

## **A Comparison of Fintech Models : Peer to Peer Lending , Robo-Advisors and Blockchain based Solution in terms of their Sustainability, Scalability and Impact on Financial Inclusion**

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### **Abstract**

The rapid evolution of financial technology, or Fintech, has introduced a diverse array of innovative models reshaping the financial landscape. Among these, Peer-to-Peer (P2P) Lending, Robo-Advisors and Blockchain-based solutions stand out for their potential to disrupt traditional financial services. This article will delve into a comparative analysis of these three models, evaluating their sustainability, scalability, and impact on financial inclusion. Peer-to-Peer (P2P) lending platforms directly connect borrowers with individual or institutional lenders, disintermediating traditional financial institutions like banks. Sustainability for P2P lending hinges on maintaining a delicate balance between attracting both lenders and borrowers. This requires robust credit assessment mechanisms to minimize default rates and ensure attractive returns for lenders. Regulatory frameworks play a crucial role in fostering trust and stability within the P2P lending ecosystem. Scalability is often achieved through technological advancements that automate loan origination, servicing, and collection processes, allowing platforms to handle a larger volume of transactions and reach a wider geographical area. However, scalability can be constrained by the need to attract a sufficient pool of both lenders and creditworthy borrowers. In terms of financial inclusion, P2P lending can extend credit access to individuals and small businesses who might be underserved by traditional banks due to perceived higher risk or lack of collateral.

### **Keywords:**

Fintech, Lending, Robo-Advisors, Blockchain, Sustainability, Scalability, Financial, Inclusion

## Introduction

Robo-Advisors are digital platforms that provide automated, algorithm-driven financial planning and investment advice with minimal human intervention. Their sustainability relies on competitive pricing, user-friendly interfaces, and the ability to deliver consistent, risk-adjusted returns that meet client expectations. The scalability of Robo-Advisors is a significant advantage. Once the underlying algorithms and technology infrastructure are in place, they can onboard and manage a large number of clients with relatively low marginal costs. This scalability allows them to cater to a mass market, including smaller investors who might find traditional financial advisors too expensive. (Ferreira , 2021)

The impact of Robo-Advisors on financial inclusion is significant as they lower the barriers to accessing professional financial advice and investment opportunities. By offering low fees and requiring minimal investment amounts, they make wealth management services accessible to a wider range of individuals, including those with limited financial literacy or smaller savings. For example, a young professional just starting their career can begin investing with a Robo-Advisor with a small initial deposit and benefit from automated portfolio management tailored to their risk tolerance and financial goals.

Blockchain-based solutions leverage distributed ledger technology to create secure, transparent, and immutable records of transactions. In the context of finance, this technology has the potential to revolutionize various services, from payments and remittances to identity management and lending.

The sustainability of blockchain-based solutions depends on factors such as the energy efficiency of the underlying consensus mechanisms (e.g., moving towards more sustainable Proof-of-Stake models), the development of robust and secure protocols, and the establishment of clear regulatory frameworks. Scalability remains a challenge for some blockchain networks due to limitations in transaction processing speeds and network congestion. However, ongoing research and development are exploring solutions like layer-two scaling technologies and sharding to address these issues. (Easley , 2021)

The impact of blockchain on financial inclusion is potentially transformative. By reducing the need for intermediaries and lowering transaction costs, blockchain-based solutions can make financial services more accessible and affordable, particularly for the unbanked and underbanked populations. For instance, cross-border remittances, which are often expensive and time-consuming through traditional channels, can be facilitated more efficiently and at lower costs using blockchain-based payment systems.

Similarly, decentralized finance (DeFi) applications built on blockchain platforms aim to provide open and permissionless access to lending, borrowing, and other financial services, potentially bypassing traditional gatekeepers. Imagine a migrant worker sending money back home instantly and at a fraction of the cost compared to traditional money transfer services, or an individual without a formal identity document being able to access basic financial services through a blockchain-based digital identity system.

By leveraging alternative data sources for credit scoring and offering more flexible loan terms, P2P platforms can cater to a broader demographic, fostering greater financial inclusion. For instance, a small entrepreneur in a rural area might find it easier to secure a loan through a P2P platform than through a conventional bank demanding extensive documentation and a strong credit history.

One of the most significant ways P2P lending fosters financial inclusion is by expanding access to credit for individuals and small businesses that are often excluded from traditional banking services. These may include those with low credit scores, limited collateral, or residing in geographically remote areas. Traditional financial institutions often have stringent requirements and high operational costs, making it difficult and sometimes unprofitable to serve these segments. (Chen, 2020)

## Review of Literature

Bishnoi et al. (2021): P2P platforms, leveraging technology for streamlined processes and risk assessment, can offer more flexible and accessible loan options. For instance, individuals seeking small personal loans for education or medical emergencies, or micro-enterprises needing capital for growth, can find opportunities on P2P platforms that might be unavailable through conventional channels.

Patel et al. (2021): P2P lending can lead to more affordable credit for borrowers. By cutting out the overhead costs associated with traditional banks, P2P platforms can often offer loans with competitive interest rates and lower fees. This is particularly beneficial for financially vulnerable individuals and small businesses where the cost of borrowing can be a significant barrier.

Challapalli et al. (2020): The increased competition among lenders on these platforms can also drive down interest rates, making credit more accessible and sustainable for borrowers who might otherwise be relegated to high-cost informal lending sources.

Johnston et al. (2021): P2P lending also empowers lenders, enabling a broader range of individuals to participate in the financial system as providers of capital. This democratization of lending allows people to earn potentially higher returns on their savings compared to traditional savings accounts, fostering greater financial engagement.

Liao et al. (2021): Some P2P platforms facilitate socially responsible lending, allowing individuals to invest in projects or support borrowers whose missions or circumstances align with their values, creating a sense of participation and impact beyond mere financial returns.

## Study on Fintech Models

Peer-to-peer lending holds significant promise for advancing financial inclusion by expanding access to credit, potentially lowering borrowing costs, and empowering a diverse range of lenders. By leveraging technology to connect borrowers and lenders directly, P2P platforms can serve individuals and businesses often excluded by traditional financial institutions. However, it is crucial to address the challenges related to over-indebtedness, credit risk

management, and the establishment of appropriate regulatory frameworks to ensure that P2P lending serves as a responsible and sustainable tool for fostering a more inclusive financial ecosystem.

However, the impact of P2P lending on financial inclusion is not without its challenges and risks. One significant concern is the potential for increased indebtedness among vulnerable populations if not adequately regulated and if borrowers lack sufficient financial literacy. The ease of access to credit through online platforms could lead to over-borrowing if individuals do not fully understand the terms and conditions of their loans.

Another challenge lies in assessing and managing credit risk effectively, especially for borrowers with limited or no traditional credit history. While P2P platforms utilize various alternative data sources and technological tools for credit evaluation, the risk of default can still be higher compared to traditional lending. This risk needs to be carefully managed to protect both lenders and the overall stability of the P2P ecosystem.

Regulatory frameworks play a crucial role in ensuring that P2P lending contributes positively to financial inclusion while mitigating potential risks. Regulations can provide a level playing field, protect consumers, and foster trust in the system. Striking the right balance between enabling innovation and ensuring responsible lending practices is essential for the sustainable growth and impact of P2P lending on financial inclusion.

While the search results do not directly discuss the impact of "Robo-Advisors" as a specific entity on financial inclusion, they offer valuable insights into the broader role of robo-advisors and technology in expanding financial access. Based on these insights and general knowledge, we can analyze the potential impact.

Financial Inclusion refers to ensuring that individuals and businesses, particularly those marginalized or underserved, have access to and use affordable and appropriate financial services. These services include transactions, payments, savings, credit, and insurance. Financial inclusion is recognized globally as a key enabler for reducing poverty, boosting prosperity, and achieving sustainable development goals.

Robo-Advisors are digital platforms that provide automated, algorithm-driven financial planning and investment management services with minimal human supervision. They typically use questionnaires to assess a client's financial situation, risk tolerance, and goals, and then offer personalized recommendations and portfolio management.

Robo-advisors often have lower fees compared to traditional human financial advisors because they automate many processes. This lower cost structure can make financial advice and investment management accessible to individuals with lower incomes or smaller amounts to invest, who might have been previously excluded due to high costs. As online platforms, robo-advisors can reach a wider audience, including those in remote areas or those who prefer the convenience of digital services. This can overcome geographical barriers and make financial services available to underserved populations.

Traditional wealth management often requires significant minimum investment amounts, which can be a barrier for many. Robo-advisors typically have much lower or no minimums, allowing individuals with smaller savings to start investing and building wealth. The automated nature of robo-advisors can lead to more efficient processes and transparent fee structures, building trust and encouraging participation, especially among those who may be wary of traditional financial institutions.

Robo-advisors can provide personalized investment strategies and recommendations based on individual financial goals and risk profiles, making tailored advice accessible to a larger segment of the population. By providing educational resources and tools, some robo-advisor platforms can help improve financial literacy among their users, empowering them to make more informed financial decisions. Robo-advisors can target customer segments that have historically been neglected by traditional wealth management institutions due to a lack of funds, such as millennials and those with smaller portfolios.

Access to technology and digital literacy are prerequisites for using robo-advisor platforms. The digital divide could exclude individuals without internet access or digital skills. Furthermore, a basic level of financial literacy is still needed to understand the recommendations and use the platforms effectively. Some individuals may prefer or require face-to-face interaction and personalized guidance from a human advisor, especially for

complex financial situations or when building trust. Robo-advisors, being automated, may not fully cater to this need.

The regulatory frameworks for robo-advisors are still evolving in many regions, and it's crucial to ensure that these platforms operate responsibly and protect consumers, especially those who are new to formal financial services. Building trust in automated financial advice, especially among underserved populations who may have limited experience with formal financial institutions, can be a challenge. Many current robo-advisor platforms primarily focus on investment management. Financial inclusion encompasses a broader range of services, including basic banking, credit, and insurance, which may not be fully addressed by these platforms.

Rabo Partnerships (formerly Rabo Development and Rabo International Advisory Services), part of the Rabobank Group, focuses on improving financial inclusion, private sector development, and food security in emerging markets. Their approach involves leveraging Rabobank's knowledge and experience in banking, agriculture, rural areas, and cooperatives.

While not directly termed "Rabo-Advisors" in the context of automated investment platforms, Rabo Partnerships undertakes advisory projects to strengthen local financial institutions and key players in agricultural value chains. This work indirectly contributes to financial inclusion by advising and supporting the development of robust and inclusive financial systems in emerging economies, working with partners to create financial products and services tailored to the needs of underserved populations, including smallholder farmers and rural communities, building new ventures and developing digital solutions with partners to enhance the reach and efficiency of financial services and collaborating with technology-driven companies like SatSure to bridge information gaps and make financial inclusion easier for unbanked farmers through innovative solutions like satellite data for risk assessment.

While "Rabo-Advisors" as a direct provider of robo-advisory platforms for retail investors might not be explicitly evident in the search results, the broader trend of technology-driven financial services, including robo-advisors, holds significant potential to advance financial inclusion by lowering costs, increasing accessibility, and offering personalized solutions at scale.

Organizations like Rabo Partnerships play a crucial role in fostering financial inclusion in emerging markets through their advisory work, institutional strengthening, and promotion of innovative, often digital, solutions tailored to the specific needs of underserved populations and sectors like agriculture. The key to maximizing the positive impact lies in addressing the challenges related to the digital divide, financial literacy, regulation, and trust, ensuring that technological advancements truly benefit those who are currently excluded from the formal financial system.

One of the most significant impacts of blockchain on financial inclusion lies in its ability to reduce transaction costs and streamline processes. Traditional financial institutions often involve multiple intermediaries, each adding their fees and slowing down transactions. Blockchain, by its inherent peer-to-peer nature, eliminates these intermediaries, enabling faster and cheaper transfers, especially for cross-border remittances which are a lifeline for many low-income families. Imagine a migrant worker in a distant country sending money home with minimal fees and near-instantaneous delivery – blockchain makes this a tangible reality.

Furthermore, blockchain can significantly enhance access to financial services for the unbanked. A major hurdle for the unbanked is the lack of formal identification required by traditional institutions. Blockchain-based digital identity solutions offer a secure and portable way to establish identity, even without traditional documents. Self-sovereign identity systems, where individuals control their own data stored on a blockchain, can empower marginalized populations to participate in the formal economy, access credit, and receive government benefits.

The transparency and immutability of blockchain also foster trust and accountability, crucial elements for financial inclusion. Every transaction recorded on a blockchain is publicly verifiable and tamper-proof, reducing the risk of fraud and corruption. This transparency can build confidence among users, particularly those who have historically been excluded or distrustful of traditional financial systems. Moreover, smart contracts, self-executing agreements coded on the blockchain, can automate financial processes, ensuring fair and transparent execution of loans, insurance claims, and other financial instruments.

Moreover, blockchain can facilitate the development of innovative and tailored financial products and services for underserved populations. Decentralized finance (DeFi) platforms, built on blockchain technology, offer alternative avenues for lending, borrowing, and investing, potentially bypassing the limitations of traditional banking infrastructure. Microfinance initiatives can leverage blockchain to manage small loans more efficiently and transparently, reaching individuals in remote areas with greater ease. The tokenization of assets, such as fractional ownership of real estate or commodities, can also lower the barrier to entry for investment, allowing even small-scale savers to participate in wealth-building opportunities.

However, the widespread adoption of blockchain for financial inclusion is not without its challenges. Scalability issues, the ability of blockchain networks to handle a large volume of transactions, need to be addressed. Regulatory frameworks are still evolving, and clarity is needed to foster innovation while protecting consumers. Digital literacy and access to technology remain significant barriers for many of the financially excluded, requiring concerted efforts in education and infrastructure development.

In conclusion, blockchain technology presents a powerful paradigm shift in the pursuit of financial inclusion. Its ability to reduce costs, enhance access, foster transparency, and enable innovative solutions holds the key to unlocking economic opportunities for billions of underserved individuals and businesses worldwide. While challenges remain, the transformative potential of blockchain to bridge the financial divide is undeniable. As the technology matures and adoption grows, we can expect to see a more inclusive and equitable global financial landscape, empowering individuals and communities to build a more prosperous future.

## **Conclusion**

While each of the Fintech models offers unique advantages, their sustainability, scalability, and impact on financial inclusion vary. P2P lending has the potential to broaden credit access but faces challenges in balancing lender and borrower interests and navigating regulatory complexities. Robo-Advisors excel in scalability and have significantly lowered the barriers to accessing financial advice and investment management. Blockchain-based solutions hold immense promise for enhancing transparency, reducing costs, and fostering financial inclusion,

particularly for underserved populations, although scalability and regulatory clarity remain key areas of development. Ultimately, the continued evolution and adoption of these Fintech models, coupled with thoughtful regulatory frameworks, will be crucial in shaping a more efficient, accessible, and inclusive global financial system.

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