Proceedings of ICFTBA 2026 Symposium: Digital Government, Finance, Accountability, and Sustainable Economic Development
DOI: 10.54254/2754-1169/2026.AB38803

The Transformation of Traditional Banking Business Models in the FinTech Era

Yixin Liu

Newcastle Business School, The University of Newcastle, PSB Academy, Singapore, Singapore
yeniciapuff0129@gmail.com

Abstract. Financial technology (FinTech) has moved from a set of specialised digital services to a major force that reshapes how banks create, deliver and capture value. This paper examines how FinTech transforms traditional banking business models, with attention to digital service delivery, open banking, data-driven risk management, operating efficiency, revenue sources and financial inclusion. It draws on recent academic literature and policy reports, using Singapore's digital-banking development as an illustrative context rather than a single-bank case study. The analysis finds that FinTech unbundles parts of the banking value chain and increases competition, but it does not make regulated banks obsolete. Instead, traditional banks are moving from branch-centred, vertically integrated institutions towards hybrid digital platforms that combine trusted balance sheets and regulatory capabilities with application programming interfaces (APIs), analytics and external partnerships. These changes can improve customer convenience, reduce marginal service costs and extend access, but they also create cybersecurity, privacy, model risk and profitability pressures. The paper therefore concludes that sustainable transformation depends on balancing innovation with governance, inclusion and customer trust.

Keywords: FinTech, traditional banking, digital transformation, open banking, financial inclusion

1. Introduction

FinTech refers to the use of digital technologies to design, distribute and manage financial services. Mobile applications, cloud computing, artificial intelligence, big-data analytics and application programming interfaces (APIs) have lowered entry barriers and enabled specialised firms to compete in payments, lending, investment and financial infrastructure. The resulting change presents both opportunities and risks for banks [1]. FinTech research initially emphasised disruption and the unbundling of financial services, while more recent work treats digital transformation as an organisational and strategic change rather than the simple adoption of new technology [2, 3]. Regulated banks still possess important advantages in deposits, capital, customer trust and compliance, suggesting that FinTech is more likely to transform traditional banking business models than lead to their complete replacement [4].

However, some existing discussions focus primarily on individual technologies or digital products, with less attention to how these changes reshape the broader business-model logic of

© 2026 The Authors. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (https://creativecommons.org/licenses/by/4.0/).

DOI: 10.54254/2754-1169/2026.AB38803

traditional banks, including how banks create value for customers, deliver that value and generate income from it. This paper therefore asks: how does FinTech transform the service, risk, operating and revenue components of traditional banking business models, and what opportunities and challenges follow? The discussion draws on recent peer-reviewed studies and selected policy reports. Singapore's digital-banking environment is then used to illustrate the broader mechanisms identified in the literature. This approach helps clarify which traditional strengths remain valuable, which activities may require redesign, and which risks require stronger governance as digital banking develops.

2. The development of FinTech and its disruption of the banking industry

2.1. Definition and development of FinTech

FinTech is best understood as the technology-enabled reorganisation of financial activities rather than as one product or one type of company. It covers customer-facing services such as mobile payments and robo-advice, as well as infrastructure including cloud processing, digital identity, data analytics and regulatory technology. The modern FinTech wave accelerated after the global financial crisis, when weakened trust in established institutions, regulatory changes and the spread of smartphones created favourable conditions for low-cost digital distribution. Investment and experimentation first produced specialist challengers that targeted narrow points in the value chain. Over time, the same technologies became part of mainstream banking infrastructure, and FinTech evolved from an external challenge into a set of capabilities that banks could build, purchase or access through partnerships [2]. Consequently, the present phase is characterised by competition and integration at the same time.

2.2. Traditional banking business models

A traditional commercial bank is organised around deposit-taking and lending. It accepts relatively stable customer deposits, transforms them into loans and earns income from financial intermediation and maturity transformation while managing associated risks. Services are distributed mainly through branches and employee relationships, so physical coverage, a recognisable brand and balance-sheet capacity create competitive advantages. Additional income comes from transaction, account, card and advisory fees. Customer management is relationship-based: information accumulates through repeated interactions, while product design and approval processes remain mainly inside the institution. The supporting financial infrastructure is comparatively closed, with proprietary systems linking products, data and compliance functions. This vertically integrated model promotes control and trust, but it also creates high fixed costs, slow product development and dependence on legacy systems. These characteristics form the baseline against which FinTech-driven change should be assessed.

2.3. FinTech disruption

FinTech disrupts banking by unbundling activities that were previously supplied together. A payment firm can own the customer interface without taking deposits, a lending platform can match borrowers and funding without maintaining a branch network, and a software provider can supply identity, fraud or compliance functions to many institutions. This unbundling changes the location of value creation across the banking value chain. Customers can therefore compare and switch services

DOI: 10.54254/2754-1169/2026.AB38803

more easily, while specialist firms can focus on one stage of the value chain without carrying the cost of a universal bank. Survey-based evidence also indicates that rapid FinTech growth creates competitive pressure while trust and security remain important advantages for incumbents [5]. Disruption should not therefore be interpreted only as substitution. It also pressures banks to digitise processes, open selected infrastructure and reconsider where value is created internally and where external capability is more efficient.

3. The digital transformation of traditional banking business models

The effects of FinTech can be organised around four connected dimensions: service delivery, ecosystem relationships, risk management, and operating and revenue models. Table 1 summarises the shift from the traditional configuration to a digitally enabled model.

Table 1. Core dimensions of banking business-model transformation

Dimension	Traditional model	FinTech-driven change	Main trade-off
Service delivery	Branches and product-centred contact	Mobile-first, real-time and personalised journeys	Convenience versus digital exclusion
Infrastructure and partners	Closed, vertically integrated systems	APIs, open banking and ecosystem collaboration	Innovation versus third-party dependence
Risk management	Historical data and periodic review	Real-time analytics and automated decisions	Speed versus opacity, bias and cyber risk
Operations and revenue	Manual processes, interest and transaction fees	Automation, platforms and diversified fee income	Scale benefits versus transition cost and fee pressure

3.1. Service models

The service model is moving from branch-first distribution towards mobile-first and omnichannel delivery. Customers increasingly seek continuous access, rapid onboarding, real-time payments and consistent support across applications, websites, call centres and branches. Digital identity and automated workflows shorten routine transactions, while analytics allow banks to personalise prompts, pricing and product recommendations. This changes value delivery in two ways. First, the bank becomes available at the customer's point of need instead of requiring a visit to a fixed location. Second, the interface becomes a continuing service relationship supported by data rather than a series of isolated product sales. Branches may still be valuable for complex advice and trust-sensitive decisions, but their role shifts from transaction processing towards advisory support. The competitive question is therefore not whether all branches disappear, but how physical and digital channels are combined without producing fragmented experiences.

3.2. Open banking and bank- FinTech collaboration

Open banking uses consent-based APIs to allow authorised third parties to access selected account data or initiate payment-related services. It challenges the closed-infrastructure model because the bank may no longer control every stage of the customer journey. At the same time, APIs can turn the bank's regulated capabilities into reusable services for partners. Traditional banks can respond by

DOI: 10.54254/2754-1169/2026.AB38803

building technology internally, investing in or acquiring FinTech firms, or forming commercial partnerships. Recent evidence shows that a bank's existing asset, funding and income structure influences its willingness to make FinTech acquisitions [6]. Cross-country research also describes an emerging coopetitive ecosystem in which incumbents and challengers compete for customers but depend on shared infrastructure and complementary capabilities [7]. Studies of bank- FinTech interaction similarly show that cooperation is a strategic route to innovation rather than an exceptional arrangement [8].

This development changes both value creation and value capture. Banks can combine account infrastructure, compliance and balance-sheet capacity with a partner's interface or analytics, then generate revenue through platform, processing or partnership-based services. Open-banking theory further suggests that data portability changes competition and customer switching by reallocating control over information [9]. However, collaboration also creates dependence on third parties. Clear responsibility for consent, data quality, service failure and complaint handling is required if ecosystem growth is not to weaken accountability.

3.3. Risk management

Traditional risk management relies heavily on historical account information, standard scorecards, periodic monitoring, and manual review. FinTech expands the volume and speed of data available for credit assessment, fraud detection, and compliance. Machine-learning systems can identify unusual transactions in real time, and alternative data can help assess applicants with limited formal credit histories. This may reduce processing time and improve the precision of some decisions. Yet data-driven risk management also introduces model opacity, bias, cyber dependence, and questions about lawful data use. A technically accurate model may still be unsuitable if customers cannot understand or challenge its outcomes.

Risk management therefore becomes continuous and technology-dependent rather than only a control applied after a transaction. The Basel Committee notes that digitalisation can produce efficiency and competition benefits while increasing strategic, operational, cyber, data, and third-party risks [10]. Banks must retain human oversight, validate models, monitor data drift, and plan for outages across cloud and partner systems. FinTech changes the tools of risk management, but it does not transfer the bank's ultimate responsibility for safe and fair decisions.

3.4. Operating and revenue models

Digitalisation can reduce the marginal cost of routine services by automating onboarding, documentation, reconciliation, and customer inquiries. Cloud-based and modular systems may also shorten development cycles and allow capacity to scale more flexibly. These gains alter the operating model from labour-intensive processing towards technology, data, and product-management capabilities. However, the transition requires substantial investment in legacy-system integration, cyber resilience, specialist staff, and parallel systems during migration. Efficiency benefits are therefore neither immediate nor automatic.

The revenue model also becomes more diverse. Interest income from lending remains central, but banks can add subscription services, payment and platform fees, partner commissions, and embedded-finance income. At the same time, price transparency and low-cost digital competitors compress transaction fees, while easy switching makes customer retention more difficult. Banks must avoid treating digital channels merely as cheaper versions of branches. A viable banking

DOI: 10.54254/2754-1169/2026.AB38803

business model therefore needs to link operating redesign to a clear source of value, such as faster decisions, trusted advice, convenient ecosystems, or access to previously uneconomic segments.

4. Opportunities and challenges

4.1. Operational efficiency and customer experience

The main opportunity is the combination of lower process costs with a more responsive customer experience. Straight-through processing reduces repeated data entry and errors, while self-service releases employees for complex cases. Real-time information can make cash-flow management, alerts and customer support more useful. Digital records also provide feedback that helps banks redesign services around actual behaviour. Nevertheless, efficiency should be measured across the complete customer journey. A fast application followed by manual delays, repeated identity checks or poor exception handling can move rather than remove costs. Banks therefore need common data standards and coordinated channel design so that customers can move between digital and human assistance without restarting the process.

4.2. FinTech and financial inclusion

FinTech can support financial inclusion through digital channels, low-cost services and alternative credit mechanisms. Mobile access reduces distance and branch-opening constraints, while automation can make small payments, savings products and low-value loans economically viable. Digital records and carefully governed alternative data may help assess individuals or small firms that lack collateral or a long formal credit history. Evidence from the United States Paycheck Protection Program indicates that FinTech lenders may help reduce some geographic and institutional disparities in access to emergency business finance [11]. A recent systematic review also identifies novel services and changing stakeholder roles as important channels linking FinTech to inclusion [12].

However, digital availability is not the same as effective inclusion. Limited connectivity, low digital literacy, inaccessible design, language barriers and fear of fraud can exclude the same groups that a service intends to reach. Alternative data may also reproduce social disadvantage or produce decisions that are difficult to contest. Banks should therefore combine low-cost digital delivery with assisted channels, transparent pricing, accessible design and meaningful appeal procedures.

4.3. Cybersecurity, data privacy and regulatory challenges

As banking becomes API-connected and cloud-dependent, the potential attack surface expands beyond the bank's own systems. Account takeover, data theft, ransomware, payment fraud, and service outages can damage customers directly and undermine trust in digital channels. Data aggregation creates further privacy concerns because formal consent does not always ensure meaningful user understanding. Cross-border processing and multiple service providers also make responsibility more difficult to trace.

Regulation must protect consumers and financial stability without freezing useful innovation. Banks need security-by-design, strong authentication, encryption, continuous monitoring and tested incident response. Contracts with technology partners should specify audit access, data location, resilience standards and exit arrangements. Credit innovation requires similar caution: evidence on FinTech borrowing shows that rapid, data-rich lending does not automatically eliminate screening

DOI: 10.54254/2754-1169/2026.AB38803

and pricing problems [13]. Effective governance must therefore cover algorithms and customer outcomes as well as technical security.

4.4. Competition and profitability pressure

FinTech intensifies competition at the profitable edges of banking. Specialist providers can focus on payments, foreign exchange, consumer credit or wealth interfaces, leaving banks with heavily regulated infrastructure and lower-margin balance-sheet activities. Big technology platforms can add distribution, data and network effects to this pressure. Meanwhile, incumbents must fund transformation while maintaining old systems and meeting capital and compliance requirements. The result can be a short-term profitability squeeze even when digital investment is strategically necessary.

Banks nevertheless retain advantages that are difficult to reproduce: trusted deposit relationships, access to payment and settlement systems, risk expertise, and experience operating under prudential regulation. Sustainable profitability is most likely when these strengths are combined with selective digital capabilities. Competing with every FinTech product is less effective than deciding which customer relationships and regulated functions are strategically central and which capabilities can be sourced through a governed ecosystem.

5. Discussion and future directions

5.1. Singapore digital banking as an illustrative context

Singapore provides a useful context for illustrating the preceding argument because policy has encouraged innovation while maintaining a strong regulatory framework. International analysis shows that digital finance can change market structure by lowering information and distribution costs, encouraging new entry and increasing the importance of data and platforms [14]. In Singapore, the Monetary Authority of Singapore's award of two digital full bank licences and two digital wholesale bank licences in 2020 created a controlled route for new digital-full and digital-wholesale banks to enter the market [15]. The importance of this development is not limited to the performance of one bank. It illustrates how regulation, digital entry, and established institutions interact.

The Singapore context reflects the four transformation dimensions identified above: digital onboarding and service delivery, ecosystem competition and partnerships, data-intensive risk and governance, and alternative cost and revenue structures. Incumbent banks are therefore pressured to improve digital experiences and partnership capabilities while continuing to provide trusted deposits, risk control, and regulatory compliance. Singapore supports the conclusion that FinTech changes the configuration of banking rather than simply removing traditional banks from the system.

5.2. Future of traditional banking business models

The likely future is a hybrid model. Banks will remain responsible for regulated balance-sheet and trust functions, but more products will be assembled through modular technology and specialist partners. The strongest institutions will treat data governance, cyber resilience and API management as core business capabilities rather than back-office concerns. Physical channels will become smaller and more advisory, while routine activity moves to digital platforms. Revenue will depend

DOI: 10.54254/2754-1169/2026.AB38803

less on isolated transactions and more on long-term customer value, integrated services and responsible use of information. Success will therefore require organisational change: incentives, skills and accountability must develop together with technology. A bank that digitises its interface but preserves fragmented processes and closed decision-making has changed its channel, not its business model.

6. Conclusion

FinTech is transforming traditional banking business models by changing how banks create, deliver, and capture value. The central finding is that digital disruption does not necessarily replace regulated banks. Instead, it unbundles the banking value chain and forces incumbents to redesign a model historically based on deposits and loans, branch distribution, transaction fees, relationship banking, and closed infrastructure. Digital and omnichannel services alter value delivery, open banking and partnerships turn the bank from a self-contained producer into an ecosystem participant, data analytics make risk management faster but more technology-dependent, and automation and platform activity change both cost structures and possible revenue sources. These changes create opportunities for efficiency, personalisation and wider access through low-cost digital channels and alternative credit assessment. They also create material challenges involving cybersecurity, privacy, biased or opaque models, third-party dependence, fee compression, and the cost of modernising legacy systems.

Singapore's digital-banking development illustrates this combined pattern of entry, regulatory control and incumbent adaptation. It supports the conclusion that the future bank is likely to be hybrid: digitally distributed and externally connected, but still anchored in trust, prudential responsibility and balance-sheet capability. This paper is limited by its reliance on secondary literature and by using Singapore as an illustrative context rather than conducting a bank-level empirical comparison. Future research could compare cost-to-income ratios, service access, customer trust, and risk outcomes across traditional and digital banks over a longer period. It could also test whether alternative data improves inclusion after accounting for bias and customer appeals. For practice, the priority is not technology adoption by itself. Sustainable transformation requires banks to connect digital investment with a clear business-model purpose and to build governance, resilience, and accessible customer support into that model from the beginning.

References

[1] Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. *International Review of Financial Analysis, 81*, 102103. doi:10.1016/j.irfa.2022.102103.

[2] Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems, 35*(1), 220-265. doi:10.1080/07421222.2018.1440766.

[3] Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., et al. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889-901. doi:10.1016/j.jbusres.2019.09.022.

[4] Boot, A. W. A., Hoffmann, P., Laeven, L., & Ratnovski, L. (2021). Fintech: What's old, what's new? *Journal of Financial Stability, 53*, 100836. doi:10.1016/j.jfs.2020.100836.

[5] Basdekis, C., Christopoulos, A., Katsampoxakis, I., & Vlachou, A. (2022). FinTech's rapid growth and its effect on the banking sector. *Journal of Banking and Financial Technology, 6*, 159-176. doi:10.1007/s42786-022-00045-w.

[6] Alfhaili, F. A., Bakoush, M., & Wolfe, S. (2025). The role of banks' business models in their FinTech acquisitions. *Journal of Financial Services Research*. doi:10.1007/s10693-024-00442-w.

DOI: 10.54254/2754-1169/2026.AB38803

[7] Larsson, B., Rolandsson, B., Ilsøe, A., Larsen, T. P., Lehr, A., & Masso, J. (2024). Digital disruption diversified-FinTechs and the emergence of a coopetitive market ecosystem. *Socioeconomic Review, 22*(2), 655-675. doi:10.1093/ser/mwad046.

[8] Hornuf, L., Klus, M. F., Lohwasser, T. S., & Schwienbacher, A. (2021). How do banks interact with fintech startups? *Small Business Economics, 57*(3), 1505-1526. doi:10.1007/s11187-020-00359-3.

[9] He, Z., Huang, J., & Zhou, J. (2023). Open banking: Credit market competition when borrowers own the data. *Journal of Financial Economics, 147*(2), 449-474. doi:10.1016/j.jfineco.2022.12.003.

[10] Basel Committee on Banking Supervision. (2024). Digitalisation of finance. Bank for International Settlements. Basel.https://www.bis.org/bcbs/publ/d575.htm

[11] Erel, I., & Liebersohn, J. (2022). Can FinTech reduce disparities in access to finance? Evidence from the Paycheck Protection Program. *Journal of Financial Economics, 146*(1), 90–118. doi:10.1016/j.jfineco.2022.05.004.

[12] Ha, D., Le, P., & Nguyen, D. K. (2025). Financial inclusion and fintech: A state-of-the-art systematic literature review. *Financial Innovation, 11*, 69. doi:10.1186/s40854-024-00741-0.

[13] Di Maggio, M., & Yao, V. (2021). Fintech borrowers: Lax screening or cream-skimming? *Review of Financial Studies, 34*(10), 4565–4618. doi:10.1093/rfs/hhaa142.

[14] Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). Fintech and the digital transformation of financial services: Implications for market structure and public policy [Internet]. Bank for International Settlements. (BIS Papers No. 117). Basel.Available from: https://www.bis.org/publ/bppdf/bispap117.htm

[15] Monetary Authority of Singapore. (2020, December 4). MAS announces successful applicants of licences to operate new digital banks in Singapore [Internet]. *Monetary Authority of Singapore*. Singapore.Available from: https://www.mas.gov.sg/news/media-releases/2020/mas-announces-successful-applicants-of-licences-to-operate-new-digital-banks-in-singapore