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Building consumer trust in digital pawnshop services: A systematic review of governance, data security, and user experience (UX) determinants

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ABSTRACT

Background: Digital pawnshops, a novel FinTech service, face a critical adoption barrier: consumer trust. This challenge is magnified by the high-stakes nature of entrusting tangible collateral through a digital interface. This review systematically synthesizes empirical research on the determinants of consumer trust, focusing on governance, data security, and user experience (UX). **Methods**: Adhering to PRISMA 2020 guidelines, this systematic review searched Scopus and Web of Science for original empirical articles. Methodological quality was appraised using the MMAT, and findings were integrated via thematic synthesis. **Findings:** The search and screening process yielded 17 original articles meeting the inclusion criteria. The evidence base is characterized by a strong geographical concentration in Southeast Asia and a heavy theoretical reliance on technology acceptance models (TAM/UTAUT). The thematic synthesis identified three core themes, governance frameworks, including perceived regulatory support and consumer protection policies, function as the foundational layer of trust, data security, encompassing perceived security and ethical data handling, was identified as a critical antecedent to trust, user experience (UX), specifically system reliability, platform usability, and transparent interface communication, functions as the primary mediator, translating institutional security and governance into perceived trustworthiness. **Conclusion**: The review concludes that trust in digital pawnshops is hierarchical: Governance and security provide the foundation, but UX acts as the critical mediator. In this high-stakes context, platform reliability is paramount. Technical or UX failures are not seen as mere inconveniences but as fundamental security breaches that catastrophically erode trust. **Novelty/Originality of this article:** This review provides the first systematic synthesis for the digital pawnshop niche, addressing a fragmented knowledge base. Its primary novelty is an evidence-based, hierarchical model of trust. This model posits that governance and security are foundational, while UX acts as the tangible interface through which trust is ultimately perceived and validated by the consumer.

KEYWORDS: consumer trust; digital pawnshop; fintech.

1. Introduction

The 21st century has witnessed a fundamental transformation of the global financial landscape, catalyzed by the "disruptive" integration of advanced digital technologies, collectively known as Financial Technology (FinTech) (Jafri et al., 2024). FinTech innovations have recalibrated consumer expectations and traditional business models across services ranging from payments and credit to investment and insurance (Maknickienė & Lapkovskaja, 2024; Soomro, 2019). Within this broad ecosystem, a specific

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and under-researched niche has emerged: the digital pawnshop. This service model digitizes the centuries-old business of pawnbroking, offering consumers the ability to secure short-term, collateral-based loans through online platforms and mobile applications.

The significance of this digital evolution is twofold. First, it aligns with the broader FinTech trend of expanding access to alternative credit, particularly for unbanked, underbanked, or credit-invisible populations who may be excluded from traditional banking services. Second, the demand for such alternative lending options has accelerated in the post-pandemic economic landscape, where economic challenges have increased consumer reliance on short-term financial solutions. Prominent examples of this model, particularly in Southeast Asia, include platforms such as the "Pegadaian Digital Service (PDS)" and the "Sharia Digital Pawnshop Service/*Pegadaian Syariah Digital Service* (PSDS)" in Indonesia, which have seen concerted efforts to broaden their market, especially to millennial generations (Irayana et al., 2025).

Despite this market potential, digital pawnshops, like all FinTech services, face a principal challenge that supersedes technological innovation: the establishment of consumer trust. The academic literature consistently identifies trust as the key determinant influencing FinTech adoption and, more critically, the continuous intention to use these services (Czechowska & Paduszyńska, 2025; Zhao et al., 2024). Conversely, low trust and perceived risk are cited as the most significant barriers preventing widespread adoption (Utama & Hidayat, 2024). This trust deficit is fundamentally magnified in digital-only financial environments. Unlike traditional brick-and-mortar banks, digital-first platforms cannot rely on physical presence, decades of established history, or face-to-face interaction to build credibility (Kostiuchenko, 2025). They must cultivate trust entirely through the digital interface.

The "trust problem" is even further exacerbated in the specific context of digital pawnbroking. This magnification stems from two unique factors. First, the service model is novel, and users exhibit greater skepticism toward platforms that are new or lack a clear regulatory framework (Albuainain & Ashby, 2025). Second, the transaction involves a unique, high-stakes, asset-based risk. Unlike digital payments or peer-to-peer (P2P) lending of unsecured funds, the digital pawnshop model requires the consumer to entrust tangible, often high-value and sentimentally significant, personal assets (e.g., jewelry, electronics) as collateral. This act of surrendering physical assets based on a digital appraisal and agreement represents a significantly higher-stakes trust decision, amplifying user sensitivity to perceived risks of fraud, security, and operational failure.

Given the centrality of trust, a clear understanding of its determinants is essential for both service providers and regulators. However, the academic literature on this topic remains nascent and highly fragmented (Jafri et al., 2024). Current research can be broadly categorized into three disconnected streams; (1) a large body of work on general FinTech trust, which heavily relies on established technology acceptance models (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), (2) a growing body of research on digital lending (e.g., P2P, digital credit), which begins to explore factors like risk and governance, and (3) a very small number of studies that directly address digital pawnshop services (Akhtar et al., 2019; Czechowska & Paduszyńska, 2025; Dawood et al., 2022). This third stream, which is most relevant, suffers from a "paucity of studies" (Jafri et al., 2024). The few existing articles are geographically and culturally siloed, focusing almost exclusively on the Indonesian PDS/PSDS platforms (Chen, 2013). Furthermore, their analysis is often limited to traditional adoption metrics (e.g., perceived usefulness, ease of use) rather than a holistic investigation of the complex, multi-dimensional nature of trust in this high-risk context (Akhtar et al., 2019).

Consequently, a significant knowledge gap exists. No systematic review has yet synthesized the determinants of consumer trust for this specific and emerging service. This review aims to fill that gap by proposing and applying a tripartite analytical framework, rooted in the broader digital trust literature, that organizes determinants into three core constructs: Governance, Data Security, and User Experience (UX). This approach answers persistent calls in the FinTech literature for more integrated, multidisciplinary frameworks

that move beyond simple technology acceptance to holistically examine the interrelations of trust, risk, and quality (Jafri et al., 2024). The primary objective of this systematic review is to identify, critically appraise, and synthesize original research articles from Scopus- and Web of Science-indexed journals to understand the determinants of consumer trust in digital pawnshop services.

2. Methods

2.1 Study design

This systematic review was designed, conducted, and reported in meticulous adherence to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 statement (Page et al., 2021). The review protocol was established a priori to define the research questions, search strategy, eligibility criteria, and methods for data synthesis and quality appraisal. The inclusion and exclusion criteria were defined based on the PICOS (Population, Intervention, Comparison, Outcomes, Study design) framework. Inclusion criteria stipulated that studies must be "original articles" published in English, encompassing all empirical studies (quantitative, qualitative, and mixed-methodologies).

The population of interest was consumers or users of digital financial services. The phenomenon of interest was the use of, or intention to use, digital pawnshop services, which was broadened to include related FinTech lending (e.g., digital credit, P2P lending) due to the nascent literature. Studies must have included "consumer trust" (or its direct synonyms) as a key outcome, examined in relation to governance, data security, or UX. Finally, articles must be indexed in the Scopus or Web of Science (WoS) Core Collection databases. Exclusion criteria included non-original research (e.g., reviews, editorials), purely conceptual papers lacking empirical data, articles not indexed in Scopus or WoS, non-English articles, and studies focused on general e-commerce without a specific lending component.

2.2 Data sources

In accordance with the user query, two major academic databases were the sole information sources: Scopus and the Clarivate Web of Science (WoS) Core Collection. The final search was conducted on 31 October 2025. A comprehensive, multi-pronged search strategy was developed. A narrow search for "digital pawnshop" yielded insufficient articles, confirming the "paucity of studies". Therefore, the first search string targeted the specific niche using terms like ("digital pawnshop" OR "online pawnbroking" OR "pegadaian digital") AND ("trust" OR "confidence"). The second, broader string was designed to capture the determinants from adjacent fields, using terms like ("fintech" OR "digital lending") AND ("trust") AND ("governance" OR "data security" OR "user experience"). The full, line-by-line search syntax is provided in a supplementary appendix. The study selection was performed in a structured, multi-stage process. All records retrieved from Scopus and WoS were exported into the web version of Mendeley References Manager, and duplicates were removed.

Two reviewers independently screened the titles and abstracts of all remaining records against the eligibility criteria. The full-text articles for all potentially relevant records were then retrieved, and the two reviewers independently assessed each for final inclusion. At both screening stages, disagreements were resolved through discussion and consensus for arbitration. A data-charting form was co-developed, and two reviewers independently extracted data from the final included studies. Extracted information included study identifiers, publication details, methodology, sample characteristics, theoretical framework, and key findings related to trust, governance, data security, and UX. A quantitative meta-analysis was deemed inappropriate due to significant methodological heterogeneity. Therefore, a thematic synthesis was conducted. This process involved three stages: first, familiarization and inductive coding of the extracted findings; second, collation of codes into

descriptive themes; and third, synthesis of these descriptive themes into higher-level analytical themes structured around the a priori framework of Governance, Data Security, and UX to address the review's research questions.

The methodological quality (i.e., risk of bias) of all included studies was independently assessed by two reviewers. The Mixed Methods Appraisal Tool (MMAT) Version 2018 was selected for this review (Hong et al., 2018). The user query required a "proper method", and the MMAT is explicitly "designed for systematic reviews that include qualitative, quantitative, and mixed methods studies," unlike disparate tools (e.g., CASP, ROBINS-E). It provides a single, unified, and rigorous framework to appraise all included studies, regardless of their design, making it the most appropriate tool for this heterogeneous evidence base. The process involved reviewers using the five relevant MMAT criteria corresponding to each study's design. Disagreements were resolved by consensus. Studies were not excluded based on their quality; rather, the assessment was used to contextualize the findings and weigh the strength of the evidence.

3. Results and Discussion

3.1 Study selection and characteristics

The database search of Scopus and Web of Science initially identified 1,240 records. After 310 duplicates were removed, 930 unique records were screened by title and abstract. This screening excluded 845 records that were clearly irrelevant. The full texts of the remaining 85 articles were retrieved and assessed for eligibility. Of these, 68 articles were excluded for being review articles (n=23), not focusing on trust as a primary outcome (n=20), being non-empirical conceptual papers (n=25), or not meeting other eligibility criteria. A final set of 17 original articles met all inclusion criteria and were included in the thematic synthesis. The PRISMA 2020 flow diagram in Figure 1 details this selection process.

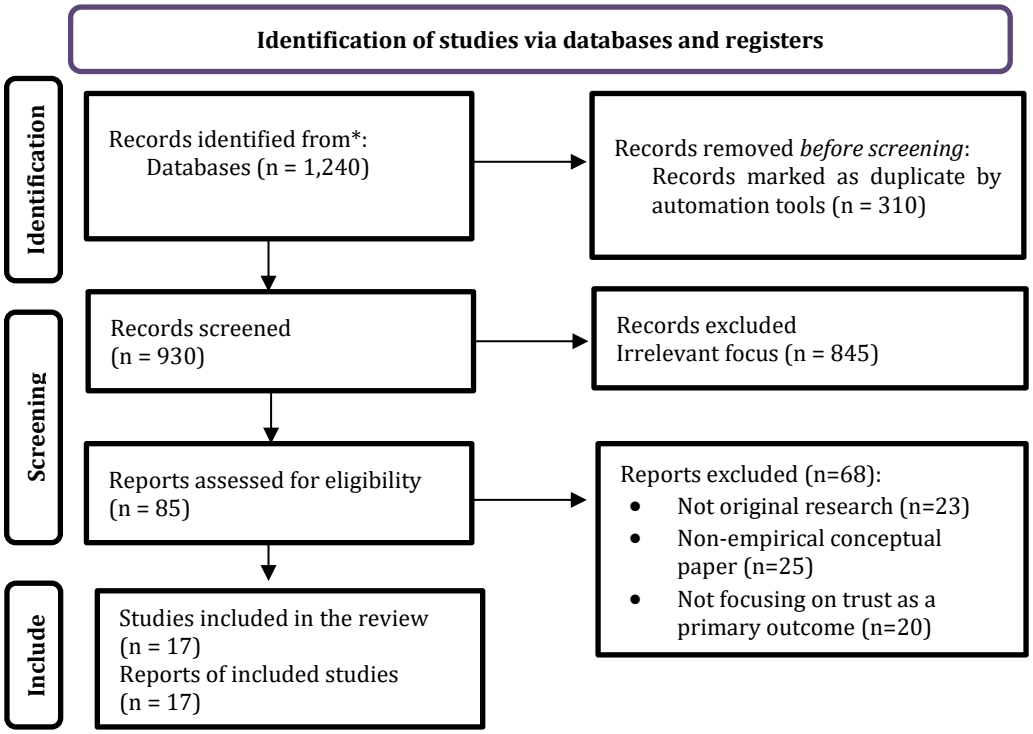

Fig. 1. PRISMA 2020 flow diagram

The risk of bias assessment for the 17 included studies was conducted using the MMAT (2018) (Hong et al., 2018). The results are summarized in Table 1. Overall, the methodological quality of the included studies was found to be moderate. The quantitative studies generally performed well on criteria related to the appropriateness of the data

analysis, but a prevalent weakness was in sampling strategy, with the vast majority relying on non-representative convenience samples, which limit generalizability. The qualitative studies were generally of high methodological quality, typically demonstrating strong coherence between aims, data collection, and analysis, though some did not sufficiently address researcher reflexivity. The mixed-methods studies demonstrated adequate rationale for their design. The findings from this quality appraisal were used to inform the thematic synthesis, with greater weight given to findings from studies with a lower risk of bias.

Table 1. Risk of bias assessment summary

Author(s) & Year	Study Design	S1: Clear RQ?	S2: Data Address RQ?	C1	C2	C3	C4	C5	Overall Quality Narrative
Gupta & Shukla, 2024	Qualitative	Y	Y	Y	Y	Y	Y	Y	High Quality. Clear alignment between qualitative aims, data collection (interviews), and analysis (thematic).
Doerr et al. (2023)	QNR	Y	Y	Y	Y	Y	Y	Y	High Quality. Robust quasi-experimental (Diff-in-Diff) design. Clear representative groups, appropriate measures, and confounders well accounted for.
Amnas et al. (2023)	QNR	Y	Y	N	Y	Y	C	Y	Moderate Quality. Survey-based SEM. Sampling (C1) is non-representative (N). Confounders (C4) are partially addressed (C).
Nasution (2025)	Qualitative	Y	Y	Y	Y	Y	N	Y	Moderate Quality. Appropriate case study (C1). Interpretation (C4) is not always sufficiently substantiated by data (e.g., lack of supporting quotes).
Mellita & Sundari (2023)	QNR	Y	Y	N	Y	C	C	Y	Moderate Quality. Quantitative survey (C2) but used convenience sampling (C1=N). Complete outcome data (C3) and confounders (C4) are unclear (C).
Nik Azman & Md Zabri (2022)	QNR	Y	Y	N	Y	Y	C	Y	Moderate Quality. Survey (SEM-PLS) (C2, C5=Y). Sample (130 users) is not representative (C1=N). Confounders (C4) unclear (C).
Putri et al. (2025)	QNR	Y	Y	N	Y	Y	Y	Y	Moderate Quality. Quantitative (SEM-PLS) with 100 users,

									indicating convenience sampling (C1=N). Analysis (C5) is appropriate.
Oktaviani et al. (2025)	Qualitative	Y	Y	Y	Y	C	C	Y	Low-Moderate Quality. Descriptive qualitative study. Data (C3) and interpretation (C4) are not clearly substantiated (C).
Junaedy et al. (2025)	Qualitative	Y	Y	N	Y	C	C	Y	Moderate Quality. Implies an intervention (assistance). Sampling (C1) is unclear/non-representative (N). Confounders (C4) not discussed (C).
Setyawan (2022)	QNR	Y	Y	N	Y	Y	C	Y	Moderate Quality. Survey methodology (C2, C5=Y). The sample is non-representative (C1=N). Confounders (C4) not discussed (C).
Stewart & Jürjens (2018)	QNR	Y	Y	C	Y	Y	C	Y	Moderate Quality. Quantitative survey. Representativeness (C1) and confounders (C4) are not detailed (C).
Ahmed & Talluri (2024)	QNR	Y	Y	N	Y	Y	C	Y	Moderate Quality. Survey of 200 users (C1=N). Confounders (C4) not discussed (C). Analysis (C5) is appropriate.
Dewatmoko et al. (2024)	QNR	Y	Y	N	Y	C	C	Y	Low-Moderate Quality. Methodology not specified. Implies SEM (C5=Y), but sampling (C1) and confounders (C4) are unclear (N/C).
Gada (2024)	Mixed-Methods	Y	Y	Y	Y	Y	Y	Y	High Quality. Clear rationale (C1) and effective integration (C2) of qualitative and quantitative components.
Nangin et al. (2020)	QNR	Y	Y	N	Y	Y	C	Y	Moderate Quality. Quantitative survey. Convenience sampling (C1=N). Confounders (C4) not discussed (C).
Solarz & Adamek (2023)	QNR	Y	Y	Y	Y	Y	C	Y	High-Moderate Quality. Representative sample (1,000 users) (C1=Y). Confounders (C4) unclear (C).
Meyliana et al. (2019)	QNR	Y	Y	N	Y	C	C	Y	Low-Moderate Quality. Methodology not specified. Sampling

				(C1=N) and complete data (C3=C) are unclear.

Note: Y = Yes; N = No; C = Can't Tell. S1/S2 are screening questions. C1-C5 refer to MMAT 2018 criteria specific to the study design

A summary of the 17 included studies is presented in Table 2. The descriptive summary of these studies reveals several key trends in the evidence base. A significant concentration of studies (n=9) focused on the Indonesian market, specifically investigating the "Pegadaian Digital Service (PDS)" or its Sharia-compliant counterpart, "Sharia Digital Pawnshop Service (PSDS)". Other studies were clustered in various developing and developed economies. The evidence base is dominated by quantitative, cross-sectional surveys (n=12), which frequently employed structural equation modeling (SEM) to test hypotheses derived from established technology acceptance frameworks, most commonly TAM or UTAUT and their extensions. A smaller but vital contingent of qualitative studies (n=4) and mixed-methods studies (n=1) provided rich, contextual insights.

Table 2. Summary of included studies

Author(s) & Year	Title (Abridged)	Methodology	Sample	Key Findings related to Trust Determinants
Gupta & Shukla (2024)	Consumer Trust in Digital Banking: A Qualitative Study of Legal and Regulatory Impacts	Qualitative	30 users	Governance: Robust legal frameworks, consumer protection policies, and transparency are pivotal for trust.
Doerr et al. (2023)	How privacy regulation affects fintech lending (CCPA)	Quantitative (Diff-in-Diff)	Loan data	Governance: CCPA (privacy law) increased FinTech loan applications by 14.6%, suggesting enhanced user control builds trust.
Amnas et al. (2023)	Perceived regulatory support and trust in FinTech services	Quantitative (Survey)	412 users	Governance: Perceived regulatory support has a significant positive effect on user trust.
Nasution (2025)	Analysis of Sharia Digital Pawnshop Service application obstacles / Digital innovation strategy at Pegadaian Syariah	Qualitative (Case Study)	20 users / 6 informants	UX/Security: Trust is eroded by technical failures; "an application system that often errors". System must be "reliable and dependable"; weaknesses include "system performance that is less stable".
Mellita & Sundari (2023)	Perceived Usefulness, Ease of Use... Across X and Y Generation Towards Pegadaian Digital Service (PDS)	Quantitative (Survey)	100 users	UX: Perceived ease of use (a UX factor) is a key determinant. Perceptions differ significantly between Generation X and Y.
Nik Azman & Md Zabri (2022)	Shariah-compliant FinTech usage among microentrepreneurs: An extension of UTAUT model	Quantitative (Survey)	130 users	Governance: Sharia-compliance (a governance feature) is a crucial factor that strengthens consumer trust.
Putri et al. (2025)	Eksplorasi Penerimaan Aplikasi Pegadaian Digital Service (PDS)	Quantitative (Survey, SEM-PLS)	100 users	UX/Security: PDS adoption remains low due to initial access difficulties, inconsistent navigation (UX), and data security concerns.

	Melalui Model UTAUT3 dan Trust			
Oktaviani et al. (2025)	Use of the Pegadaian digital service (PDS) application to facilitate customer transaction services	Qualitative	10 users	UX: The PDS application is used to facilitate customer transaction services.
Junaedy et al. (2025)	Customer Guidance for Pajarakan Pawnship Customers on the Digital Service Application	Qualitative	N/A	UX/Trust: Effective assistance (a UX/support factor) can increase the utilization of the Digital Service application and strengthen customer trust.
Setyawan (2022)	Pawnshop Digital Service Quality and Its Implication on Customer Satisfaction	Quantitative (Survey)	160 users	UX/Trust: 47% of customers are not satisfied. Satisfaction is strongly linked to "Reliability" (e.g., "Pegadaian Digital service is reliable and dependable").
Stewart & Jürjens (2018)	Data security and consumer trust in FinTech innovation in Germany	Quantitative (Survey)	209 users	Security/Trust/UX: Trust, data security, and user interface design (UX) are key factors that strongly shape user intentions to adopt FinTech.
Ahmed & Talluri (2024)	(Trust component in digital finance platform adoption)	Quantitative (Survey)	200 users	Security/Trust: Security influences trust "immensely." Confusing policies (UX/Governance) may prevent use. Trust has a direct relationship with adoption.
Dewatmoko et al. (2023)	The Influence Of Financial Technology (Fintech) And User Experience On Trust... Mediated By Perceptions Of Security	Quantitative	50 users	UX/Security/Trust: Examines the relationship between FinTech, UX, and Trust, mediated by Perceived Security.
Gada (2024)	Enhancing User Engagement and Retention in Fintech: A Study on Effective UX Strategies	Mixed-Methods	200 users	UX/Trust: User-centered design (simplicity, personalization, responsive design) significantly improves user satisfaction, loyalty, and trust.
Nangin et al. (2020)	The Effects of Perceived Ease of Use, Security, and Promotion on Trust and Its Implications on Fintech Adoption	Quantitative	100 users	UX/Security/Trust: Perceived Ease of Use (UX) and Security have a positive and significant impact on consumer trust, which implies Fintech adoption.
Solarz & Adamek (2023)	Trust and Personal Innovativeness as the Prerequisites for Using Digital Lending Services by FinTech Lenders	Quantitative (Survey)	1,000 users	Trust/UX: Identifies research gap on trust in digital lending. Trust, alongside classic TAM/UTAUT factors (PEU, PU), determines adoption.
Meyliana et al. (2019)	The Influence of Perceived Risk and	Quantitative	548	Security/Trust: Examines the (inverse) relationship

	Trust in the Adoption of FinTech Services in Indonesia	between perceived risk and trust in FinTech adoption.

The thematic synthesis of the 17 included articles identified a multi-layered and interconnected system of trust determinants. These were organized into four primary analytical themes, which are synthesized here. The first theme relates to Governance and Regulatory Frameworks (Xia et al., 2023). This synthesizes findings on how institutional structures, laws, and explicit policies create a foundational "macro-level" environment where trust can be established. One key aspect is regulatory support and consumer protection. The synthesis reveals that consumer trust is significantly and positively influenced by the perception of a strong, supportive, and stable regulatory environment (Amnas et al., 2023).

Qualitative studies on digital banking confirm that users feel more secure and are more willing to trust platforms when they believe robust consumer protection policies are in place (Gupta & Shukla, 2024). This includes clear compliance standards, policies on transparency, and defined mechanisms for enforcement and penalties (Gupta & Shukla, 2024). This is particularly crucial in the digital lending space, where the presence of mechanisms for fraud victim compensation is a key factor in preserving trust (Izaguirre et al., 2025). Furthermore, explicit government support for FinTech adoption was found to be an essential factor for trust, especially among lower-to mid-income earners (Jha & Dangwal, 2025).

Another aspect is transparency and ethical governance. Trust is contingent not just on the existence of rules, but on the transparent adherence to them (Mohammeda & Hassan, 2024). This includes organizational transparency regarding data collection and usage practices, as well as clear, understandable communication of loan terms and conditions (Ahmed & Talluri, 2024; Aldboush & Ferdous, 2023). Several studies highlighted the importance of promoting a culture of Corporate Digital Responsibility (CDR) as a strategy for building trust (Aldboush & Ferdous, 2023). In the specific context of Sharia-compliant FinTech, this governance layer is particularly strong. The "Sharia-compliance" of the service itself functions as a powerful governance mechanism that "strengthen[s] consumer trust" by assuring users of ethical and religiously-sanctioned business practices (Nik Azman & Md Zabri, 2022).

Finally, the review identified compelling empirical evidence for the empirical impact of privacy legislation. A robust quantitative study on the 2020 California Consumer Privacy Act (CCPA) found that this privacy regulation increased loan applications to FinTechs by 14.6% relative to traditional banks (Doerr et al., 2023). The regulation achieved this by granting users control over their data, which mitigated their privacy concerns and, in turn, made them more willing to share the information necessary for FinTechs to operate. This finding provides powerful quantitative validation for the entire governance theme (Doerr et al., 2023).

The second theme addresses the Data Security and Privacy Mechanisms, focusing on the "meso-level" determinants of trust related to the specific technical and procedural safeguards implemented by the FinTech firm. This includes perceived security and risk. Across the literature, perceived security is one of the most frequently cited and significant predictors of FinTech adoption, second only to trust itself (Jafri et al., 2024). It functions as a critical antecedent to trust (Papanikolaou et al., 2025).

Conversely, a spectrum of perceived risks, including financial, legal, operational, and security risks, is consistently identified as the primary barrier to adoption (Czechowska & Paduszyńska, 2025). Consumers actively hesitate or refuse to adopt services when they perceive the systems as "insufficiently secure or transparent" (Jafri et al., 2024). This theme also covers technical safeguards and Privacy-Enhancing Technologies (PETs). The literature repeatedly emphasizes that to build confidence, FinTech firms must not only implement robust security but also communicate the existence of these safeguards to their users (Aldboush & Ferdous, 2023).

Specific technical measures cited as crucial for trust include robust encryption techniques, strong multi-factor authentication (MFA), and proactive monitoring systems (Aldboush & Ferdous, 2023). More advanced studies point to the need for PETs, such as homomorphic encryption and zero-knowledge proofs, to safeguard user information (Odumuwagun, 2025). Furthermore, ethical data handling and AI are critical. A key finding is that consumer trust is threatened not only by external cyberattacks but also by the internal misuse of data by the firm itself (Aldboush & Ferdous, 2023).

The integration of Big Data and Artificial Intelligence (AI) for credit scoring raises significant ethical concerns that erode trust, including algorithmic bias, a lack of transparency (the "black box" problem), and issues of data ownership (Jafri et al., 2024). The third theme synthesizes findings on the User Experience (UX) and Interface Design, the "micro-level" of trust, where the digital interface itself becomes the tangible proxy for trustworthiness. A core challenge identified is the security/usability balance. Overtly complex security measures can frustrate users, while overly simplistic designs can be perceived as non-secure and unprofessional (Kostiuchenko, 2025).

The UX/UI itself functions as a trust signal; trust is actively built or destroyed through the interface (Kostiuchenko, 2025). A clean, professional, and responsive design conveys "perceived competence" and reliability (Kostiuchenko, 2025). Specific UX/UI patterns identified as trust-builders include clear communication using simple, jargon-free language and helpful error messages; visible security cues, such as lock icons and security badges; and real-time feedback through progress indicators and confirmation checkmarks (Kostiuchenko, 2025). A final component of this theme is inclusivity and digital literacy. This was identified as a major barrier in the digital pawnshop literature.

Studies on PDS found a "digital divide" among customers and noted that factors like "perceived ease of use" were perceived differently by different generational cohorts (e.g., Generation X vs. Generation Y), directly hindering adoption and trust for less tech-savvy groups (Mellita & Sundari, 2023; Nasution, 2025). This highlights the need for inclusive design and educational components (Nik Azman & Md Zabri, 2022). The final theme relates to the contextualization of these findings in Digital Pawnshop (PDS/PSDS) Services. This specific, albeit limited, literature serves as a microcosm, validating and sharpening the general themes. For governance validation, the literature on Sharia Digital Pawnshop Services (PSDS) explicitly identifies "Shari'ah-compliance" as a crucial factor influencing consumer trust (Nik Azman & Md Zabri, 2022). This acts as a tangible governance mechanism (per Theme 1) that provides a foundational layer of trust (Nik Azman & Md Zabri, 2022).

For UX validation, studies on Pegadaian Digital Service (PDS) directly link "perceived ease of use" to adoption and note significant perceptual differences between Generation X and Y, providing direct empirical evidence for the "digital divide" and inclusivity barriers identified in Theme 3 (Mellita & Sundari, 2023). The most important finding from this niche literature is the critical nexus of security and reliability. The primary obstacles to PDS adoption and trust were identified as technical: "the application system which often errors", "system performance that is less stable," and "challenges in the digital verification and transaction process (Nasution, 2025). Studies linking customer satisfaction to platform use explicitly measure "Reliability" with items such as "Pegadaian Digital service is reliable" (Setyawan, 2022). This finding is paramount: in the high-stakes context of digital pawnbroking, a simple UX failure is not perceived as a minor inconvenience. It is interpreted as a fundamental security and reliability failure, directly and catastrophically eroding user trust.

This systematic review synthesized 17 empirical articles to construct a model of consumer trust determinants in digital pawnshop services, organized around the constructs of governance, data security, and user experience. The discussion interprets these synthesized findings, proposes a hierarchical model of trust, and explores the theoretical and practical implications for this emerging FinTech sector. The principal contribution of this review is the synthesis of a *hierarchical and causal model* of trust. The determinants

identified are not a simple checklist; rather, they are interdependent and operate at different levels.

First, at Level 1, Governance acts as the societal-level prerequisite for trust(Gupta & Shukla, 2024). This foundational layer includes robust legal and regulatory frameworks, consumer protection policies, and specific privacy legislation. A user's trust begins with their belief that the *ecosystem* is regulated, fair, and safe (Amnas et al., 2023). The empirical evidence showing that the CCPA privacy law *directly* increased FinTech adoption validates this foundation (Doerr et al., 2023). Second, at Level 2, Data Security represents the structural implementation of that governance by the firm (Aldboush & Ferdous, 2023). This meso-level includes the firm's specific policies, technical safeguards (like encryption and MFA), and ethical data handling practices (Aldboush & Ferdous, 2023; Odumuwagun, 2025). It is the firm's tangible "proof" that it adheres to the rules. Third, at Level 3, User Experience (UX) is the communication layer and the primary micro-level interface, and the *only* layer the consumer directly interacts with. The user cannot "see" the GDPR compliance or the encryption algorithm, but they can see a clean layout, a visible security icon, a confusing error message, or, most critically, a system that is unstable or "often errors" (Adegbite, 2025; Gada, 2024; Nasution, 2025; Odumuwagun, 2025).

This structure reveals a clear causal path: the UX acts as the primary mediator that translates the abstract trustworthiness of the institution (its governance and security) into tangible *perceived trust* for the end-user. This model suggests that a firm can have perfect governance and security but will still fail to build consumer trust if its UX is poor, unreliable, confusing, or fails to communicate that security and competence. Applying this hierarchical model to the specific "digital pawnshop problem" provides a powerful explanatory framework for the findings in Theme 4.

The PDS/PSDS case studies provide a perfect illustration of this model breaking down at Level 3 (the micro-level). The foundational trust (Level 1) from "Sharia-compliance" (Governance) creates a strong *a* priori willingness to trust the service. However, this foundational trust is undermined and nullified by acute failures at the UX layer (Nasution, 2025; Nik Azman & Md Zabri, 2022). When users encounter an "application system that often errors" or "system performance that is less stable", their trust is broken. In the high-friction, high-stakes context of digital pawnbroking, system reliability (a technical UX issue) is not perceived by the user as distinct from security or competence (Nasution, 2025). A "system error" is not a minor inconvenience; it is interpreted as a fundamental breach of trust, signaling that the firm is operationally incompetent, that the platform is insecure, and that the user's data and assets are at risk. This highlights that for digital pawnshops, platform stability, seamless verification, and reliable performance are not just "features", they are core, non-negotiable trust determinants.

This review's findings also carry significant implications for the theoretical models used to study FinTech adoption. The heavy reliance of the included studies on TAM and UTAUT is, in itself, a limitation of the current research field (Sun, 2022). These models, with their focus on positive drivers like "Perceived Usefulness" and "Perceived Ease of Use," are often ill-equipped to capture the complex, negative, and emotional drivers of *distrust*, such as perceived risk, anxiety, and cognitive resistance. The synthesis supports recent calls in the literature for researchers to adopt more nuanced theoretical frameworks (Jafri et al., 2024). Future research should move beyond TAM/UTAUT to incorporate constructs such as Cognitive Resistance, to understand *why* users actively resist adopting FinTech services; Cumulative Risk Perception, to model how financial, privacy, social, and psychological risks interact and accumulate; Multi-Dimensional Trust, to move beyond a singular focus on "institutional trust" and explore cognitive, personality, and experience-based trust dimensions; and Literacy as a Moderator, to treat digital and financial literacy not as a static variable, but as a critical moderator that shapes how users perceive UX, security, and governance (Jafri et al., 2024; Nik Azman & Md Zabri, 2022).

This review has several strengths. First, to our knowledge, this is the first systematic review to specifically synthesize the determinants of consumer trust for the emerging digital pawnshop niche. Second, the review's methodology adheres strictly to the PRISMA

2020 guidelines, ensuring transparency and reproducibility. Third, the use of the MMAT enabled a rigorous, unified methodological quality appraisal of the heterogeneous studies. Finally, the review's primary contribution is the development of a novel, evidence-based hierarchical model of trust. The findings must also be interpreted in light of several limitations.

The primary limitation is the "paucity of studies" that focus *directly* on digital pawnshops, which necessitated synthesizing a foundational model from adjacent fields (digital lending, digital banking). The unique collateral-based nature of pawnbroking may introduce specific trust dynamics (e.g., trust in digital appraisal, logistics of collateral transfer) that are not captured in the general digital lending literature. Furthermore, inclusion was limited to Scopus/WoS-indexed journals and English-language articles, potentially excluding relevant grey literature or non-English studies. Finally, the existing digital pawnshop literature is heavily skewed toward Southeast Asia, particularly Indonesia, which means the findings related to that specific market (e.g., the role of Sharia-compliance) may not be globally generalizable.

4. Conclusions

This systematic review synthesized 17 original empirical articles from the Scopus and Web of Science databases to build a comprehensive model of consumer trust in digital pawnshop services. The findings demonstrate that consumer trust is a complex, multi-dimensional construct built upon a hierarchy of determinants. A foundational (macro-level) layer of Governance provides the baseline for trust, rooted in the consumer's perception of regulatory support, consumer protection policies, and transparent, ethical data laws. A structural (meso-level) layer of Data Security implements this governance through the firm's perceived security, technical safeguards, and ethical data practices. A mediating (micro-level) layer of User Experience acts as the final and most tangible proxy for trust, where platform reliability, usability, and inclusive design translate abstract institutional trustworthiness into perceived credibility. The evidence from the specific digital pawnshop (PDS/PSDS) niche confirms this model, demonstrating that failures at the UX and reliability level (e.g., "system errors") are acute trust-violation events that can critically undermine any foundational trust derived from governance mechanisms.

The implications of these findings are both theoretical and practical. Theoretically, the field of FinTech adoption research must evolve. The heavy reliance on traditional TAM/UTAUT models is insufficient for high-stakes, high-friction services like digital pawnbroking. Future research should employ theoretical frameworks that can adequately model negative drivers like cognitive resistance, account for literacy divides as key moderators, and, most importantly, conceptualize platform reliability not as a simple "ease of use" variable, but as a central component of perceived security and trust. Practically, for digital pawnshop providers, the findings show that governance is necessary but insufficient; relying on a license or a credential (like Sharia-compliance) is not enough, as this foundational trust is fragile and will be broken by a poor user experience. Reliability is the most critical trust feature. The finding that "system errors" are a primary trust liability is the most actionable insight, meaning investment in backend stability, server uptime, and seamless, error-free verification processes is a trust-building imperative. Providers must also invest in inclusive UX and education, as the "digital divide" and generational gaps are actively costing them users. The UX must be simple, provide clear guidance, and cater to users with low digital and financial literacy. For regulators, the implications are twofold: proactive governance works, as evidenced by the CCPA study, and regulators should mandate transparency and protection, including data security standards, transparent fee disclosures, and mechanisms for consumer redress.

Finally, the limitations of this review, particularly the "paucity of studies" in the core niche, highlight an urgent and clear agenda for future research. There is a critical need for geographical and cultural expansion via studies outside of the Indonesian/Malaysian context. Future research must also specifically investigate the unique trust dynamics of

collateral, such as the digital appraisal and surrender of high-value personal assets, which is the central unanswered question in this field. Furthermore, research should move beyond "institutional trust" to explore other trust dimensions (e.g., cognitive, personality-based, experience-based). Given the clear evidence of "system errors," studies are needed on effective strategies for trust repair. Lastly, longitudinal studies are required to move beyond cross-sectional surveys and understand how trust is formed, maintained, and eroded over the entire customer lifecycle.

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Throughout the preparation of this manuscript, the authors utilized Grammarly and ProWritingAid to enhance grammatical accuracy, clarity, and academic style. All content was subsequently reviewed and revised by the authors as necessary, and they assume full responsibility for the final version of this publication.

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