification, and sharia compliance requirements distinctive to bullion business and gold pawn services. This regulatory gap further motivates the integrated review undertaken in this article, which seeks to connect general fintech governance developments with the sector specific concerns of bullion trading and sharia gold pawn practice.

At the same time, the digitalization of financial services has significantly transformed the operational landscape of bullion trading and gold pawn services. Digital pawnshop applications, fintech based platforms, and online gold investment products offer greater efficiency, accessibility, and scalability (Ariyanti et al., 2023; A'yun, 2024). Empirical studies on sharia fintech in Indonesia indicate that digital innovation can enhance access to financial services but also introduces governance challenges related to data security, transparency, and regulatory oversight (Hidayanti et al., 2020; Anggraeni, 2025). These challenges are particularly salient in sharia based services, where technological innovation must comply not only with positive law but also with substantive sharia principles.

From a broader perspective, international studies on gold and digital financial assets highlight governance risks associated with financial innovation and market transformation. Research on gold markets underscores the importance of regulatory intervention to protect investors and ensure market integrity, particularly where physical gold intersects with financial instruments and digital trading platforms (Baur et al., 2021; Charteris & Kallinterakis, 2021; Kelly, 2025). Meanwhile, studies on digital financial assets and cryptocurrencies demonstrate how rapid innovation can outpace regulatory frameworks, leading to volatility, spillover risks, and governance gaps (Bejaoui et al., 2023; Nguyen et al., 2023; Qiao et al., 2023; Patel et al., 2023). Although bullion and gold pawn services differ fundamentally from crypto assets due to their asset backed nature, these studies provide relevant insights into regulatory lag and the need for adaptive governance in digital finance.

Despite the growing importance of bullion business and sharia gold pawn services in Indonesia, existing academic literature remains fragmented. Legal analyses tend to focus on statutory compliance and institutional mandates (Abubakar, 2017; Kurniawan, 2025), while economic and financial studies emphasize market performance, consumer behavior, and inclusion outcomes (Agus & Yasen, 2018; Ruhaniah et al., 2021). Research on digitalization, on the other hand, often addresses fintech broadly without sufficient attention to the specific regulatory and governance characteristics of bullion based and sharia compliant pawn services (Hidayanti et al., 2020; Anggraeni, 2025). As a result, there is a limited integrated understanding of how regulation, digitalization, and governance interact in shaping this sector.

From a theoretical standpoint, this fragmentation reflects the absence of an integrated analytical framework that connects regulatory theory, governance theory, and Islamic finance principles within the context of digital financial services. Regulatory theory emphasizes legal certainty and adaptive regulation in managing innovation, governance theory highlights accountability and institutional coordination, while Islamic finance theory stresses sharia compliance and ethical protection of contracting parties (Roficoh & Ghozali, 2018; Lestari & Hanifuddin, 2021). Together, these perspectives suggest that bullion business and sharia gold pawn services should be understood not merely as financial instruments, but as governance challenges within an evolving digital financial ecosystem.

This article seeks to address this gap by conducting a systematic review of the literature on the regulation, digitalization, and governance of bullion business and sharia gold pawn services in Indonesia. The objectives of this study are threefold: first, to map the existing regulatory framework governing bullion business and gold pawn services; second, to identify governance and compliance challenges arising from digital transformation; and third, to formulate policy recommendations explicitly addressed to Otoritas Jasa Keuangan and national regulators to strengthen legal certainty, public trust, and financial inclusion.

While this review focuses primarily on Indonesia, selected international studies on gold bullion governance and digital financial assets are used selectively to provide comparative context. These studies are not treated as core analytical materials but serve to highlight broader regulatory challenges associated with physical gold, digital gold instruments, and consumer protection. By integrating regulation, digitalization, and sharia governance into a single analytical framework, this review offers an original contribution to the literature and advances the state of the art in understanding governance challenges in Indonesia's bullion and sharia gold pawn sector.

2. Methods

This study employs a systematic literature review approach following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency, rigor, and replicability.

2.1 Data sources, search strategy, inclusion and exclusion criteria

The literature search was conducted using major academic databases, including Scopus, Web of Science, and Google Scholar, with a specific focus on publications relevant to Indonesia. These databases were selected to capture peer-reviewed journal articles, policy-oriented studies, and high-quality conference proceedings in the fields of law, finance, Islamic finance, and digital financial services.

Keywords and Boolean operators were applied as follows: "bullion business" OR "gold trading", "gold pawn" OR "sharia gold pawn" OR "*rahn*", "pawnshop regulation" OR "financial regulation", "digital finance" OR "fintech", "Indonesia". The search covered publications from 2010 to 2025 to capture both the emergence of digital financial services and recent regulatory developments.

Inclusion criteria: Peer-reviewed articles and authoritative policy studies, Focus on bullion business, gold pawn services, or pawnshop governance, Relevance to Indonesian legal, financial, or sharia contexts, Interdisciplinary perspectives (law, finance, Islamic finance, governance). Exclusion criteria: Non-academic opinion pieces, Studies with no relevance to bullion, gold pawn, or pawnshop services, Publications lacking sufficient methodological clarity.

2.2 Screening and quality appraisal

The literature selection process followed the PRISMA guidelines to ensure transparency and methodological rigor. An initial search across Scopus, Web of Science, and Google Scholar identified 312 records related to bullion business, gold pawn services, sharia finance, and digital financial regulation in Indonesia. After removing 82 duplicate records, 230 records remained for title and abstract screening.

During the screening stage, 162 records were excluded due to irrelevance to the Indonesian context, absence of focus on bullion or gold pawn services, or lack of regulatory and governance analysis. The remaining 68 articles were assessed for full-text eligibility.

Following full-text review, 43 articles were excluded because they did not sufficiently address sharia gold pawn services, digitalization, or regulatory aspects. Consequently, 25 studies met all inclusion criteria and were included in the qualitative synthesis.

To ensure methodological rigor, the quality of the 68 full-text articles assessed for eligibility was appraised using a structured checklist adapted from established quality-appraisal principles for qualitative and normative legal literature, covering four criteria:

clarity of research objectives, transparency of method and data sources, relevance to bullion business, gold pawn, or sharia governance, and coherence between stated findings and supporting evidence. Two reviewers independently applied this checklist to each article; discrepancies in eligibility judgments were resolved through discussion, and a third reviewer was consulted where consensus could not be reached. Articles that scored poorly on transparency of method or that offered only tangential discussion of regulation, digitalization, or sharia governance were excluded at this stage, which accounts for a substantial share of the 43 full-text exclusions reported above.

Table 1. PRISMA flow of the literature selection process

PRISMA Stage	Number of Records	Description
Records identified through database searching	312	Scopus, Web of Science, Google Scholar
Records after duplicates removed	230	Duplicate records excluded
Records screened (title & abstract)	230	Initial relevance screening
Records excluded	162	Not Indonesia-focused / not bullion or gold pawn related
Full-text articles assessed for eligibility	68	In-depth evaluation
Full-text articles excluded	43	Insufficient regulatory, sharia, or digital focus
Studies included in qualitative synthesis	25	Final articles reviewed

For presentation purposes, Table 2 summarizes the reviewed studies thematically. The full bibliographic details of the twenty-five core studies included in the PRISMA synthesis are provided in Appendix A and the reference list.

Table 2. Thematic Synthesis of Core Studies Reviewed

Author(s) & Year	Focus Area	Method	Regulatory	Sharia	Digital	Key Findings
Abubakar (2017)	Pawnshop reg.	Normative legal	OJK supervision	*Rahn* concept	No	Fragmented regulation of pawnshops
Agus & Yasen (2018)	Gold pawn	Doctrinal	Consumer protection	*Rahn* concept	No	Weak disclosure standards in fee structures
Alam et al. (2017)	Sharia finance	Conceptual	Financial law	Strong	No	Riba & gharar rules require strict alignment
Alfaris et al. (2019)	Fintech regulation	Comparative	Institutional oversight	Strong	Partial	Indonesia sharia fintech framework lags behind ASEAN
Ali & Rahma (2019)	Gold transaction	Legal analysis	Regulatory role	Strong	No	Ambiguity in *ujrah* calculation in non-cash gold
Anggraeni (2025)	App acceptance	Empirical	Consumer protection	Partial	Strong	UTAUT model reveals technology trust barriers
Ariyanti et al. (2023)	Digital pawn	Case study	Licensing gaps	Strong	Strong	Digitalization in BSI improves access but adds risk
A'yun (2024)	Gold investment	Policy analysis	Investor protection	Partial	Strong	Digital pawn app serves as inflation hedge
Batten et al. (2024)	Bullion market	Quantitative	Market supervision	No	Partial	Paper gold vs physical gold diversification risk

Author(s) & Year	Focus Area	Method	Regulatory	Sharia	Digital	Key Findings
Baur et al. (2021)	Safe haven asset	Empirical	Market integrity	No	No	Gold safe haven role requires regulatory stability
Bejaoui et al. (2023)	Digital assets	Quantitati ve	Market supervision	No	Strong	Connectedness between gold and digital assets
Charteris & Kallintera kis (2021)	Retail bullion	Empirical	Investor protection	No	No	Retail investor behavior in gold bullion coins
Febriyanti et al. (2023)	Sharia compliance	Empirical	OJK + DPS oversight	Strong	No	Implementation gaps in BSI Surabaya branch
Hidayanti et al. (2020)	Sharia fintech	Policy review	Fintech supervision	Strong	Strong	Opportunities and governance risks in fintech
Hiyanti (2016)	Cooperative oversight	Legal policy	Institutional oversight	Strong	No	Alternative DPS supervisory systems needed
Jagtiani & Lemieux (2018)	Fintech inclusion	Empirical	Financial inclusion	No	Strong	Fintech penetrates banking-underserved regions
Junio & Tan (2022)	Regulatory sandbox	Comparati ve	Regulatory sandbox	Partial	Strong	Sandbox variation across ASEAN jurisdictions
Kelly (2025)	Gold governance	Policy analysis	Resource regulation	No	No	Governing gold resources requires policy updates
Kurniawa n (2025)	Gold banking	Case study	Positive law	Strong	Partial	Legal framework for gold banking in BSI
Lestari & Hanifuddi n (2021)	Fatwa legal basis	Normative	Legal certainty	Strong	No	Legal bindingness of DSN-MUI fatwas in pawnshops
Nguyen et al. (2023)	Volatility spillover	Quantitati ve	Market stability	No	Strong	Cyber risk and asset volatility spillovers
Roficoh & Ghozali (2018)	*Rahn* practice	Doctrinal	Operational regulation	Strong	No	Application of *rahn* contract in sharia pawnshops
Ruhaniah et al. (2021)	Service quality	Empirical	Consumer trust	Strong	No	Sharia implementation boosts public interest
Sharif et al. (2022)	Al-*Rahn*u structure	Doctrinal	Fee regulation	Strong	No	*Wadiah* & *ujrah* issues drift toward tawarruq
Yuniarti et al. (2018)	*Rahn* compliance	Case study	Contractual regulation	Strong	No	Separation of *qardh* and ijarah in BPRS compliance

2. 3 Data synthesis and limitations of the review

The selected literature was analyzed thematically and grouped into four main clusters: Regulatory framework of bullion business in Indonesia, Governance of sharia gold pawn services, Digitalization and legal challenges, Policy and regulatory implications for financial authorities.

Data extraction from the 25 included studies followed a standardized extraction form capturing author(s) and year, focus area, research method, regulatory dimension, sharia dimension, level of digitalization, and key findings, corresponding to the columns summarized in Table 2. One reviewer completed the initial extraction for each article, and a second reviewer independently verified the extracted entries against the source text; disagreements were resolved by re-checking the original article. Thematic coding was conducted iteratively: initial codes were generated inductively from the extracted findings, then grouped into the four analytical clusters presented above, and finally cross-checked against the regulatory, sharia, and digitalization dimensions to ensure that each cluster reflected a coherent and evidence-based pattern across the reviewed literature rather than an isolated finding from a single study.

This systematic review is subject to several limitations. First, the analysis relies on published academic literature and may not fully capture unpublished regulatory documents or industry reports. Second, although the review focuses on Indonesia, variations in institutional practice and regulatory interpretation may not be fully reflected in the literature. Third, the thematic synthesis depends on the scope and quality of existing studies, which remain uneven across legal, financial, and technological dimensions. These limitations provide important directions for future empirical and comparative research.

3. Results and Discussion

3.1 Regulatory framework of bullion business and governance of sharia gold pawn services in Indonesia

In this article, the term bullion business refers to organized activities involving the trading, custody, investment, and financial intermediation of physical gold. The regulation of bullion business in Indonesia is situated within a broader framework of financial market supervision aimed at ensuring market integrity, investor protection, and systemic stability. Unlike conventional commodity trading, bullion business, particularly gold-related activities, occupies a hybrid position between the financial sector and the real sector, thereby requiring coordinated regulatory oversight. International studies on gold bullion markets emphasize the importance of regulatory intervention in managing market concentration, ensuring consumer protection, and safeguarding asset verification, particularly where physical gold intersects with digital trading platforms. Although Indonesia's regulatory environment differs institutionally, these global insights reinforce the urgency of regulatory clarity in Indonesia's evolving bullion ecosystem. Unlike existing studies that examine regulation, digitalization, or sharia compliance in isolation, this review integrates these dimensions into a single analytical framework to explain governance challenges in Indonesia's bullion and sharia gold pawn sector.

In Indonesia, the supervision of bullion-related activities involves multiple regulatory authorities. Otoritas Jasa Keuangan (OJK) holds primary responsibility for overseeing financial services institutions, including pawnshops and certain investment products linked to gold. Bank Indonesia (BI) plays a complementary role in maintaining monetary stability and regulating payment systems, while the Ministry of Finance retains authority over aspects related to state-owned enterprises and fiscal policy. This institutional plurality reflects the complex nature of bullion business, but it also gives rise to regulatory overlaps and coordination challenges. The absence of a single, comprehensive statutory framework specifically dedicated to bullion business has resulted in a sectoral regulatory approach, where gold-related activities are governed indirectly through regulations on financial services, commodity trading, consumer protection, and anti-money laundering. While this approach provides flexibility, it also creates legal uncertainty for market participants, particularly in the context of innovative bullion products and digital trading platforms.

Legal certainty is a foundational principle in financial regulation, especially in markets involving high-value assets such as gold. In the Indonesian context, regulatory provisions governing bullion business aim to safeguard investors from fraud, price manipulation, and mis-selling practices. However, the effectiveness of these provisions largely depends on their enforceability and the clarity of regulatory mandates. Several studies reviewed in this article indicate that investor protection mechanisms in bullion business remain uneven. Traditional bullion trading conducted through established financial institutions tends to benefit from clearer regulatory oversight. In contrast, emerging digital bullion platforms often operate in regulatory gray areas, raising concerns about disclosure standards, custody of physical gold, and the allocation of risk between service providers and consumers. These concerns are particularly salient in a market where public trust plays a critical role in sustaining participation.

The digitalization of bullion business has significantly altered the regulatory landscape. Online gold trading platforms, digital gold savings products, and app-based investment services have lowered entry barriers and expanded access to gold-based financial products. While these developments support financial inclusion, they also expose regulatory gaps related to data protection, cybersecurity, and cross-border transactions. From a governance perspective, digitalization intensifies the risk of regulatory lag, where technological innovation outpaces the development of appropriate legal frameworks. The literature suggests that Indonesian regulators face the dual challenge of encouraging innovation while preventing systemic risks. This balancing act is further complicated by the need to harmonize domestic regulations with international best practices, particularly in areas such as anti-money laundering and consumer data protection.

Good governance is essential to maintaining market integrity in bullion business. Regulatory standards related to transparency, accountability, and risk management are intended to ensure that bullion market participants operate responsibly and in accordance with the law. However, the review reveals that governance practices vary widely across institutions, especially between conventional financial entities and newer fintech-driven platforms. Inadequate governance mechanisms can undermine public confidence and exacerbate market volatility. Therefore, the role of regulators extends beyond rule-making to include active supervision, enforcement, and capacity-building within the industry. Strengthening governance in bullion business is thus not only a legal necessity but also a strategic imperative for sustaining long-term market stability.

Within this broader regulatory framework, sharia gold pawn services (gadai emas syariah) constitute a distinctive segment of Indonesia's bullion ecosystem, combining conventional pawnshop mechanisms with Islamic legal principles, particularly the concept of rahn. As an instrument of short-term financing, sharia gold pawn services are widely used by households and micro-entrepreneurs seeking liquidity without engaging in interest-based transactions. Consequently, their governance framework must reconcile positive law, financial regulation, and sharia compliance. The integration of these legal and institutional dimensions illustrates that the governance of sharia gold pawn services cannot be separated from the broader development of Indonesia's bullion business, particularly as digitalization, regulatory harmonization, and investor protection continue to reshape the gold-based financial sector.

3.2 Governance of sharia gold pawn services in Indonesia

Sharia gold pawn services (gadai emas syariah) constitute a distinctive segment within Indonesia's financial system, combining conventional pawnshop mechanisms with Islamic legal principles, particularly the concept of rahn. As an instrument of short-term financing, sharia gold pawn services are widely used by households and micro-entrepreneurs seeking liquidity without engaging in interest-based transactions. Consequently, their governance framework must reconcile positive law, financial regulation, and sharia compliance.

In Islamic jurisprudence, rahn refers to the pledging of an asset as collateral for a debt, whereby the debtor retains ownership of the pledged asset while granting the creditor the right to hold it as security. The legitimacy of rahn is well established in classical Islamic legal sources, and its contemporary application in financial services has been widely endorsed by Islamic scholars. In the context of gold pawn services, gold functions as a tangible and stable asset that fulfills the requirements of valid collateral under Islamic law. A key feature of rahn is the prohibition of riba (interest). Instead of charging interest, sharia gold pawn services typically impose fees related to safekeeping (ujrah) and administrative costs. This fee-based structure is intended to ensure fairness and transparency while maintaining the economic viability of the service provider. However, the determination and disclosure of such fees present governance challenges, particularly in ensuring that they do not function as de facto interest.

In Indonesia, sharia gold pawn services are predominantly offered by licensed pawnshop institutions operating under the supervision of Otoritas Jasa Keuangan (OJK), alongside internal Sharia Supervisory Boards (Dewan Pengawas Syariah, DPS). The presence of DPS is central to ensuring compliance with sharia principles, as these bodies are responsible for reviewing contracts, operational procedures, and fee structures. The literature indicates that effective governance in sharia gold pawn services depends on the interaction between regulatory oversight and sharia supervision. While OJK focuses on prudential regulation, consumer protection, and institutional soundness, DPS emphasizes adherence to Islamic legal norms. Tensions may arise when regulatory requirements and sharia interpretations diverge, particularly in the context of innovative products or digital delivery channels. Addressing such tensions requires clear guidelines and ongoing dialogue between regulators and sharia authorities.

Consumer protection is a critical governance issue in sharia gold pawn services, given the vulnerability of many users and the reliance on trust-based relationships. Sharia principles emphasize ethical conduct, transparency, and the avoidance of exploitation, which align closely with modern consumer protection standards. Nevertheless, empirical studies reviewed in this article suggest that gaps remain in the practical implementation of these principles. Issues such as inadequate disclosure of fees, limited understanding of contractual terms, and information asymmetries can undermine public trust. These challenges are amplified in digital contexts, where standardized interfaces may obscure complex contractual arrangements. Strengthening consumer protection therefore requires not only regulatory enforcement but also educational initiatives aimed at enhancing financial and sharia literacy.

The digitalization of sharia gold pawn services introduces both opportunities and governance risks. Digital platforms enable faster transactions, broader outreach, and operational efficiency, thereby supporting financial inclusion. However, they also raise questions about data security, collateral authentication, and preserving sharia compliance in automated systems. From a governance perspective, delegating decision-making to digital systems necessitates robust internal controls and clear accountability mechanisms. The literature highlights concerns about the adequacy of existing regulatory frameworks in addressing these issues, particularly with respect to fintech-based sharia pawn services. Ensuring that digital innovation does not compromise sharia principles or consumer protection remains a central challenge for regulators and industry actors alike.

3.3 Digitalization of bullion business and sharia gold pawn services in Indonesia

The digitalization of financial services has significantly reshaped the operational and governance landscape of bullion business and sharia gold pawn services in Indonesia. Advances in financial technology (fintech) have enabled online gold trading, digital pawn platforms, and app-based sharia financial services that promise efficiency, accessibility, and scalability. While these developments align with national goals of financial inclusion and digital transformation, they also introduce complex legal and governance challenges. Studies on digital asset markets, including cryptocurrencies and decentralized finance, demonstrate how rapid financial innovation often outpaces regulatory frameworks, creating governance gaps and consumer risks. Although gold pawn services differ fundamentally from crypto-assets due to their asset-backed nature, these studies provide cautionary insights into regulatory lag, data governance, and the necessity of robust asset verification mechanisms in digital financial services. Such insights are relevant in assessing the risks and opportunities of digitalized bullion and sharia gold pawn platforms in Indonesia.

Digital platforms offering gold investment and pawn services have lowered transaction costs and expanded access to gold-based financial products. In the context of sharia gold pawn services, digitalization facilitates faster valuation, automated contract processing, and remote customer onboarding. These innovations are particularly relevant in Indonesia, where geographic dispersion and uneven access to traditional financial institutions have historically limited service reach. However, the literature suggests that fintech-driven models often blur the boundaries between regulated financial services and technology-enabled intermediaries. This blurring complicates regulatory classification and oversight, especially when digital platforms offer hybrid products combining investment, savings, and pawn functionalities. As a result, regulators face challenges in ensuring that digital bullion and sharia pawn services operate within clearly defined legal frameworks.

Digitalization amplifies several legal risks associated with bullion business and sharia gold pawn services. Consumer protection remains a central concern, particularly with respect to transparency of fees, valuation methods, and dispute resolution mechanisms. In digital environments, standardized terms and automated processes may obscure material information, increasing the risk of mis-selling and consumer misunderstanding. Data protection and cybersecurity represent additional governance challenges. Digital platforms process sensitive personal and financial data, making them potential targets for cyberattacks and data breaches. The literature highlights the need for robust data governance frameworks that align with national data protection regulations and international best practices. For sharia-based services, data integrity and system reliability also carry ethical implications, as breaches of trust may undermine the moral foundations of Islamic finance. Another significant regulatory gap relates to the authentication and custody of physical gold in digital transactions. Ensuring that digital representations of gold correspond to actual, verifiable assets is essential for maintaining market integrity and consumer confidence. The absence of standardized custody and auditing mechanisms can expose consumers to fraud and systemic risk.

The digital transformation of sharia gold pawn services raises specific questions about sharia compliance in automated and technology-driven systems. While digital platforms can enhance efficiency, they may also reduce opportunities for individualized oversight by Sharia Supervisory Boards. The literature indicates concerns about whether automated fee calculations and contract execution fully reflect the spirit and substance of sharia principles, particularly in relation to ujrah and risk-sharing. Maintaining sharia compliance in digital contexts therefore requires innovative governance mechanisms, including integrating sharia compliance checks into digital workflows and continuously involving Sharia Supervisory Boards in system design and monitoring. Such measures are essential to ensuring that digitalization supports, rather than undermines, the ethical objectives of sharia finance.

Indonesian regulators have begun to respond to the challenges posed by digitalization through the issuance of guidelines and supervisory initiatives targeting fintech and digital financial services. Nevertheless, the literature suggests that regulatory approaches remain largely reactive, with innovation often outpacing regulatory adaptation. This dynamic increases the risk of regulatory arbitrage and uneven enforcement across market participants. From a governance perspective, effective regulation of digital bullion and sharia pawn services requires enhanced coordination among regulatory authorities, clearer licensing and classification regimes, and the development of supervisory technologies (suptech). By leveraging digital tools for monitoring and enforcement, regulators can improve oversight while supporting responsible innovation.

3.4 Integrated discussion: regulation, digitalization, and governance

The preceding sections demonstrate that the development of bullion business and sharia gold pawn services in Indonesia is shaped by a dynamic interaction between regulation, digitalization, and governance. Rather than operating as isolated dimensions, these elements mutually influence one another, producing both opportunities for financial inclusion and challenges for legal certainty and institutional accountability. This integrated discussion synthesizes the reviewed literature to highlight key patterns, tensions, and implications from an interdisciplinary perspective.

A recurring theme in the literature is the fragmentation of regulatory authority governing bullion business and sharia gold pawn services. While Otoritas Jasa Keuangan (OJK) plays a central role in supervising financial institutions, other authorities such as Bank Indonesia and sectoral ministries exercise overlapping or complementary mandates. This institutional complexity is further intensified by the emergence of digital platforms that transcend traditional sectoral boundaries. The absence of a comprehensive, unified regulatory framework specifically addressing bullion business has resulted in reliance on general financial regulations and piecemeal policy instruments. Although this approach provides flexibility, it also creates regulatory uncertainty, particularly for digital and hybrid service models. From a governance standpoint, fragmented regulation weakens accountability and complicates enforcement, thereby undermining market integrity and public trust.

Digitalization has emerged as a double-edged sword in the context of bullion and sharia gold pawn services. On the one hand, fintech innovations expand access to gold-based financial products, reduce transaction costs, and support national objectives of financial inclusion. On the other hand, rapid technological change exposes a persistent regulatory lag, where existing legal frameworks struggle to keep pace with innovation. The literature suggests that regulatory lag increases the risk of regulatory arbitrage, as market participants exploit ambiguities in classification and licensing. In the absence of clear guidance, digital bullion and pawn platforms may operate in gray areas, raising concerns about consumer protection, data security, and systemic risk. Addressing regulatory lag therefore requires not only updated rules but also adaptive regulatory strategies that anticipate future developments.

Governance plays a critical mediating role between regulation and market practice. Effective governance mechanisms, encompassing transparency, accountability, and risk management, are essential to maintaining public trust, particularly in sectors involving high-value assets and vulnerable consumers. In sharia gold pawn services, governance assumes an additional ethical dimension, as compliance with Islamic principles reinforces legitimacy and moral accountability. The review highlights that governance challenges often arise from inconsistencies between formal regulatory compliance and substantive ethical practice. For instance, fee structures that formally comply with regulatory requirements may still raise concerns under sharia principles if they resemble interest-based arrangements. Digitalization further complicates governance by automating processes that traditionally relied on human judgment and ethical oversight. Strengthening governance therefore requires aligning regulatory standards, institutional practices, and ethical norms.

One of the most significant contributions of bullion business and sharia gold pawn services lies in their potential to enhance financial inclusion, particularly for low-income households and MSMEs. The literature underscores that gold pawn services often serve as a financial safety net, providing liquidity without requiring access to conventional credit. Digital platforms can amplify this impact by extending services to underserved regions. However, the benefits of financial inclusion are contingent on robust regulation and governance. Weak oversight or exploitative practices can exacerbate financial vulnerability and erode trust. An integrated regulatory approach is therefore essential to ensuring that digitalization and innovation translate into sustainable social and economic benefits.

Taken together, the findings of this systematic review point to the need for an integrated regulatory–governance framework that harmonizes legal oversight, digital innovation, and ethical principles. Such a framework should move beyond reactive regulation and embrace proactive governance strategies, including regulatory sandboxes, enhanced inter-agency coordination, and the incorporation of sharia compliance mechanisms into digital systems. By adopting an integrated approach, regulators can better manage the risks associated with digitalization while leveraging its potential to strengthen financial inclusion and market stability. This perspective also provides the conceptual foundation for the policy recommendations presented in the following section.

From a theoretical perspective, this study contributes to interdisciplinary scholarship by integrating regulatory theory, governance frameworks, and Islamic finance principles within the context of digital financial services. Existing literature tends to examine these dimensions in isolation, resulting in fragmented analytical approaches. By synthesizing regulation, digitalization, and sharia governance, this review advances an integrated regulatory–governance perspective that bridges legal certainty, ethical compliance, and technological innovation in emerging digital financial ecosystems. This integrated perspective also extends the literature by demonstrating that sustainable governance of bullion business and sharia gold pawn services depends not only on legal and institutional reforms but also on the capacity to harmonize technological innovation with ethical and regulatory objectives. Such a synthesis provides a conceptual basis for future empirical studies examining the interaction between governance quality, digital transformation, and financial inclusion in Indonesia and comparable emerging economies.

3.5 Policy implications and future research directions

Based on the integrated findings of this systematic review, several policy implications emerge for strengthening the regulation, digitalization, and governance of bullion business and sharia gold pawn services in Indonesia. These implications are particularly relevant for Otoritas Jasa Keuangan (OJK) and other national regulators tasked with balancing financial innovation, legal certainty, and public trust.

A primary priority is strengthening the regulatory framework governing bullion business. The current sectoral approach, while flexible, leaves significant room for ambiguity, especially in relation to digital bullion products and hybrid financial services. OJK should consider developing specific regulatory guidelines or a dedicated regulatory framework that explicitly addresses bullion business, including licensing requirements, custody standards for physical gold, disclosure obligations, and risk management practices. Such regulatory clarity would not only improve investor protection but also reduce the potential for regulatory arbitrage. By establishing uniform standards applicable to both conventional and digital bullion services, regulators can promote a level playing field and reinforce market integrity.

The governance of sharia gold pawn services also requires continuous strengthening to ensure alignment between regulatory compliance and sharia principles. OJK, in coordination with national sharia authorities, should reinforce the role of Sharia Supervisory Boards (Dewan Pengawas Syariah, DPS) by clarifying their responsibilities, enhancing their independence, and integrating their oversight more systematically into institutional governance structures. In addition, regulatory guidance should emphasize transparent fee structures, clear contractual terms, and effective dispute resolution mechanisms. These measures are essential to safeguarding consumer interests and maintaining public trust, particularly among vulnerable users who rely on gold pawn services as a primary source of liquidity.

The rapid digitalization of bullion and sharia gold pawn services further necessitates a proactive regulatory response. OJK should strengthen its digital financial supervision framework by incorporating technology-based supervisory tools (suptech) to monitor fintech-driven pawn services in real time. This approach would enhance regulatory capacity while minimizing compliance burdens for responsible market participants. Moreover, regulators should develop clear standards for digital custody, asset verification, and data protection, ensuring that digital representations of gold are fully backed by verifiable physical assets. In the context of sharia services, these standards should be complemented by mechanisms that embed sharia compliance checks into digital systems, thereby preserving ethical integrity in automated environments.

Regulatory and governance reforms should also be explicitly aligned with broader objectives of financial inclusion and social welfare. Bullion business and sharia gold pawn services have significant potential to support MSMEs and low-income households, but this potential can only be realized if services are delivered responsibly and transparently. OJK and other regulators should therefore integrate consumer education initiatives into their policy frameworks, focusing on financial literacy and sharia literacy. Strengthening public trust also requires consistent enforcement of regulations and visible accountability for misconduct. By demonstrating a firm commitment to consumer protection and ethical governance, regulators can reinforce confidence in both conventional and sharia-based financial services.

Beyond policy implementation, this systematic review also identifies several priorities for future research. Empirical studies examining consumer experiences with digital sharia gold pawn services would provide valuable insights into the effectiveness of existing regulatory frameworks. Comparative research exploring regulatory models in other jurisdictions could further inform policy development in Indonesia. In addition, interdisciplinary research integrating legal analysis with technological assessment would contribute to a deeper understanding of how digital systems can be designed to support regulatory compliance and sharia principles simultaneously.

Overall, the evidence synthesized in this review supports several key policy recommendations for OJK and other national regulators. These include developing a unified regulatory guideline for bullion business and digital gold services covering licensing, disclosure obligations, custody of physical gold, and risk management standards to reduce regulatory fragmentation; strengthening the integration of sharia governance into fintech supervision by enhancing the role of Sharia Supervisory Boards and aligning regulatory oversight with sharia compliance mechanisms in digital pawn services; enhancing digital asset custody and verification standards to ensure that digital representations of gold are fully backed by verifiable physical assets, thereby protecting consumers and maintaining market integrity; expanding supervisory technology (suptech) capabilities to enable regulators to monitor fintech-based bullion and pawn services in real time and respond proactively to emerging risks; and promoting consumer financial literacy and sharia literacy programs, particularly for users of digital gold pawn services, to strengthen public trust and informed participation in Indonesia's evolving financial system.

4. Conclusions

This systematic review has examined the evolving landscape of bullion business and sharia gold pawn services in Indonesia through an integrated lens of regulation, digitalization, and governance. By synthesizing interdisciplinary literature from law, finance, Islamic finance, and public policy, the article provides a comprehensive overview of how these sectors are regulated, how they are being transformed by digital innovation, and how governance mechanisms shape their legitimacy and social impact.

The review demonstrates that while bullion business and sharia gold pawn services play a strategic role in supporting financial inclusion and economic resilience, their regulatory frameworks remain fragmented and unevenly adapted to digital transformation. The absence of a unified regulatory approach creates legal uncertainty, particularly for fintech-based and hybrid service models. At the same time, governance challenges—especially in ensuring sharia compliance, consumer protection, and ethical conduct—persist in both conventional and digital contexts.

Digitalization emerges as a central driver of change, offering significant opportunities to expand access to gold-based financial services while simultaneously exposing regulatory gaps and governance risks. In the case of sharia gold pawn services, digital transformation intensifies the need to align technological innovation with Islamic legal principles, underscoring the importance of robust sharia governance and effective regulatory oversight.

From a policy perspective, this article underscores the critical role of Otoritas Jasa Keuangan (OJK) and national regulators in shaping a coherent and forward-looking regulatory–governance framework. Strengthening regulatory clarity, enhancing digital supervision, reinforcing sharia governance, and promoting consumer protection are essential steps toward ensuring that innovation in bullion and pawn services contributes to sustainable financial inclusion and public trust.

In conclusion, this study contributes to the literature by providing an integrated, interdisciplinary understanding of bullion business and sharia gold pawn services in Indonesia. It also offers practical policy recommendations and identifies directions for future research that can support evidence-based regulation and responsible innovation in the financial sector. As Indonesia continues to advance its digital financial ecosystem, a balanced approach that harmonizes regulation, governance, and technological development will be vital to realizing the full potential of these services for economic and social development.

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Author Contribution

The author is the sole contributor to this study and is responsible for all aspects of the research, including conceptualization, methodology, data analysis, investigation, writing – original draft preparation, and writing – review and editing.

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During the preparation of this work, the author(s) used ChatGPT (OpenAI) to assist in improving the grammar, language clarity, readability, and academic expression of the manuscript. After using this tool, the author(s) reviewed and edited the content as needed and took full responsibility for the publication's content.

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