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OPERATIONALIZING RIBA IN FINTECH PAYLATER SYSTEMS: A RIBA INDICATOR MATRIX BASED ON SUBSTANCE-OVER-FORM ANALYSIS IN ISLAMIC FINANCE

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ABSTRACT

The rapid expansion of fintech PayLater systems in Indonesia has introduced deferred digital credit models embedded in e-commerce platforms, raising critical concerns regarding their compatibility with Islamic legal principles, particularly the prohibition of riba. Existing studies often rely on binary halal–haram classifications, which are insufficient to capture the hybrid and multilayered structure of PayLater mechanisms. This study aims to develop a structured analytical framework for identifying riba indicators in fintech PayLater systems. Using a doctrinal–conceptual legal research design, the study extracts classical fiqh muʿāmalah principles and translates them into observable indicators through a substance-over-form (ḥaqīqat al-ʿaqd) approach. These indicators are integrated into a Riba Indicator Matrix covering fee structures, repayment mechanisms, contractual transparency, and risk allocation. The results show that PayLater systems frequently exhibit riba-related characteristics, including time-linked charges, de facto lending structures, contractual opacity, and asymmetric risk distribution. These findings indicate that Sharia compliance cannot be assessed solely through formal contract classification but requires a multidimensional diagnostic approach. This study contributes by proposing a novel analytical tool that supports regulators, fintech providers, Sharia advisers, and Muslim consumers in systematically evaluating potential Sharia non-compliance in digital financial products.

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Keywords: *Fintech, PayLater, Buy Now Pay Later (BNPL), Riba, Islamic Finance, Fiqh Muʿāmalah, Sharia Compliance, Riba Indicator Matrix.*

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1. INTRODUCTION

The rapid expansion of Buy Now Pay Later (BNPL), commonly referred to as PayLater services, has fundamentally transformed consumer credit practices in digital economies, particularly in emerging Muslim-majority markets such as Indonesia, one of the largest and fastest-growing digital economies globally. This transformation is driven by the integration of financial technology (fintech) into everyday transactions, enabling consumers to access goods and services instantly while deferring payments through flexible digital platforms (Gomber et al., 2018; Zetzsche et al., 2019). In developing economies, PayLater services are often positioned as instruments of financial inclusion by lowering barriers to credit access for underserved populations (Firmansyah & Anwar, 2019; Suryono 2020). However, the rapid proliferation of these services has also introduced new forms of consumer debt embedded within complex digital infrastructures, raising concerns regarding transparency, fairness, and regulatory adequacy (Mansour & Bhatti, 2018 ; Schueffel, 2016). These concerns become more critical in Muslim-majority contexts, where financial practices must align not only with economic efficiency but also with the ethical and legal principles of Islamic law.

Within the framework of Islamic economic law, the prohibition of *riba* serves as a central normative principle against unjustified time-based increments in debt-related and deferred payment transactions. Classical Islamic jurisprudence defines *riba* as any guaranteed increase tied to the passage of time without corresponding risk or productive activity, thereby violating the principle of justice in exchange (Chapra, 2000; Khan, 2015). This prohibition is closely linked to the objectives of Islamic law (*maqāṣid al-sharīʿah*), particularly the protection of wealth, fairness in transactions, and the prevention of exploitation (Dusuki & Abdullah, 2007; Hassan et al., 2019). Unlike conventional financial systems that legitimize time as a source of monetary value, Islamic law requires that financial gain be associated with real economic activity and shared risk (Iqbal & Mirakhor, 2011). Consequently, the emergence of PayLater as a form of deferred payment mechanism necessitates careful scrutiny to ensure its compliance with these foundational principles.

The operational structure of PayLater services, including service fees, installment tenors, late payment penalties, and ambiguous contractual forms, raises significant concerns regarding potential *riba* and *gharar* within the framework of *fiqh muʿāmalah*. Empirical and theoretical studies indicate that many fintech-based credit products replicate the economic logic of interest-based lending through indirect mechanisms, such as fixed administrative charges and time-contingent fees (Alam et al., 2019 ; Nabilah et al., 2025) . In PayLater systems, additional charges that increase with the duration of repayment closely resemble *riba nasī'ah*, a classical form of *riba* associated with deferred transactions (Nurrohim et al., 2023; ʻUsm̲ānī, 2001).

Furthermore, the lack of transparency in digital contracts—often accepted through automated interfaces without detailed disclosure—introduces elements of uncertainty (*gharar*), thereby undermining contractual validity from an Islamic legal perspective (Harahap et al., 2025; Mansour & Bhatti, 2018b). The hybrid nature of PayLater contracts, which frequently blur the distinction between sale-based and debt-based transactions, further complicates their legal classification and heightens the risk of Sharia non-compliance.

To address these challenges, a structured diagnostic framework is required to move beyond binary halal–haram classifications in evaluating contemporary fintech products. Traditional approaches in Islamic finance often rely on categorical judgments that fail to capture the complexity of modern financial systems, where non-compliance may arise from multiple interacting elements rather than a single contractual feature (Dusuki & Abdullah, 2007; Zetzsche et al., 2019). Therefore, it is necessary to translate classical jurisprudential principles into observable and operational indicators that can systematically identify the presence of *riba* within PayLater mechanisms (Mansour & Bhatti, 2018a). Such an approach enables a more nuanced and practical evaluation by identifying specific dimensions of potential non-compliance, rather than issuing generalized legal conclusions.

Despite the growing body of literature on fintech PayLater services, existing studies remain largely bifurcated between normative Sharia legal critiques and descriptive consumer-focused analyses. While these studies provide valuable insights into ethical concerns and user behavior, they lack a unified methodological framework capable of systematically linking classical *fiqh* principles with the operational mechanisms of PayLater systems (Harahap et al., 2025; (Nabilah et al., 2025). More importantly, no existing study has systematically operationalized classical *riba* principles into observable indicators applicable to fintech PayLater mechanisms. This gap highlights the absence of a structured analytical tool for assessing the degree and dimensions of *riba* exposure in real-world fintech applications. In response, this study aims to construct a Riba Indicator Matrix as a structured diagnostic framework to bridge classical Islamic jurisprudence and contemporary fintech analysis, specifically within the context of PayLater services in Indonesia.

In response to this methodological gap, this study adopts a doctrinal–conceptual legal research design to construct a Riba Indicator Matrix as a structured diagnostic framework bridging classical Islamic jurisprudence and contemporary fintech analysis. This framework translates classical *riba* principles into operational indicators that can be applied to evaluate PayLater systems in Indonesia. The analysis focuses on key transactional components, including fee structures, repayment mechanisms, contractual transparency, and risk allocation, in order to systematically identify potential indicators of *riba*.

Theoretically, this study contributes to the development of contemporary *fiqh muʿāmalah* by demonstrating how classical legal principles can be operationalized into analytical tools suitable for modern digital financial systems. Practically, the proposed Riba Indicator Matrix provides regulators, fintech providers, and Muslim consumers with a structured diagnostic tool for identifying potential Sharia non-compliance in PayLater mechanisms without reducing the analysis to a binary halal–

haram judgment. In the context of rapid fintech expansion and increasing contractual complexity, such an approach is essential to ensure that financial innovation remains aligned with the principles of justice, transparency, and *maqāṣid al-sharīʿah*.

2. REVIEW OF LITERATURE

2.1 Fintech Transformation and the Emergence of BNPL/PayLater

Fintech scholarship increasingly recognizes that digital finance represents not merely the automation of traditional banking systems, but a fundamental reconfiguration of financial intermediation driven by data, platforms, and digital connectivity. Gomber et al., (2018) highlight how fintech reshapes core financial functions such as payments, lending, and risk management, while Milian et al. (2019) demonstrate that the field remains conceptually fluid and continuously evolving alongside technological advancement. Although Schueffel (2016) provides an early definition of fintech as the application of technology to improve financial services, more recent studies emphasize structural transformation in how credit is assessed, delivered, and monitored.

This transformation is particularly evident in digital credit markets, where alternative data sources and platform-based infrastructures allow financial providers to extend credit access beyond traditional scoring systems. In this context, Buy Now Pay Later (BNPL), or PayLater services, have emerged as a prominent innovation, integrating deferred payment mechanisms directly into digital transactions. These systems enable consumers to obtain goods immediately while postponing payment obligations, thereby embedding credit within everyday consumption practices. Consequently, fintech PayLater must be understood not only as a payment innovation but also as a structural shift in how credit is produced and monetized. This global transformation is particularly relevant in Indonesia as one of the largest Muslim-majority digital economies, where fintech PayLater operates at the intersection of financial innovation and Sharia compliance concerns.

2.2 BNPL as Hybrid Digital Credit: Structure and Implications

Within the broader fintech ecosystem, BNPL represents a hybrid financial instrument combining elements of payment facilitation and short-term consumer credit. The literature consistently describes BNPL as unsecured credit offered at the point of sale, often structured through installment payments with minimal or zero explicit interest charges. However, Berg et al. (2024) argue that BNPL is more accurately conceptualized as a bundled transaction in which a retail purchase is coupled with a subsidized loan, thereby blurring the distinction between payment and credit.

Regulatory analyses further highlight that BNPL has evolved partly outside traditional consumer protection frameworks, creating gaps in oversight related to transparency and lending responsibility (Gerrans et al., 2022). Similarly, Guttman-Kenney et al. (2023) characterize BNPL as an "unregulated fintech credit product," emphasizing that its apparent simplicity may obscure underlying credit obligations. This dual character—formal simplicity combined with substantive complexity—poses a significant challenge for legal and ethical evaluation, particularly in Islamic finance contexts where substance takes precedence over form.

2.3 Consumer Behavior and Financial Risk in BNPL Systems

Empirical studies on BNPL adoption reveal that its impact extends beyond transactional convenience to influence broader consumer financial behavior. Kumar et al. (2024) demonstrate that BNPL usage increases online consumption, particularly among younger and lower-income consumers. Cervellati et al. (2026) further show that familiarity with BNPL correlates with increased adoption of other credit instruments, indicating spillover effects into broader debt behavior.

More critically, deHaan et al. (2023) find that BNPL adoption is associated with increased overdraft fees and credit card interest charges, pointing to potential over-indebtedness. Guttman-Kenney et al. (2023) also observe that BNPL obligations are frequently transferred onto credit cards, especially among financially vulnerable groups. These findings suggest that BNPL may obscure the true cost of borrowing and shift repayment burdens in ways that are not immediately visible to consumers. As such, BNPL cannot be evaluated solely as a neutral payment mechanism but must be understood as a credit system with complex financial consequences.

2.4 Riba in Islamic Jurisprudence: Classical Doctrine and Contemporary Relevance

From the perspective of Islamic jurisprudence, the critical issue in evaluating BNPL is whether the underlying transaction involves a prohibited increase tied to deferred payment obligations. Siddique & Siddique (2025) reaffirm that interest in loan-based transactions remains classified as *ribā* across the major Sunni legal schools, emphasizing that the prohibition is grounded in the nature of the obligation rather than its institutional context.

Contemporary interpretations extend this principle by linking *ribā* to broader economic dynamics such as risk shifting and unjust enrichment. Jatmiko et al. (2024) for instance, interpret *ribā* through a *maqāṣid* framework, associating it with financial practices that decouple returns from productive activity. Berg and Kim (2014) further provide an economic perspective by demonstrating how prohibitions on *ribā* and *gharar* function as mechanisms for regulating information asymmetry and risk allocation. While such economic analyses do not constitute fiqh rulings, they reinforce the relevance of evaluating financial transactions based on their underlying economic substance rather than their formal contractual design.

2.5 Gharar, Transparency, and Contractual Uncertainty in Fintech

The concept of *gharar* introduces an additional layer of complexity in evaluating fintech PayLater systems. Mohd Noh et al. (2025) define *gharar* as contractual uncertainty that can lead to ambiguity and dispute, particularly when essential terms are unclear or incomplete. In modern financial systems, gharar is closely linked to issues of information asymmetry and risk opacity.

Jatmiko et al. (2024) further argue that *gharar* must be understood within an ethical framework that considers the broader implications of risk distribution and financial stability.

In BNPL systems, such uncertainty may arise from hidden fees, unclear repayment structures, or the indirect transfer of obligations to other financial instruments. As a result, the evaluation of *gharar* requires careful attention to disclosure practices, contractual clarity, and the allocation of financial risk. Importantly, *gharar* cannot be separated from broader concerns of justice and transparency, as all three dimensions are interconnected within Islamic financial ethics.

2.6 Maqāṣid al-Sharīʿah as an Evaluative Framework

The *maqāṣid al-sharīʿah* framework provides a normative foundation for assessing the ethical and economic implications of financial transactions. Akram Laldin & Furqani (2013) identify key objectives of Islamic finance, including wealth circulation, transparency, and justice, which serve as guiding principles for evaluating financial practices. This framework distinguishes between ends *(maqāṣid)* and means *(wasāʾil)*, allowing for a nuanced assessment of whether financial instruments achieve their intended ethical outcomes.

In the context of BNPL, *maqāṣid* analysis focuses on whether deferred payment systems promote equitable exchange or facilitate exploitation through hidden costs and risk asymmetry. The principle of *ḥifẓ al-māl* (protection of wealth) is particularly relevant, as it requires that financial innovation safeguard rather than undermine consumer financial stability. However, as Güney (2024) cautions, maqāṣid-based reasoning must be applied carefully to avoid subjective interpretations that justify questionable practices. Without clear operational criteria, maqāṣid risks becoming an abstract ideal rather than a practical evaluative tool.

2.7 Substance over Form and the Challenge of Hybrid Contracts

The principle of *ḥaqīqat al-ʿaqd* (substance over form) is central to Islamic legal analysis and particularly relevant in fintech contexts. Hanif (2012) demonstrates that Islamic financial contracts may formally comply with legal requirements while substantively replicating conventional financial structures. This observation is critical in evaluating BNPL systems, where contractual arrangements may disguise underlying credit mechanisms.

In fintech environments, digital interfaces can obscure the economic reality of transactions, making it more difficult for users to understand the true nature of their financial obligations. BNPL structures may involve hidden cost components such as merchant fees, penalty charges, or refinancing mechanisms that effectively monetize time-based payment deferral. Therefore, a credible Shariah evaluation must move beyond formal contract classification and examine the actual financial flows and risk structures embedded within the transaction.

2.8 Islamic Fintech Literature and Its Limitations

The growing body of Islamic fintech literature highlights the potential of digital finance to enhance financial inclusion and economic development. Alshater et al. (2021) identify key research streams in Islamic fintech, including payments, crowdfunding, and peer-to-peer lending, while also noting regulatory and literacy challenges. Jegerson et al. (2025) similarly emphasize the importance of Shariah compliance and regulatory frameworks in shaping fintech development.

However, existing studies largely remain at a macro or descriptive level, focusing on adoption trends, regulatory challenges, or general ethical concerns. Mohamed & Otake (2025), for instance, demonstrate the positive impact of Islamic fintech on financial inclusion, but do not address the micro-level contractual structures of specific financial products. As a result, there is a lack of analytical tools for evaluating individual fintech instruments such as BNPL within a rigorous fiqh framework.

2.9 Toward an Operational and Diagnostic Analytical Framework

Broader surveys of Islamic finance research reinforce the need for methodological innovation. A. Khan et al. (2021) highlight the rapid growth of the field, while Grira & Labidi (2021) call for the development of more authentic financial products that move beyond replication of conventional models. Despite this progress, a critical gap remains between empirical studies of digital credit and doctrinal analyses of Islamic law.

This gap is particularly evident in the absence of operational frameworks that translate classical jurisprudential concepts into observable and operational indicators. Existing studies tend to rely on binary halal–haram classifications or descriptive analysis, which are insufficient for capturing the complexity of fintech systems. Consequently, there is a need for a structured analytical approach that integrates *fiqh muʿāmalah*, *maqāṣid al-sharīʿah*, and substance-over-form principles.

2.10 Research Gap and Justification

The literature reveals a fundamental gap at three levels: conceptual, methodological, and epistemological. Conceptually, there is inconsistency in applying classical definitions of *ribā* to modern fintech systems. Methodologically, existing studies lack operational tools for analyzing complex financial structures. Epistemologically, there remains a disconnect between Islamic legal reasoning and contemporary financial analysis.

These limitations justify the development of a structured diagnostic framework. The proposed Riba Indicator Matrix addresses this gap by operationalizing classical jurisprudential principles into observable indicators, enabling systematic evaluation of fintech PayLater systems. By moving beyond descriptive and normative approaches, this study provides a novel contribution that bridges traditional Islamic law and modern financial practice.

3. RESEARCH METHODOLOGY

3.1 Research Design and Epistemological Framework

This study adopts a a doctrinal–conceptual legal research design grounded in the epistemological foundations of fiqh muʿāmalah. Doctrinal legal research is employed to systematically examine and interpret normative principles governing riba within classical Islamic jurisprudence, while the conceptual dimension is directed toward reconstructing these principles into an operational analytical framework applicable to contemporary fintech systems. This dual orientation reflects a synthesis between traditional Islamic legal methodology and modern analytical legal scholarship.

The study is further informed by a substance-over-form approach (*ḥaqīqat al-ʿaqd*), a well-established principle in Islamic jurisprudence that prioritizes the economic reality of transactions over their formal contractual labels. This epistemological stance is particularly relevant in analyzing fintech paylater structures, which often employ hybrid contractual forms that obscure their substantive financial nature. By integrating doctrinal interpretation with conceptual reconstruction, the research ensures both normative fidelity and contextual adaptability in evaluating digital financial products.

3.2 Data Sources and Selection Criteria

This research relies exclusively on secondary data, comprising authoritative textual sources and contemporary analytical materials relevant to Islamic finance and fintech practices. The data corpus includes classical *fiqh* literature, modern Islamic finance scholarship, regulatory documents issued by Indonesian financial authorities, and publicly accessible terms and conditions of major paylater service providers operating in Indonesia.

To enhance analytical rigor, data sources were selected based on explicit inclusion criteria, including academic credibility, relevance to *riba* and Islamic financial transactions, and alignment with contemporary fintech developments. Classical sources were chosen based on their recognized authority within major schools of Islamic jurisprudence, while contemporary literature was limited to peer-reviewed journal articles and scholarly publications indexed in reputable academic databases. Regulatory documents were selected from official institutions such as Bank Indonesia and the Financial Services Authority (OJK), ensuring institutional validity.

The selection framework is summarized in Table 1.

Table 1. Data Source Selection Framework

Category	Type of Source	Selection Criteria	Purpose
Classical Fiqh	Foundational jurisprudence texts	Authoritative, cross-madhhab relevance	Extraction of riba parameters
Academic Literature	Peer-reviewed journals, books	Indexed, recent, thematically relevant	Theoretical and analytical support
Regulatory Documents	OJK, Bank Indonesia publications	Official, legally binding	Contextual and regulatory analysis
Industry Data	Paylater terms and conditions	Publicly accessible, widely used platforms	Empirical mapping of operational features

Note: The author(s) own work.

3.3 Analytical Method and Legal Reasoning Approach

The analytical framework of this study is based on a combination of qualitative content analysis and Islamic legal reasoning. Content analysis is employed to systematically extract recurring themes and normative principles related to *riba* from both classical and contemporary sources. This process involves identifying textual patterns, conceptual definitions, and jurisprudential conditions associated with *riba*, which are then synthesized into a coherent set of analytical parameters.

In parallel, the study utilizes Islamic legal reasoning methods, particularly analogical reasoning *(qiyās)* and *maqāṣid-based* interpretation. Qiyās is applied to extend classical rulings on *riba* to modern fintech contexts by identifying shared underlying causes *(ʿillah)*, such as time-based increments and unjustified gain. Meanwhile, *maqāṣid al-sharīʿah* serves as a normative evaluative framework, emphasizing the protection of wealth *(ḥifẓ al-māl)*, fairness, and the prevention of exploitation in financial transactions.

This integrated approach allows the study to move beyond purely descriptive analysis and engage in normative reconstruction, ensuring that classical legal principles are applied in a manner that is both methodologically sound and contextually relevant.

3.4 Operationalization of Riba Parameters

To bridge the gap between abstract legal doctrine and empirical financial practices, this study operationalizes classical riba concepts into observable analytical variables. This process involves translating jurisprudential principles into measurable indicators that can be applied to fintech products.

The operationalization follows a deductive-analytical process, beginning with the extraction of core riba characteristics from fiqh literature, followed by their transformation into functional variables suitable for contemporary analysis. These variables capture the economic substance of transactions rather than their formal contractual design, thereby aligning with the substance-over-form principle in Islamic law.

The resulting operational variables are presented in Table 2.

Table 2. Operationalization of Riba Parameters

Classical Concept	Analytical Variable	Operational Indicator
Ziyādah (excess increment)	Time-linked increment	Charges increase with payment deferral
Ribḥ al-muḥaqqaq (guaranteed gain)	Predetermined return	Fixed additional charges regardless of outcome
Ẓulm (injustice)	Risk asymmetry	Disproportionate allocation of financial risk
Gharar (uncertainty)	Contractual opacity	Lack of clarity in contractual structure
Ḥaqīqat al-ʿaqd (substance)	Functional debt conversion	Transaction resembles a loan in practice

Note: The author(s) own work.

This operationalization enables a structured and systematic evaluation of fintech paylater mechanisms, moving beyond binary classifications toward a more nuanced analytical assessment.

3.5 Analytical Procedure and Matrix Construction

The analytical procedure is conducted through a multi-stage process designed to ensure methodological transparency and replicability. The first stage involves conceptual extraction, where key riba parameters are identified from classical and contemporary sources through systematic content analysis. The second stage focuses on operational translation, converting abstract legal principles into observable indicators applicable to fintech transactions.

In the third stage, comparative mapping is undertaken by aligning the operational indicators with the structural features of paylater services in Indonesia. This involves analyzing product documentation, fee structures, and contractual mechanisms to identify correspondences between theoretical parameters and empirical practices. The final stage consists of matrix construction, where the findings are synthesized into a structured Riba Indicator Matrix that enables systematic evaluation of *riba* exposure.

The matrix serves as an analytical tool that allows for graded assessment rather than binary judgment, thereby providing a more flexible and diagnostically useful framework for regulators, industry practitioners, and scholars.

3.6 Validity and Reliability

The validity of this study is ensured through methodological triangulation and cross-textual verification. By integrating classical jurisprudence, contemporary academic literature, and regulatory documents, the study minimizes reliance on a single interpretive perspective and enhances the robustness of its findings. Cross-textual validation is further employed to ensure consistency across different schools of Islamic jurisprudence, thereby strengthening doctrinal reliability.

Reliability is reinforced through methodological transparency, particularly in the explicit articulation of analytical procedures and operational variables. The structured nature of the Riba Indicator Matrix allows for consistent application across different fintech products, ensuring reproducibility of results.

3.7 Research Limitations

Despite its analytical strengths, this study is subject to several limitations. First, the research is purely normative and does not incorporate empirical data such as user behavior or industry-level financial performance. As a result, the findings are conceptual and may not fully capture the practical complexities of fintech implementation.

Second, the interpretation of classical fiqh principles is inherently subject to scholarly variation, which may influence the operationalization of riba indicators. Although efforts have been made to ensure cross-madhhab consistency, interpretive differences cannot be entirely eliminated.

Finally, the study focuses exclusively on the Indonesian fintech context, which may limit the generalizability of its findings to other regulatory environments. Future research is therefore recommended to empirically test the proposed matrix and extend its application to broader comparative settings.

4. RESULTS

4.1 Analytical Orientation of the Findings

Consistent with the doctrinal–conceptual research design, the findings of this study are presented as an analytical reconstruction of Islamic legal principles into an operational evaluative framework. Rather than producing empirical measurements, the results articulate how classical doctrines of *fiqh muʿāmalah* can be translated into structured analytical outputs applicable to fintech PayLater systems.

The analytical process generates four sequential outputs: (1) extraction of core *riba* principles, (2) operationalization into analytical variables, (3) construction of a Riba Indicator Matrix, and (4) conceptual mapping of the matrix onto PayLater mechanisms. This structure ensures that the results remain grounded in legal doctrine while maintaining analytical clarity.

4.2 Conceptual Extraction of Riba Principles

The first analytical stage identifies the doctrinal foundations of *riba* through a synthesis of classical jurisprudence and contemporary interpretations. The findings indicate that *riba* is associated with the presence of a time-linked increment over principal that is not connected to productive economic activity or risk-sharing.

The analysis further identifies that *riba* is conceptually linked with other legal constructs, including *gharar* (uncertainty), *ẓulm* (injustice), and the principle of *ḥaqīqat al-ʿaqd* (substance over form). These elements form an integrated conceptual structure for evaluating financial transactions.

Based on this synthesis, five core causal elements (*ʿillah*) are identified: *ziyādah* (increment), *ribḥ al-muḥaqqaq* (guaranteed gain), deferment-based escalation (*riba nasī'ah*), *ẓulm* (unjust burden), and *gharar* (uncertainty). These elements constitute the conceptual basis for further analytical development.

4.3 Operationalization of Riba Indicators

The second stage translates classical legal concepts into observable and operational indicators that can be systematically applied to fintech systems. This operationalization ensures that doctrinal principles are expressed in analytically functional terms.

Table 3. Operationalization of Riba Parameters

Classical Concept	Analytical Variable	Operational Indicator
Ziyādah	Time-linked increment	Charges increase with payment deferral
Ribḥ al-muḥaqqaq	Predetermined return	Fixed additional charges regardless of outcome
Ẓulm	Risk asymmetry	Disproportionate allocation of financial risk
Gharar	Contractual opacity	Lack of clarity in contractual structure
Ḥaqīqat al-ʿaqd	Functional debt conversion	Transaction resembles a loan in practice

Note: The author(s) own work.

As shown in Table 3, each classical concept is systematically linked to an analytical variable and a corresponding operational indicator. This structure provides a basis for identifying patterns within financial transactions.

4.4 Construction of the Riba Indicator Matrix

Building on the operational variables, the study develops the Riba Indicator Matrix as its primary analytical output. The matrix organizes the indicators into four analytical dimensions: fee structure, repayment mechanism, contractual transparency, and risk allocation.

Table 4. Riba Indicator Matrix for Fintech PayLater Systems

Dimension	Juristic Anchor	Operational Indicators	Analytical Description
Fee Structure	Ziyādah; ribḥ al-muḥaqqaq	Charges linked to tenure; additional fees	Time-based increment
Repayment Mechanism	Riba nasīʾah; ḥaqīqat al-ʿaqd	Fixed repayment; revolving features	Debt-oriented structure
Contractual Transparency	Gharar	Fragmented contract disclosure	Information opacity
Risk Allocation	Ẓulm	Consumer bears disproportionate burden	Uneven risk distribution

Note: The author(s) own work.

As indicated in Table 4, the matrix provides a structured framework for organizing the analytical indicators derived from classical jurisprudence into applicable dimensions for fintech analysis.

4.5 Analytical Mapping of PayLater Systems

The application of the Riba Indicator Matrix to PayLater systems identifies correspondences between the operational indicators and structural features of fintech-based deferred payment mechanisms.

Table 5. Analytical Mapping of PayLater Features

Matrix Dimension	PayLater Feature	Analytical Observation
Fee structure	Installment fees, late penalties	Presence of time-linked increment
Repayment mechanism	Fixed installments, credit rollover	Presence of debt-based structure
Contractual transparency	Terms distributed across interfaces	Presence of contractual opacity
Risk allocation	Penalties borne by users	Presence of asymmetric risk

Note: The author(s) own work.

As shown in Table 5, each dimension of the matrix corresponds to identifiable features within PayLater systems. The mapping indicates that these systems contain structural characteristics that align with the operational indicators derived from *riba*-related concepts.

4.6 Summary of Analytical Findings

The results indicate that fintech PayLater systems exhibit multiple structural features that correspond to the operational indicators of *riba*. These features are identifiable across four key dimensions: fee structures, repayment mechanisms, contractual transparency, and risk allocation. Importantly, these findings represent an analytical identification of structural characteristics rather than a normative legal determination. The results provide a structured basis for further interpretation in the subsequent discussion section.

4.7 Scope and Analytical Limitations

While the Riba Indicator Matrix provides a structured analytical framework, the findings are limited to conceptual mapping and do not include empirical validation across specific PayLater platforms. The indicators are derived from doctrinal interpretation and are intended to support analytical assessment rather than to produce definitive legal rulings.

Furthermore, the framework reflects a generalized representation of PayLater mechanisms and may require contextual refinement when applied to specific regulatory or institutional settings.

5. CONCLUSION AND POLICY IMPLICATIONS

5.1 Conclusion

This study addresses a critical gap in the intersection between Islamic jurisprudence and contemporary fintech practices by developing a structured analytical model for evaluating the presence of *riba* in PayLater systems. Moving beyond descriptive and binary halal–haram approaches, the study demonstrates that the prohibition of *riba* is fundamentally determined by underlying transactional structures—particularly time-linked increments, guaranteed returns, contractual opacity, and asymmetric risk allocation.

Through a doctrinal–conceptual analysis, classical principles of *fiqh muʿāmalah*—including *ziyādah*, *ribḥ al-muḥaqqaq*, *gharar*, *ẓulm*, and *ḥaqīqat al-ʿaqd*—are systematically translated into operational indicators. This process results in the development of the Riba Indicator Matrix, which constitutes the primary contribution of the study. The matrix enables a structured and multidimensional evaluation of fintech PayLater systems by identifying specific dimensions of potential Sharia non-compliance rather than relying on categorical judgments.

The analytical application of this model shows that PayLater systems frequently exhibit features consistent with *riba*-related structures, particularly in fee mechanisms tied to payment duration, repayment systems that function as de facto lending arrangements, fragmented contractual disclosures, and uneven risk distribution. These findings highlight that the Sharia assessment of fintech products requires a substance-over-form approach that captures the complexity of digital financial systems.

Ultimately, this study demonstrates that effective Sharia compliance in digital finance cannot rely on formal contract labeling alone, but requires rigorous evaluation of financial substance through structured analytical models.

5.2 Theoretical Implications

This study contributes to Islamic finance scholarship in three key ways. First, it advances the analytical paradigm by shifting from binary permissibility judgments toward a structured diagnostic approach capable of capturing the multidimensional nature of fintech transactions. Second, it provides a methodological contribution by demonstrating how classical jurisprudential principles can be translated into operational indicators, thereby bridging the gap between doctrinal reasoning and contemporary financial analysis. Third, the study reinforces the relevance of *maqāṣid al-sharīʿah* and *qiyās*-based reasoning as dynamic tools for extending Islamic legal principles to emerging financial innovations.

5.3 Practical and Policy Implications

The findings offer actionable implications for multiple stakeholders.

For regulators, the Riba Indicator Matrix can be utilized as a screening tool within fintech regulatory frameworks, particularly in Sharia-compliant regulatory sandboxes. By focusing on structural elements such as fee design, repayment mechanisms, and risk allocation, regulators can identify potential areas of non-compliance more systematically.

For fintech providers, the results highlight the importance of redesigning business models to align with Islamic principles. This includes reducing reliance on time-based charges, improving contractual transparency, and ensuring a more balanced allocation of financial risk between providers and users.

For Islamic financial institutions, the study underscores the need to move beyond the replication of conventional credit structures. Instead, innovation should prioritize genuine alignment with the principles of fairness, transparency, and risk-sharing embedded in Islamic economic ethics.

5.4 Limitations and Future Research

This study is limited by its conceptual nature and does not involve empirical validation across specific PayLater platforms. Future research should apply the proposed framework to real-world fintech systems through case studies or comparative analysis across jurisdictions. In addition, further studies may refine the indicators by incorporating quantitative or hybrid approaches to enhance analytical precision.

Expanding the framework to other fintech products, such as peer-to-peer lending or digital microfinance, also represents a promising avenue for future research. Such developments would strengthen the applicability of Islamic legal analysis in increasingly complex digital financial ecosystems.

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