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How Sharia Rural Banks and Islamic Fintechs Are Partnering for Financial Inclusion: Indonesian Lessons from the Ground

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Abstract. *This study aims to analyze potential collaboration models between sharia fintech and Bank Pembiayaan Rakyat Syariah (BPRS) in Indonesia and to determine which model offers the highest strategic impact according to expert judgment. Using the Analytic Network Process (ANP), this research evaluates four alternative collaboration models identified through literature review and expert interviews. The first model is Sharia Fintech as a Technology Enabler and Referral Partner, where fintech provides prospective customer referrals to BPRS. The second model is Sharia Fintech as a Technology Enabler and Distribution Channel, functioning as a fund channeling intermediary between BPRS and customers. The third model positions fintech as a technology enabler for creditworthiness assessment, focusing solely on credit scoring activities. The fourth model is Sharia Fintech as a Sharia Peer-to-Peer (P2P) Financing Enabler, in which fintech provides a project marketplace for BPRS to fund, with financing flows conducted through the P2P platform. ANP results show that Model 4 is the most preferred option, while Model 3 is the least recommended. Managerially, BPRS should prioritize Model 4 and establish a joint coordination team with fintech under the supervision of the sharia fintech association.*

Keywords: *Financial Inclusion, Islamic Fintechs, P2P Financing, Sharia Rural Banks*

Abstrak. *Peneltian ini bertujuan untuk mengurai potensi model kolaborasi antara fintech syariah dan Bank Pembiayaan Rakyat Syariah (BPRS) di Indonesia dan untuk menentukan model mana yang memberikan dampak strategis tertinggi menurut penilaian para ahli. Metode yang digunakan dalam penelitian ini adalah Analytic Network Process (ANP), melalui tinjauan literatur dan wawancara para pakar. Temuan dari penelitian ini menunjukkan bahwa model pertama adalah Fintech Syariah sebagai Penggerak Teknologi dan Mitra Rujukan, di mana fintech memberikan rujukan calon pelanggan kepada BPRS. Model kedua adalah Fintech Syariah sebagai Penggerak Teknologi dan Saluran Distribusi, yang berfungsi sebagai perantara penyaluran dana antara BPRS dan pelanggan. Model ketiga fintech sebagai penggerak teknologi untuk penilaian kelayakan pembiayaan, yang berfokus pada aktivitas pemberian skor kelayakan pembiayaan. Model keempat adalah Fintech Syariah sebagai Penggerak Pembiayaan Peer-to-Peer (P2P) Syariah, di mana fintech menyediakan pasar proyek bagi BPRS untuk didanai, dengan aliran pembiayaan dilakukan melalui platform P2P. Hasil ANP menunjukkan bahwa Model 4 adalah pilihan yang paling prioritas, sedangkan Model 3 adalah yang paling tidak direkomendasikan. Secara manajerial, BPRS harus memprioritaskan Model 4 dan membentuk tim koordinasi bersama dengan fintech di bawah pengawasan asosiasi fintech syariah.*

Kata Kunci: *Keuangan Inklusif, Fintech Syariah, Pembiayaan P2P, Bank Pembiayaan Rakyat Syariah*

Introduction

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The development of information technology that is driving the digital revolution and banking 4.0 fosters the need for collaboration and cooperation between sharia financial institutions, especially Sharia Rural Banks (*Bank Perekonomian Rakyat Syariah*/BPRS) and Islamic Financial Technology. Indonesia is the only country with a bank-based institution under the supervision of the Financial Services Authority (OJK), namely the Sharia Rural Bank. As of June 20, 2025, OJK data recorded 1,345 conventional BPRs and 173 BPRSs[4], indicating that bank-based Islamic financial institutions continue to place a significant emphasis on financing small and medium enterprises.

Why collaborate with fintech? Let us look at the data. Indonesia ranks third after Saudi Arabia and Malaysia in the Global Islamic Fintech Index Score, demonstrating the country's rapidly growing Islamic fintech industry and strong commitment to expanding access to financing for MSMEs[5]. Although BPRS and Islamic fintech differ in their operations, regulations, and the types of services they offer, they share several similarities. Both Islamic financial institutions provide access to financing for small businesses, MSMEs, and rural communities (Setiawan et al., 2025); (Alsaghir, 2023). With fintech being entirely technology-driven, while BPRS largely operates conventionally, there are opportunities for complementary collaboration, whereas fintech provides digital innovation and expanded reach (Ahmad & Oon, 2025), while BPRS has banking legality, a market base, and funding capacity (Setiawan et al., 2025).

This collaboration aims to increase efficient and thoughtful financial service offerings and accessibility to the public (Chong, 2021). A study by Kharrat et al., (2024) shows that implementing fintech innovation in both Islamic and conventional banks can improve their performance, profitability, stability, and efficiency. Several other studies have demonstrated the significant impact of fintech and digitalization on

[4] Otoritas Jasa Keuangan. (2025). Statistik Perbankan Indonesia – Juni 2025. Retrieved from https://ojk.go.id/id/kanal/perbankan/data-dan-statistik/statistik-perbankan-indonesia/Pages/Statistik-Perbankan-Indonesia---Juni-2025.aspx
[5] Dinar Standard. (2024). Global Islamic Fintech Report 2024/25. Retrieved from https://cdn.salaamgateway.com/reports/pdf/GIFT%20Report%20Islamic%20fintech%202024-25.pdf

financial institutions, which are key drivers of Islamic financial growth (Sidaoui et al., 2022); (Yudaruddin, 2023); (Xu et al., 2025). Unfortunately, most of the literature focuses on how fintech can improve commercial banks (both Islamic and conventional) but does not discuss how it can collaborate and in what form with BPRS.

Obviously, there are still plenty of challenges to overcome to achieve effective collaboration. First, there are differences in regulations and policies between fintech and Islamic financial institutions (Irum Saba et al., 2019); (Rohman et al., 2023). Islamic banks and BPRS, which have been operating in the Islamic financial ecosystem for a long time, generally have more established Sharia oversight and compliance structures than Islamic fintech (Muryanto, 2023). Second, the level of sharia financial literacy in society is still low (Abdullah et al., 2022); (Majid, 2021). OJK data from 2024 shows that the level of Islamic financial literacy in Indonesia only reached 39.11%, far below the conventional financial literacy rate of 65.08%[6]. This situation has led some people who lack an understanding of Islamic finance to still resort to informal credit alternatives, such as loan sharks or illegal online loans. Third, technological infrastructure is not evenly distributed throughout Indonesia (Selan & Wahyuni, 2022).

Based on a review of the existing literature, no studies have been found specifically discussing the collaboration model between Islamic fintech and BPRS. However, if such a model could be formulated, it could potentially serve as an important reference for BPRS development, ensuring they remain afloat and adapt to advances in financial technology. In line with this objective, this study focuses on exploring and developing several alternative collaboration models using the Analytic Network Process (ANP) decision-making approach. The findings of this study are expected to provide solutions for BPRS to be more adaptive to developments in the fintech industry, while also offering opportunities for Islamic fintech to attract more investors and reach MSMEs in need of financing.

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[6] Otoritas Jasa Keuangan. (2024). Survei Nasional Literasi dan Inklusi Keuangan Tahun 2024. Retrieved from https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/OJK-dan-BPS-Umumkan-Hasil-Survei-Nasional-Literasi-dan-Inklusi-Keuangan-Tahun-2024.aspx

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Literature Review

Fintech (Financial Technology)

Financial Technology, also known as Fintech, provides increased opportunities for financing innovation, specifically in addressing financing challenges for small and medium-sized enterprises (SMEs) through the utilization of artificial intelligence (AI), cloud computing, blockchain, Big Data, and other technologies in the financial sector and financial institutions (Zhang et al., 2023). By enhancing the efficiency and effectiveness of financial technology, the process of digitizing and transforming the financial services industry is being implemented through digital platforms, including mobile, internet, and other advanced financial services. Fintech has a significant impact on the success of companies. Fintech enables the efficient movement of cash with a high degree of adaptability and ease, offering customers an extensive variety of financial services (Al-Okaily & Al-Okaily, 2025). As of January 2025, there are a total of 97 fintech firms registered with the Financial Services Authority that provide fintech peer-to-peer financing or fintech financing services. Out of these, 7 fintech entities operate under shariah principles[7]. This indicates the necessity for enhancing sharia-compliant fintech service providers to attract customers demanding financial services aligned with sharia principles through its collaboration with BPRS.

Potential Collaboration of Islamic Financial Institutions & Fintech

The collaboration between Islamic financial institutions and fintech can yield numerous advantages by harnessing the respective capabilities of both sectors to augment efficiency, innovation, and financial inclusion. Here are several potential benefits (Ruhland & Wiese, 2023; Romanova & Kudinska, 2016): First, fintech has the

[7] Otoritas Jasa Keuangan. (2025). Perusahaan Fintech Financing Berizin Per 31 Januari 2025. Retrieved from https://www.ojk.go.id/id/kanal/iknb/data-dan-statistik/direktori/fintech/Documents/5.%20Daftar%20LPBBTI%20%28Fintech%20Financing%29%20Januari%202025.pdf

potential to assist Islamic financial institutions in reaching communities that are currently underserved, hence promoting financial inclusion. Through the utilization of technology, these partnerships can generate inventive and all-encompassing financial offerings that accommodate a wider spectrum of clientele, including individuals residing in distant regions. Second, fintech firms frequently lead the way in technical advancements. In addition, fintech solutions could optimize procedures, diminish operational expenses, and enhance overall effectiveness (cost efficiencies). Above all, fintech collaborations have the potential to facilitate the expansion of Islamic financial institutions into non-traditional areas, hence increasing their global reach.

Research Gap

There is a lack of discussion regarding the collaborative model of Islamic Financial Institutions and Islamic Fintech. However, we cited a few studies that are relevant to the discussion of this topic. Ascarya et al., (2022) developed micro-fintech models specifically tailored for Islamic microfinancial institutions in Indonesia. They developed suitable micro-fintech models particularly Baitul Maal wat Tamwil (BMT), to effectively integrate Islamic social and commercial microfinance. The finding suggests that BMT requires digital banking, payment, peer-to-peer (P2P) financing, P2P social, and e-commerce as essential micro-fintech tools. Online platforms will be used for commercial finance and social fundraising through zakat and waqf. However, commercial financing for micro and small enterprise customers and the distribution of zakat and waqf would be done offline.

In a separate study carried out by Mutamimah et al., (2021), they developed an ICT-based collaborative framework to enhance the efficiency of zakat management organizations in Indonesia. This was achieved using Focus Group Discussion (FGD). The implementation of collaborative zakat management using information and communication technology (ICT) is anticipated to enhance the management of zakat in Indonesia, particularly in the areas of collection, distribution, and empowerment. The proposed collaboration utilizing the 3C model comprises communication, coordination, and cooperation. Furthermore, Jouti (2021) conducted research on the integration technique used to construct enduring Islamic social finance ecosystems. This study demonstrates the influence of forming social finance ecosystems in addressing social problems. The text underscores the notion that addressing societal problems is the responsibility of all stakeholders, including governments and firms. Furthermore, it highlights the necessity of obtaining adequate finance that adheres to Shariʿah principles to attain sustainable objectives.

Previous studies have not identified a comprehensive collaborative model that encompasses cooperation schemes, business models, and regulatory compliance for Islamic fintech and BPRS within a single framework. Thus, this research aims to address the existing research gap and subsequently offer alternative model of collaboration between BPRS and Islamic Fintech. The uniqueness of this study lies in its in-depth exploration and comparative discussion of various collaboration models between the two institutions, complemented by an Analytical Network Process (ANP) assessment based on expert judgments to determine priority models and critical success factors within a Sharia-compliant and regulatory-aligned framework.

Method

This study employs both qualitative and quantitative methods utilizing the Analytic Network Process (ANP) methodology throughout three primary phases. First is to organize a literature study and an in-depth interview with a diverse group of experts, regulators, practitioners, and academics in the Islamic Finance and Financial Technology area. This literature study and in-depth interview aims to gather information from stakeholders regarding the collaborative model of Islamic financial institutions and financial technology.

In the study, respondents were selected from three groups of experts who play strategic roles in the Islamic financial ecosystem. The first group consists of practitioners working directly in the Islamic finance industry, particularly in Islamic

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rural banks (BPRS) and Islamic fintech, both at the managerial and operational levels. They were selected based on a minimum of five years of professional experience, involvement in product development, and a deep understanding of Islamic financing practices. The second group consists of academics with expertise in Islamic economics, inclusive finance, or Islamic financial technology, and active participation in research, scientific publications, and academic discussions related to the development of fintech and Islamic banking in Indonesia.

Phase 2 in ANP model is to quantify and measure ANP network. In this regard, pairwise questionnaires are computed using "Super Decisions Software". The questionnaire experiment is carried out to ensure that the questionnaire is filled and responded within the tolerable inconsistencies. In this step, the questionnaire modification may be made to obtain the appropriate data. Phase 3 presents results or synthesis of ANP network which are derived from super-decisions software computation. The computed data is subsequently exported to excel worksheet to produce the expected outputs. Afterwards, a simple mean/average of all respondents' responses is calculated and re-synthesized to produce scientific 'consensus' result analysis. Furthermore, Kendall's coefficient of concordance or Kendall's W is computed to determine the level of agreements among raters or respondents.

Result and Discussion

The discussion of this study will be divided into two section. The initial section aimed to provide comprehensive discussion regarding the collaborative models between BPRS and Islamic FinTech. This included a discussion on a) the parties involved in collaboration, b) the Cooperation Scheme between BPRS and Islamic fintech, c) the business model, and d) regulatory compliance. The initial section will be analysed qualitatively based on the findings of the literature study and in-depth interview with a group of expert's respondents. The collaborative model between BPRS and Fintech might manifest as either channelling or referral-based collaborations. The channelling cooperation scheme involves the distribution of funds

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by BPRS to borrowers using fintech platforms, specifically peer-to-peer financing. The referral cooperation plan involves the direct distribution of BPRS financing to potential lenders referred by fintech financing, as outlined in the Cooperation agreement. BPRS does a comprehensive credit examination prior to the disbursement of credit.

The subsequent objective is to quantify the model. The model was quantified by collecting responses from expert respondents using a pair-wise comparison questionnaire developed with the Analytic Network Process (ANP) methodology. The quantification carried out by expert respondents is to gain understanding and endorsement to select the most important and efficient collaborative model which has the highest impact and can used in the practices. Therefore, stakeholders in the Islamic financial sector, Islamic fintech, BPRS sector, and regulatory bodies can gain a comprehensive understanding of various business models and collaborative strategies that can be used to promote the growth of the Islamic fintech industry and BPRS in Indonesia.

Decomposition of Collaborative Models between BPRS and Islamic Fintech

The collaboration between Sharia Rural Banks (BPRS) and Sharia fintech increasingly demonstrates significant potential in strengthening the Sharia financial ecosystem in Indonesia. By combining the strengths of BPRSs, including their close community ties, regulatory compliance, and loyal customer base, with fintech's advantages in digital innovation, service speed, and process efficiency, a complementary collaborative model is created. This collaboration allows us to better understand how this synergy can be optimized, from the integration of payment services, digital financing distribution, to technology-based risk management, therefore each party can not only survive but also grow together in the face of the dynamics of the modern financial industry.

The collaboration between BPRS and sharia fintech prioritizes the compatibility of IT infrastructure between both parties to ensure optimal and secure collaboration.

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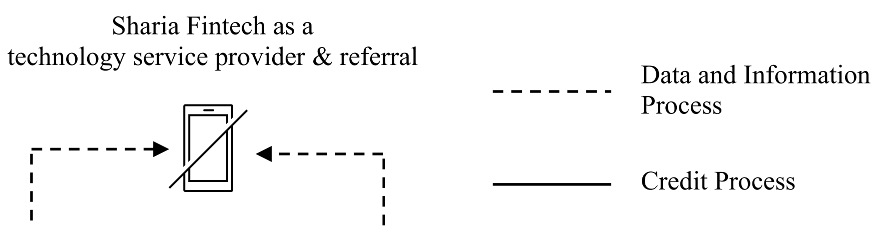
According to official guidelines issued by the Financial Services Authority (OJK), this collaboration requires that the electronic systems used by sharia fintech be compatible with the BPRS systems to ensure efficient integration of financing application data, risk analysis, and fund disbursement in accordance with operational standards (OJK, 2021). This is important considering the differences in characteristics between BPRS, which have a network of physical offices in various regions and limitations in adapting to technology, and Fintech financing which relies on digital access and modern IT systems to accelerate services (Randy et al., 2021); (Mai et al., 2024). Thus, a balanced IT infrastructure is one of the main foundations for synergy between BPRS and Fintech financing to not only increase financing access but also maintain security, efficiency, and regulatory compliance in accordance with OJK guidelines.

Model 1: Sharia Fintech as a Technology Enabler and Referral Partner

Based on the results of the literature review and in-depth interviews, the first collaboration between fintech and BPRS could be in the form of Sharia-compliant P2P Financing as a technology enabler and referral. In this model, two financial institutions are involved: The Sharia-compliant P2P Fintech and the BPRS. Sharia P2P Fintech focuses on a platform that connects financing investors with recipients online, and its operational activities are in accordance with Sharia (Syarif, 2024). In this first model, the role is similar to the basic function of Islamic P2P financing as a platform provider. However, the main difference lies in the funding source, where the funds or investors come entirely from the BPRS. In this model, the fintech's function is purely as a platform provider.

Figure 1. Fintech Sharia as Referral



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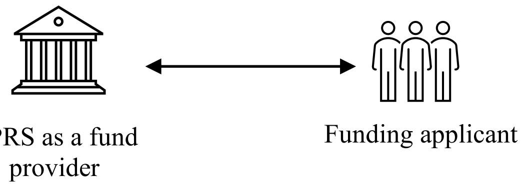

Source: BPR & Fintech Lending Collaboration Guide (OJK, 2021)

The first function of fintech is as a technology enabler and referral provider, providing technology and referrals to BPRS (Sectoral Institutions) for funding applicants if their profiles meet the criteria outlined in the *Cooperation Agreement* (PKS). Under this scheme, funding applicants apply for financing through the fintech platform, and the fintech then forwards information and supporting documents to the BPRS. The BPRS then assesses eligibility based on this data, issues an approval decision to the fintech, and the fintech then communicates the results to the funding applicants. The BPRS then distributes the financing directly to the funding applicants (OJK, 2021).

Through this mechanism, the BPRS has full control over the entire financing process, from feasibility analysis and financing agreements, collateral binding (if any), fund disbursement, to monitoring and installment payments. Fintech's role is limited to providing technology and connecting information, so all legal relationships and financial transactions remain ongoing between the BPRS and the beneficiary, without fintech involvement in fund distribution or installment payments (OJK, 2021).

One of the main objectives of financial technology, particularly Sharia-based P2P Lending, is to provide accessible financial services to all members of society, especially those who struggle to obtain banking services or are considered unbankable. However, the convenience offered by fintech platforms, including Sharia P2P Lending, may lead to various issues if users do not approach these services with sufficient prudence. Potential problems include defaulted financing or the rise of overly consumptive behavior as people become too accustomed to the ease of access provided (Fatmawati et al., 2024).

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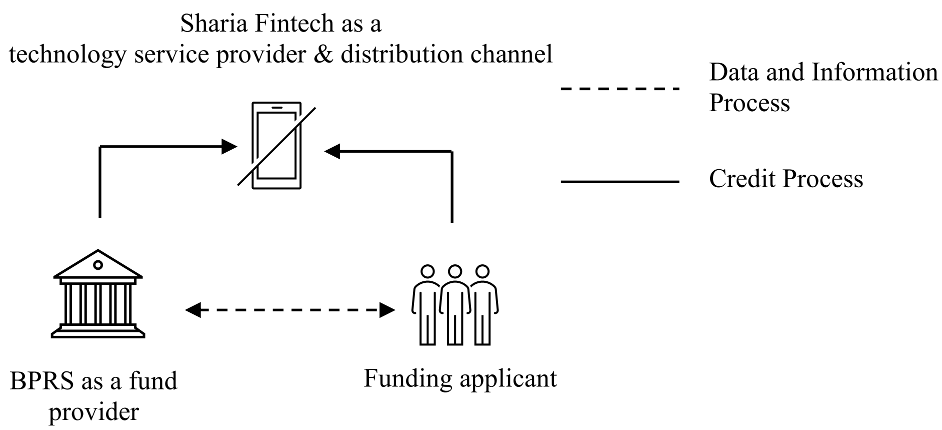
Model 2: Sharia Fintech as a Technology Enabler and a Distribution Channel

In the second model, the BPRS acts as a distribution channel, namely when the BPRS distributes financing to the beneficiary through a fintech platform. In this position, all credit risks remain the responsibility of the BPRS, while the fintech only acts as a technology service provider with authority limited by regulations and the contents of the Cooperation Agreement (*Perjanjian Kerjasama*/PKS). BPRS can distribute financing through two business schemes: (1) peer-to-peer financing (one to one financing), where one BPRS finances one beneficiary, and (2) many-to-one financing, where several BPRS (or in collaboration with Islamic Commercial Banks/other Islamic financial institutions) provide financing to one beneficiary, known as syndicated financing (OJK, 2021).

Figure 2. Fintech Sharia as Distribution Channel



Source: BPR & Fintech Lending Collaboration Guide (OJK, 2021)

The collaboration between the BPRS and P2P fintech is outlined in a Cooperation Agreement (PKS), which includes the cooperation scheme, prospective beneficiary criteria formulated in the Risk Acceptance Criteria (RAC), and operational mechanisms. Under this model, prospective beneficiary can apply for financing through the fintech platform. If the prospective beneficiary's profile aligns with the

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RAC, the fintech will submit complete data in the form of a factsheet or agreed-upon document to the BPRS. The BPRS then conducts an analysis and issues a decision to the fintech, which then forwards the approval to the beneficiary. After the financing agreement is signed, whether under a murabahah, mudharabah, or musyarakah contract, the BPRS transfers funds to the fintech to be forwarded to the beneficiary. Installment payments from the beneficiary are returned through the fintech platform and then channeled back to the BPRS. The entire monitoring process is carried out jointly by both parties according to the division of tasks stipulated in the PKS (OJK, 2021).

P2P Lending offers a number of benefits for both borrowers and lenders. For borrowers, the loan application process tends to be far more flexible, quick, and straightforward compared to traditional financial institutions such as banks. This is because P2P platforms generally impose fewer rigid requirements for approval. Even individuals with a poor credit history still have the opportunity to negotiate with the lending platform by explaining the circumstances that led to their financial issues. Additionally, certain P2P providers allow borrowers to obtain financing without any collateral, and even when collateral is requested, the terms are usually more accommodating. In many cases, documents such as invoices or purchase orders are accepted as sufficient security (Tampubolon, 2019).

Lenders also gain several advantages from participating in P2P lending. The industry is formally regulated and supervised by the Financial Services Authority (OJK) under Regulation No. 77/POJK.01/2016, ensuring a defined legal framework. Moreover, offering loans is extremely convenient, as the entire process can be managed digitally through a smartphone or computer. Lenders may also benefit from relatively high interest returns, which can make this type of investment more attractive compared to traditional options (Tampubolon, 2019).

Despite its advantages, P2P lending carries several drawbacks for both parties. Borrowers may face rising interest rates, particularly when their creditworthiness declines, and these rates can be higher than those offered by banks. Late payments

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also pose a significant risk, as outstanding amounts can escalate rapidly due to accumulated interest and penalties. P2P loans are generally more suitable for short-term needs because the longer the borrowing period, the higher the overall repayment amount becomes. There is also the possibility that the borrower's requested funds will not be fully met, in which case any collected money is returned to the lenders. Lenders, on the other hand, must accept that funds invested through P2P platforms cannot be withdrawn at will. Furthermore, they face the inherent risk of borrower default, which may result in a total loss of the funds they have provided (Tampubolon, 2019).

Model 3: Sharia Fintech as a technology enabler for creditworthiness assessment

The collaboration between BPRS and Islamic fintech serves as a strategic response to the limitations of traditional credit evaluation processes within BPRS, including limited data access and manual risk assessment practices (Bank Indonesia, 2020). By integrating fintech capabilities in alternative data analytics and machine learning based credit scoring, BPRS can significantly enhance the accuracy, efficiency, and scalability of their creditworthiness assessments (World Bank, 2022; Kozak, 2022). Fintech firms act as providers of risk analytics through sharia compliant scoring mechanisms, while BPRS retains full authority in financing decisions to ensure compliance with regulatory and Sharia governance frameworks (DSN-MUI, 2016; Otoritas Jasa Keuangan, 2021). The model emphasizes transparency in algorithms, secure and interoperable data exchange, and adherence to POJK and DSN-MUI guidelines to ensure that the collaboration aligns with technology governance and Islamic legal principles (Arner, Barberis, & Buckley, 2017).

In this model, the BPRS collects basic customer data and submits it to a sharia fintech. The sharia fintech, tasked with assessing creditworthiness, analyzes the data using machine learning credit scoring, or a sharia-compliant scoring model, and detects fraud and risk. The assessment results, whether deemed eligible or not, are returned to the BPRS to form the basis for financing decisions.

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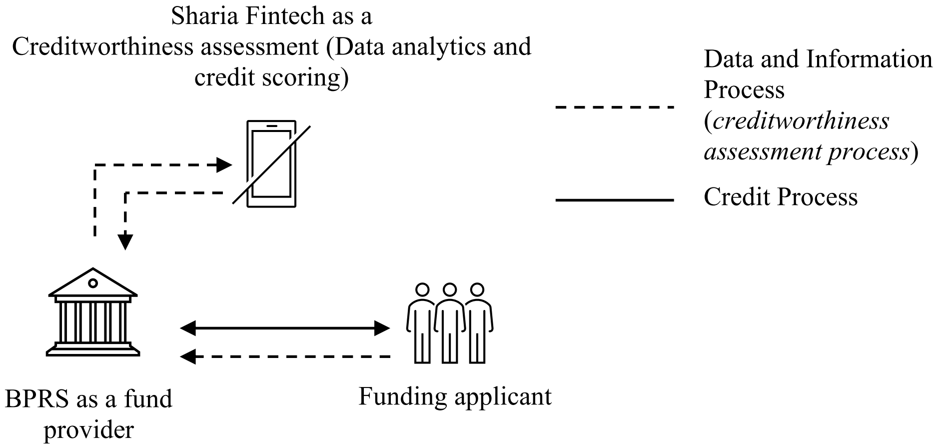
Figure 3. Sharia Fintech as Creditworthiness Assessment



The decomposition highlights several benefits and implications. For BPRS, collaboration improves operational efficiency, reduces credit risk, and expands outreach to micro and SME segments. For fintech firms, working with BPRS provides access to formal financial ecosystems and opportunities to innovate in Islamic digital finance (IFSB, 2018; Lee & Shin, 2018). However, challenges such as data privacy, cybersecurity, interoperability, and potential over-reliance on fintech analytics must be addressed through robust governance mechanisms (Otoritas Jasa Keuangan, 2021; Arner et al., 2017). Overall, this collaborative model represents a promising architecture for strengthening financial inclusion and enhancing the risk management capabilities of Islamic microfinance institutions (Bank Indonesia, 2020).

Model 4: Sharia Fintech as a Sharia Peer to Peer Financing Enabler

In the Peer to Peer (P2P) lending model, Islamic fintech acts as a marketplace that connects financing applicants with institutional lenders (Rozi et al., 2024). This approach allows individuals who are not direct customers of BPRS to access Sharia compliant financing through the fintech platform. The fintech platform conducts pre-screening and preliminary risk scoring (Otoritas Jasa Keuangan, 2024), while BPRS assumes the role of the primary funding institution. BPRS may choose to fully or

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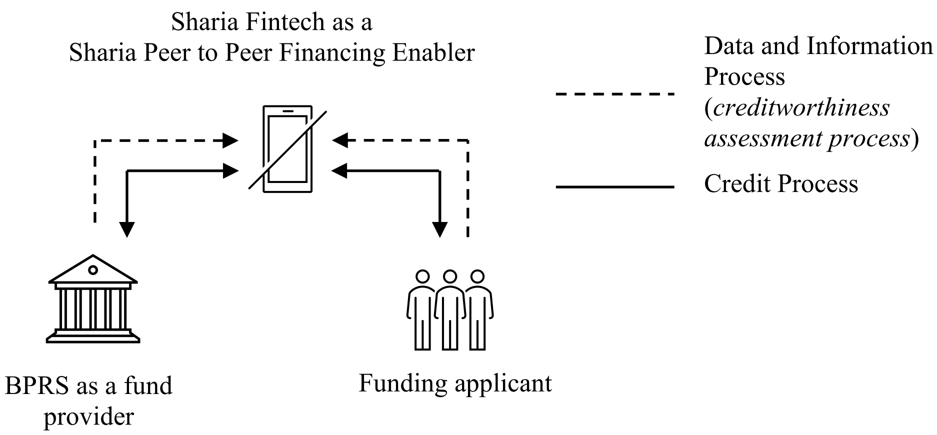
partially fund financing projects based on its risk appetite and internal policies. Once approved, the financing is disbursed through the fintech platform, which subsequently manages disbursement flows, repayment monitoring, and collections. BPRS receives returns in accordance with Sharia contracts applied (e.g., murabaḥah, musharakah, or mudharabah). This collaborative model enables BPRS to diversify its financing portfolio, reach wider markets without establishing physical branches, and leverage fintech data for more informed decision-making (Otoritas Jasa Keuangan, 2024). For applicants, the model broadens access to Sharia-based financing solutions.

Figure 4. Sharia Fintech as a Sharia Peer to Peer Financing Enabler



The fourth stage in this model begins when the applicant applies for financing through a sharia-compliant fintech platform. Fintech, which functions as a marketplace, plays a key role in the pre-screening process, preliminary risk scoring, and project listing preparation. In addition to providing a sharia-compliant P2P platform, fintech also ensures transparency and compliance with sharia principles. Operationally, fintech is responsible for managing fund disbursement, monitoring payments, and the collection and reminder process. Projects that have passed the initial selection process, along with their risk assessment results, are then presented for review by the BPRS. Based on this information, the BPRS selects projects to be financed, either through full funding or partial co-funding. In this model, the BPRS

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acts as an institutional financier, including re-verifying the fintech's scoring results if necessary. The BPRS determines the amount of financing based on risk appetite and establishes the sharia-compliant contract. Therefore, the BPRS is entitled to the return in accordance with the applicable contract. Fund disbursement and installment payments are conducted through the fintech platform, ensuring an integrated process from financing to repayment.

Which Collaboration Model Delivers the Highest Impact?

After elaborating on potential collaboration models between sharia fintech and BPRS, the next step is to perform weighting calculations to determine the most feasible model for adoption by BPRS and Fintech, based on input and insights from expert respondents, as mentioned in chapter 3.

Given that this research uses the ANP method, an ANP model/framework needs to be developed as a preliminary step. Figure 5 shows three levels of the ANP framework: the first level is objectives, the second level is criteria, and the third level is alternatives. At the second level, several criteria serve as the basis for ANP decision-making to determine the best model of Fintech and BPRS collaboration. These criteria include: (1) Business Benefits; (2) Operational Efficiency; (3) Risk Mitigation; (4) Readiness of BPRS Resources; and (5) Quality of Partnership Relationships.

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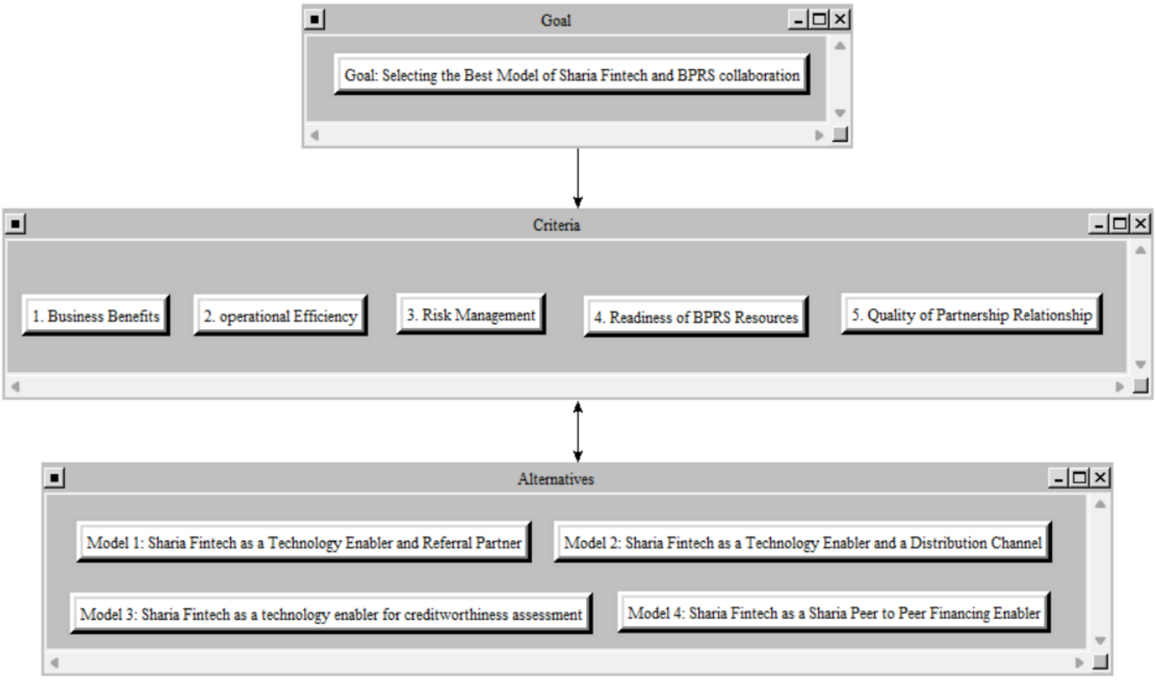
Figure 4. ANP Framework for Evaluating and Selecting Fintech–BPRS Partnership Models



Business benefits means that collaboration between fintech and banks/BPRS can open up opportunities to reach customers previously difficult for conventional banks, for example, MSMEs or customers in remote areas, because fintech generally has more flexible digital channels and a simpler application process. This can significantly increase the volume of financing disbursed, as fintech facilitates more efficient customer acquisition and initial administration. For example, literature shows that the use of fintech in the banking system can expand financial services and increase financial inclusion, especially for underserved segments (Frederik & Stefan, 2019).

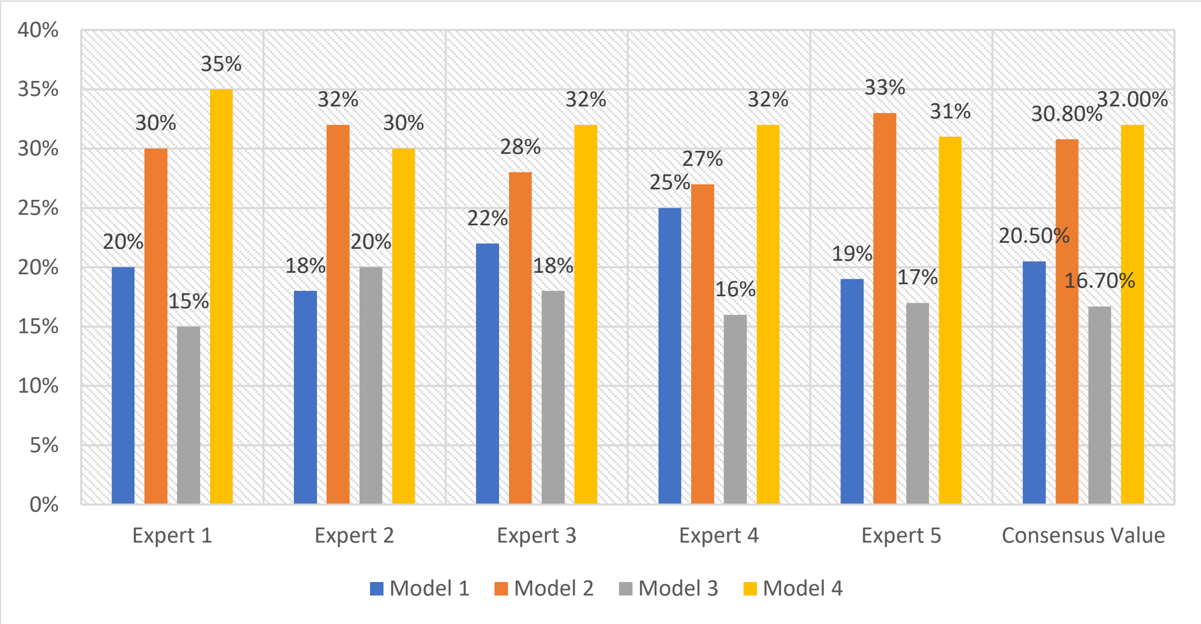
The adoption of fintech technology in banking operations (including BPRS) enables the automation of various previously manual processes, from registration and credit analysis to fund disbursement, thus significantly reducing operational costs (Luthfiatussa'dyah et al., 2022). Furthermore, financing processes and customer service become faster and more responsive, as fintech enables digital onboarding, rapid data processing, and lean transaction flows. Research shows that strategic partnerships between banks and fintech improve cost efficiency and operational management, as well as accelerate digital services to customers (Ao & Ji, 2025).

Fintech-bank/BPRS collaboration can also strengthen risk management through the use of modern technology: fintech can provide credit scoring systems, big data analysis, and real-time risk monitoring, thereby reducing the potential for non-performing loans. Furthermore, data transparency and analysis processes are enhanced, and risk responsibilities between fintech and BPRS can be clearly defined within the collaboration. Empirical research shows that fintech adoption significantly reduces the non-performing loan (NPF) ratio in commercial banks, due to improved asset efficiency and cost management (Allen et al., 2021); (Berg et al., 2020).

To maximize collaboration with fintech, BPRS must have human resources (HR) who understand fintech products, digital operations, and sharia principles, so they can properly evaluate, monitor, and implement the collaboration. Furthermore, the quality of the partnership between fintech and BPRS is crucial: each party must have clear roles (e.g., fintech as a technology/channeling provider, BPRS as a fund provider), revenue sharing, and accountability. A transparent and fair partnership allows both parties to work together with mutual trust and build a sustainable Islamic financial services ecosystem (Ao & Ji, 2025).

The following are the weighting results carried out by ANP as well as the rater agreement value using Kendall's coefficient of concordance calculation, and chi-square and p-value:

Graph 1. Geometric Mean value of the Alternative Model



Notes: Kendall's W = 0.840; X2 = 12.6; p-value: 0.005586

The graph above displays a comparison of the weighting of assessments from five experts on four fintech–BPRS collaboration models based on 5 (five) criteria. Each expert provides a percentage of each model's contribution to driving business benefits, operational efficiency, risk mitigation effectiveness, readiness of resources, and quality of partnership relationship. The graph pattern shows that Model 4 (Fintech as a Sharia Peer-to-Peer Financing Enabler) consistently received the highest weighting from almost all experts, while Model 3 (Fintech as a technology enabler for creditworthiness assessment) received the lowest weighting. This indicates a strong tendency that experts consider direct contributions to business expansion more important than indirect contributions such as improving the quality of analysis.

The consensus value was obtained using the Analytic Network Process (ANP) method, which combines the preferences of five experts into one global priority value. The consensus results indicate that Model 4 (32.00%) has the highest weight, followed by Model 2 (30.80%), Model 1 (20.50%), and finally Model 3 (16.70%). This preference stability is also reinforced by the Kendall's W = 0.840 result, which indicates a very

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strong level of expert agreement. Thus, the consensus result reflects not only the average value but also the synchronization of views among experts regarding the effectiveness of the collaboration model that has the most potential to impact BPRS business growth.

Model 4 is considered superior because it allows for direct increases in financing volume, expanded access to the MSME segment, and accelerated disbursement processes. Sharia P2P fintech is known to overcome the geographical limitations of Islamic rural banks (BPRS) and provide a financing marketplace that connects BPRS with a wider range of borrowers. The literature also supports this. For example, a study by Permata et al., (2023) stated that integrating P2P financing models can increase MSME financing penetration and expand the reach of Islamic financial institutions. These findings align with expert perceptions that P2P provides the most tangible business benefits compared to other models.

Model 3, fintech as a technology enabler for creditworthiness assessment, is considered to provide indirect benefits because it focuses only on improving the quality of risk analysis (scoring) and not on increasing financing volume itself. Although crucial for risk management, its contribution to business expansion is relatively small. This aligns with the literature stating that credit scoring technology has the greatest impact in reducing information asymmetry but does not automatically increase business volume unless combined with strong financing distribution channels (Moro et al., 2015); (Li et al., 2025). Therefore, experts prioritize models that have a direct impact on financing expansion.

Conclusion

This study has two main objectives: first, to analyze the various potential collaboration models between sharia fintech and BPRS in Indonesia, and second, to determine which collaboration models have the highest impact according to experts. The results indicate that there are four models that can be implemented as potential collaboration models between BPRS and sharia fintech. The first model is the Sharia Fintech as a

Technology Enabler and Referral Partner Model. In this model, sharia fintech acts as a referral, providing recommendations for potential customers to BPRS. The second model is the Sharia Fintech as a Technology Enabler and a Distribution Channel.

In this second model, sharia fintech also functions to channel funds and act as an intermediary for financing transfers between BPRS and customers. The third model is Sharia Fintech as a technology enabler for creditworthiness assessment. In this model, sharia fintech solely acts as a creditworthiness assessor. And model 4 is Sharia Fintech as a Sharia Peer-to-Peer Financing Enabler. In this fourth model, sharia fintech functions similarly to P2P sharia, namely presenting a project list from which BPRS can choose to fund. Financing transfers are also conducted through P2P sharia fintech. Based on the assessment results from experts, the fourth model is the most preferred model, while the third model is the least recommended model for implementation by BPRS and fintech.

Based on the conclusions above, the managerial implementation of this research requires determining the strategic direction of collaboration by prioritizing model 4. To accelerate collaboration between fintech and BPRS, a joint coordination team between BPRS and fintech is needed, with implementation under the supervision of the Sharia fintech association. For future research, this study could be expanded by developing a more diverse range of collaboration models between BPRS and sharia fintech, including integration with new technologies such as open banking, embedded Islamic finance, the use of AI-driven risk scoring, and collaboration through Islamic digital ecosystem platforms. Furthermore, future research also could increase the number and diversity of respondents, making the research results more robust, reliable, and more generalizable across national and regional contexts.

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