



Article

Consumer Protection in FinTech Services: An Emerging Policy Challenge

Article History:

Name of Author:

Mr. Yogendra Jain¹, Dr. M. P. Chandrika²,
Mr. Vaibhav Kumar³, Dr. Yaman Kasturi⁴

Affiliation:

¹Assistant Professor (Senior Scale),
School of Law, UPES,
Dehradun.

²Principal, BVVs. S. C. Nandimath Law
College, Vidyagiri, Bagalkot, Karnataka.
India.

³Assistant Professor, Teerthanker
Mahaveer College of Law & Legal Studies,
Teerthanker Mahaveer University,
Moradabad.

⁴Ph.d., Faculty of Law, Jamia Millia Islamia,
New Delhi.

Email ID : Yamankasturi15@gmail.com

How to cite this article: Mr. Yogendra Jain, Dr. M. P. Chandrika, Mr. Vaibhav Kumar, Dr. Yaman Kasturi Consumer Protection in FinTech Services: An Emerging Policy Challenge Technological Advancement and AI. *J Int Commer Law Technol.* 2025;6(1): 460-465.

©2025 the Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)

Abstract: N/A

Keywords: N/A

INTRODUCTION

The rapid development of financial technology has completely transformed the appearance of the global financial system by introducing new services and business models based on the use of digital technologies such as blockchain and artificial intelligence to make them more accessible and efficient (Vijayagopal et al., 2024)(Pulatov, 2025). This technological implementation, not necessarily limited to mobile payments, but also to robo-advisors, has democratized the financial systems, which is especially beneficial to the individuals and small businesses that only used to be underserved by regular banking institutions (Tan, 2025). However, the rapid evolution also includes amazing regulatory challenges, because it needs to deeply examine the consumer protection systems to minimise

risks that appear (A & Prastyanti, 2025). Specifically, the adoption of artificial intelligence in FinTech and the opportunities to provide individual services and access to data at the right time also brings about the problem of data privacy, use of bias, and visibility of service provision. Even though such AI-based operations may become tremendous in terms of efficiency in such areas as fraud detection and algorithm trading, they also are challenged by the issues of data privacy invasions and lack of transparency in the scope of automated decision-making (Mirishli, 2025). The convergence of AI and FinTech needs robust regulatory and ethical provisions to avoid the traps such as data security, algorithm transparency, or accountability in the delivery of financial products (Uzougbo et al., 2024). These issues are crucial to examine in detail as a policy to tackle these threats is developed to

enhance innovations without threatening the interests of consumers (Tan, 2025). The point of the current review paper, therefore, is to overview current literature in the field of consumer protection in FinTech service and to provide recommendations on where it may be efficient to build the policy under thought in the framework of AI implementation. It will observe how those current regulatory systems are in line with these technological changes and what new policies must be enacted to ensure consumer confidence and financial stability. The paper will also address how FinTech is disruptive of regulation compliance in the banking sector where a FinTech revolution of innovative technologies would necessitate re-evaluating the existing regulation standards. These entail the discussion of how data privacy regulations impact the development of FinTech operations and digital financial landscape in general. The exceptionally greater rates of the financial services digitalization, though with potential opportunities in the sphere of financial services innovation and people involvement, in their turn, outline the issues of data privacy and the adequate balance between technological advancement encouraging and the highly efficient compliance regime. The fact that a solid framework must be established and that will allow sufficient control of the responsible use of AI to the financial services industry where data bias and the transparency of at what point a decision was made are the most important questions to be answered only complicates this delicate balance (Tan, 2025). Thereupon, the paper shall take into account the nuances of the tradeoffs in the laws on data privacy and its impact on FinTech, as well as the challenges to regulatory compliance and the opportunities to establish at least some level of trust in the digital finance landscape (Oyewole et al., 2024).

2. The Evolving Landscape of FinTech

In this section, the current trend of FinTech development will be described, and the most significant technological evolutions will be outlined and elaborated about how they impact financial institutions and consumers. It will also elaborate on how the financial institutions have integrated artificial intelligence, blockchain and big data analytics to not only enhance efficiency in operations, but also enhance the market reach (Obeng et al., 2024). In this digital transformation, there are new ethical concerns as well, pertaining to the privacy of data, consumer confidence and responsible application of AI in financial decision-making (Aldboush and Ferdous, 2023)(Tan, 2025). Also, since FinTech is a vibrant industry where technology rapidly advances, the regulatory policies regarding data privacy will be forced to keep changing in line with the new opportunities and threats (Oyewole et al., 2024). This is associated with dealing with the complexity of new financial products and newly decentralized financial systems, which are not always subject to the coverage of the regimes of the past (Obeng et al., 2024). The concomitant nature of this change has increased the paramount significance of regulatory flexibility and multidirectional stakeholder engagement to ensure that the market is not compromised and consumers are not harmed by the constantly-expanding digital finance landscape (Oyewole et al., 2024). The inherent tension between

promoting FinTech innovation and consumer protection and market integrity has been characterized as the so-called Innovation Trilemma(Oyewole et al., 2024). This dilemma illustrates a complicated work of regulators to develop the technological and, nevertheless, to ensure the high degree of the consumer protection and to ensure the systemic financial stability (Oyewole et al., 2024). This trilemma must be addressed as a very complicated issue that involves regulatory technology solutions, the inclusion of many countries in this process, and the ongoing modernisation of the policy as a measure of coping with the severity of the technological revolution (Mukthar et al., 2025). In addition, big datasets and artificial intelligence in personalized services and cost-cutting options are frequent in FinTech companies that despite being functional, also present ethical and privacy challenges in how they use their data and are treated by the algorithms (Aldboush and Ferdous, 2023). The use of AI and big data in FinTech, in its turn, entails gauging the issues of bias, discrimination, transparency, and the ownership of data, which would enable gaining the trust and confidence of customers (Aldboush and Ferdous, 2023). It involves a close study of the ethical challenges in the context of the implementation of big data and AI into the financial sphere and how this issue affects customer confidence and what methods can be applied to manage this effect (Aldboush and Ferdous, 2023). It also involves a critical consideration of the ethical implications of the use of big data and AI, as well as finance, and how these questions will endanger customer trust and how the issue can be mitigated (Kouam, 2024)(Mukthar et al., 2025).

3. Consumer Protection Imperatives in FinTech

The swift rise of FinTech practices implies renewing the traditional models of consumer protection, particularly with regard to the added complexity in financial products and diminished transparency in the algorithms (Yadav and Brummer, 2019). This involves addressing emerging risk areas such as information security, confidentiality and the possibility of algorithms generating discriminatory outcomes or even increased financial exclusion (Christensen, 2024)(Yadav and Brummer, 2019). Most FinTech services are also decentralized and automated, and introduce novel systemic risks that are not typically felt in traditional financial markets, so it is harder to establish them accountable to consumers or to registered activities (Jafri et al., 2025). In turn, regulators are faced with an Innovation Dilemma, as they struggle to balance market integrity and promote innovation on the one hand with clear and simple rules on the other (Yadav, 2020)(Christensen, 2024).

3.1. Vulnerabilities of FinTech Consumers

The risks associated with insufficient cybersecurity and debilitating data management methods are especially prone to affect FinTech consumers because of a high probability of financial and personal data breach (Eichengreen, 2021). The proliferation of personal data accumulation and dissemination to FinTech companies to utilize it in crafting personalized services, however, convenient, creates increased privacy issues and vulnerability to exploitation, unchecked abuse of data without transparency and safety (Pazouki et al., 2025)(Aldboush and Ferdous, 2023). This

is particularly crucial considering that most FinTech apps, including budgeting tools, frequently expect consumers to provide substantial personal information in exchange to receive the service, which can then be sold to commercially target, e.g. offer product promotion or resell the information (Paterson et al., 2023). This large-scale compilation of data by FinTech sites come with special issues of ensuring user trust, especially when dealing with sensitive financial data (Tan, 2025).

3.2. Key Areas of Consumer Risk

Possible data compromises and cyber-attacks that may interfere with sensitive personal and financial data are also a major problem as they facilitate identity theft and financial damages (Chaudhry et al., 2021). In addition to blatant violations, the ubiquitous nature of gathering and often inexplicable to the layperson use of personal data by FinTech companies is a major privacy concern because even privacy policies that are apparently comprehensive, sometimes seem baffling to the average user (Peng and Li, 2025) (Rehman et al., 2023). Additionally, the high level of algorithms in the majority of FinTech tools, e.g., automated financial advice; also introduce the risk of bias and ineffectiveness that can lead to inappropriate consumer performance or even discrimination (Paterson et al., 2023). The rapid growth of FinTech also introduces challenges in defining legal services and fraudulent schemes, particularly its anonymity and complexity, which may, as a rule, be associated with online transactions (Jafri et al., 2023). This scenery demands the increase of consumer education and the development of regulation to safeguard persons against threat of arising perils in the digital financial environment.

3.3. Ethical Considerations in FinTech Product Design

The moral functionality of FinTech products is more than what is established through the adherence to the data protection laws, but an active way of integrating the ideals of fairness, transparency, and accountability in the very design of the financial services (Rehman et al., 2023)(Shekhar and Sanjogita, 2025). This involves having responsible development and deployment of AI algorithms, reducing possible biases, and explaining why automated decisions clearly to build customer trust and avoid economic marginalization (Paterson et al., 2023). This moral requirement also implies the ethical treatment of consumer information, more than compliance as an act of protection of privacy and data security, minimizing vulnerability and increasing the confidence of users in FinTech platforms (Zarifis, 2024)(Amnas et al., 2023)(Oyewole et al., 2024). Furthermore, the growing utilization of online services and the use of AI to make decisions in the FinTech sector intensifies the necessity to establish effective cybersecurity standards to resist the most complex cyber-attacks and data breaches (Zarifis, 2024).

4. Regulatory Approaches to FinTech Consumer Protection

4.1. Current Regulatory Models and Their Effectiveness

To strike a balance between innovation and consumer protections, regulatory agencies around the world are

modifying the existing frameworks and creating new frameworks to tackle the special concerns of FinTech, frequently via sandboxes, innovation hubs, and international cooperation. These efforts however are struggling to coordinate divergent national laws, and they are struggling to control the fast-moving digital financial services, which are globally integrated (Jagtiani and John, 2018). Such attempts usually fail to keep up with rapid technological development, which provides opportunities of regulatory arbitrage, and opens gaps in consumer protection (Paterson et al., 2023). Moreover, the non-centralized forms of certain FinTech innovations, e.g., cryptocurrencies, make the imposition of established legal protection and accountability tools more difficult, which is another obstacle to efficient consumer protection (Ballaji, 2024).

4.2. Challenges in Cross-Border Regulation

The fact that FinTech services are borderless only complicates the process of regulation because companies can legally work in different jurisdictions, thus complicating the use of uniform regulations regarding consumer protection and imposing responsibility (Cevik, 2024). This international target capacity can often far outrun the territorial scope of domestic regulators, resulting in a piecemeal regulation approach and possible safe-havens to non-adhering organizations. This fragmentation is further worsened by differing degrees of regulation of FinTech activity across the world, with some jurisdictions focusing on innovation and others focusing on heavy consumer protection, thus a unified international regulatory system is difficult to create (Vijayagopal et al., 2024). Consequently, international cooperation and global standards development is needed to prevent regulatory arbitrage and ensure that consumer protection is effective in different markets. The expansion of unscrupulous online lenders and theft of personal data compounds these problems and indicates extreme deficiencies in the existing laws to mitigate them on behalf of the consumer (A & Prastyani, 2025).

4.3. The Role of International Cooperation

In addressing the natural complexity of FinTech operations, including cross-border operations, there is a need to establish robust international collaborations between regulatory bodies to make sure that they can establish compatible frameworks and exchange the best practices (AllahRakha, 2023). Such collaboration is necessary to get an equivalent level of consumer protection, decrease regulatory arbitrage, and facilitate an effective supervision of international FinTech actors (AllahRakha, 2023). The latter practice is essential to win over challenges such as data sovereignty and international data flow that could be a significant setback to global FinTech start-ups (AllahRakha, 2023). Besides that, a divergent approach to national laws and governance also results in a fragmentation of the regulatory environment that interferes with the establishment of uniform rules and common standards needed to establish market integrity within a cross-border FinTech setting (Christensen, 2024). As a result, early policy bonuses and sponsorship plans of disputes are critical in inculcating confidence and easing market entry of FinTech elections and safeguarding the consumer (AllahRakha, 2023).

5. Policy Gaps and Emerging Challenges

The technological change in FinTech tends to be much higher than the capability of existing regulators to proceed, which creates a significant discrepancy in regulation, putting consumers at a greater risk of novel dangers. Such regulatory areas as decentralized finance, and new classes of digital assets, can be particularly vulnerable to this gap, because the absence of explicit regulatory regulations might result in inadequate consumer protection and systemic risk. Also, the lack of an internationally common strategy to regulate FinTech sets an image where consumer protection can be sold, considering that FinTech organizations tend to operate in multiple jurisdictions that have varied laws (Forsberg and Hulsink, 2024). These challenges are compounded by the fact that poor consumer protection, as well as the lack of ubiquitousness of digital infrastructure in the majority of locations, supports the successful scaling and commercial introduction of the FinTech services (Reinman, 2015). Furthermore, by making FinTech products more complex, consumers need to be financially literate to be able to make effective decisions and manage the risk that might occur effectively. These points to the idea that policymakers must not only bridge existing gaps but also be in a position to anticipate potential challenges in the future, by adopting responsive and proactive regulation strategies (Vijayagopal et al., 2024). As the trust of the consumers and the stability of the market are inseparably associated with the long-term sustainability of the companies and their ethical conduct, the sustainability profile of the FinTech firms should be considered in the overall approach (Merello et al., 2021). Moreover, inadequate regulatory frameworks are likely to lead to regulatory friction and disintegration hence, ensuring that there is a seamless cross-border trade in the FinTech component of economic blocs such as the EU (Ahern, 2021). This regulatory slowdown and fragmentation may act as a barrier to introduction of innovative FinTech solutions and will disproportionately grab FinTech players, at the disadvantage of certain market share on the FinTech market (Ahern, 2021). The rapidly innovating and high-dynamism of the FinTech ecosystem that is being innovated in various sub-issues as fast as possible makes the existing regulatory frameworks insufficient and it should be approached with a more sophisticated regulation framework that considers not only innovation but also consumer welfare (Christensen, 2024).

6. Conclusion

REFERENCES

1. Ahern, D. (2021). Regulatory Lag, Regulatory Friction and Regulatory Transition as FinTech Disenablers: Calibrating an EU Response to the Regulatory Sandbox Phenomenon. *European Business Organization Law Review*, 22(3), 395. <https://doi.org/10.1007/s40804-021-00217-z>
2. Aldboush, H. H., & Ferdous, M. (2023). Building Trust in Fintech: An Analysis of Ethical and Privacy Considerations in the Intersection of Big Data, AI, and Customer Trust. *International Journal*

of Financial Studies, 11(3), 90. <https://doi.org/10.3390/ijfs11030090>

3. AllahRakha, N. (2023). Legal Challenges for International Fintech Startups. *International Journal of Law and Policy*, 1(8). <https://doi.org/10.59022/ijlp.148>
4. Amnas, M. B., Selvam, M., Raja, M., Santhoshkumar, S., & Parayitam, S. (2023). Understanding the Determinants of FinTech Adoption: Integrating UTAUT2 with Trust Theoretic Model. *Journal of Risk and Financial Management*, 16(12), 505. <https://doi.org/10.3390/jrfm16120505>

5. Ballaji, N. (2024). Consumer Protection in the Era of Digital Payments: Legal Challenges and Solutions. *Beijing Law Review*, 15(3), 1268. <https://doi.org/10.4236/blr.2024.153076>
6. Banna, H., Hassan, M. K., & Rashid, M. (2021). Fintech-based financial inclusion and bank risk-taking: Evidence from OIC countries. *Journal of International Financial Markets Institutions and Money*, 75, 101447. <https://doi.org/10.1016/j.intfin.2021.101447>
7. Cevik, S. (2024). Promise (Un)kept? Fintech and Financial Inclusion. *IMF Working Paper*, 2024(131), 1. <https://doi.org/10.5089/9798400279195.001>
8. Chaudhry, S. M., Ahmed, R., Huynh, T. L. D., & Benjasak, C. (2021). Tail risk and systemic risk of finance and technology (FinTech) firms. *Technological Forecasting and Social Change*, 174, 121191. <https://doi.org/10.1016/j.techfore.2021.121191>
9. Christensen, J. L. (2024). Expanding the innovation trilemma – 4Is in regulating fintech development. *Research Portal Denmark*. <https://local.forskningportal.dk/local/dki-cgi/ws/cris-link?src=aa&id=aa-56a45605-4dd7-4cfb-a408-8f7f737b0571&ti=Expanding%20the%20innovation%20trilemma%20%2013%204Is%20in%20regulating%20fintech%20development>
10. Eichengreen, B. (2021). Financial regulation in the age of the platform economy. *Journal of Banking Regulation*. <https://doi.org/10.1057/s41261-021-00187-9>
11. Fatorachian, H., O'Higgins, B., Maldonado, A., Lyons, C., Willis, H. A., Abbott, L., & Brooks, M. (2024). Navigating the challenges of FinTech startups in the B2C market. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2024.2446696>
12. Forsberg, P., & Hulsink, W. (2024). Footloose and fancy-free in FinTech? Internationalization strategies of born regional and born global firms in the European financial service sector. *Journal of International Entrepreneurship*. <https://doi.org/10.1007/s10843-024-00354-9>
13. Jafri, J. A., Amin, S. I. M., & Abdul-Rahman, A. (2025). Financial technology (Fintech) research trend: a bibliometric analysis. *Discover Sustainability*, 6(1). <https://doi.org/10.1007/s43621-025-01225-6>
14. Jafri, J. A., Amin, S. I. M., Abdul-Rahman, A., & Nor, S. M. (2023). A systematic literature review of the role of trust and security on Fintech adoption in banking. *Heliyon*, 10(1). <https://doi.org/10.1016/j.heliyon.2023.e22980>
15. Jagtiani, J., & John, K. (2018). Fintech: The Impact on Consumers and Regulatory Responses. *Journal of Economics and Business*, 100, 1. <https://doi.org/10.1016/j.jeconbus.2018.11.002>
16. Koskelainen, T., Kalmi, P., Scornavacca, E., & Vartiainen, T. (2023). Financial literacy in the digital age—A research agenda. *Journal of Consumer Affairs*, 57(1), 507. <https://doi.org/10.1111/joca.12510>
17. Kouam, A. W. F. (2024). The Impact of Artificial Intelligence on Fintech Innovation and Financial Inclusion: A Global Perspective. *Research Square (Research Square)*. <https://doi.org/10.21203/rs.3.rs-5391575/v1>
18. Li, J., Maiti, A., & Fei, J. (2023). Features and Scope of Regulatory Technologies: Challenges and Opportunities with Industrial Internet of Things. *Future Internet*, 15(8), 256. <https://doi.org/10.3390/fi15080256>
19. Merello, P., Barberá, A., & Poza, E. de la. (2021). Is the sustainability profile of FinTech companies a key driver of their value? *Technological Forecasting and Social Change*, 174, 121290. <https://doi.org/10.1016/j.techfore.2021.121290>
20. Mirishli, S. (2025). Regulating Ai In Financial Services: Legal Frameworks And Compliance Challenges. *arXiv*. <https://doi.org/10.48550/ARXIV.2503.14541>
21. Mukthar, K. P. J., Chauhan, N., Al-Absy, M. S. M., Kumar, R., Gupta, N. R., & Gokilavani, S. (2025). Research dynamics in AI and fintech: a bibliometric investigation using R. *Discover Internet of Things*, 5(1). <https://doi.org/10.1007/s43926-025-00111-x>
22. Obeng, S., Iyelolu, T. V., Akinsulire, A. A., & Idemudia, C. (2024). The Transformative Impact of Financial Technology (FinTech) on Regulatory Compliance in the Banking Sector. *World Journal of Advanced Research and Reviews*, 23(1), 2008. <https://doi.org/10.30574/wjarr.2024.23.1.2184>
23. Oyewole, A. T., Oguejiofor, B. B., Eneh, N. E., Akpuokwe, C. U., & Bakare, S. S. (2024). DATA PRIVACY LAWS AND THEIR IMPACT ON FINANCIAL TECHNOLOGY COMPANIES: A REVIEW [Review of DATA PRIVACY LAWS AND THEIR IMPACT ON FINANCIAL TECHNOLOGY COMPANIES: A REVIEW]. *Computer Science & IT Research Journal*, 5(3), 628. Fair East Publishers. <https://doi.org/10.51594/csitrj.v5i3.911>
24. Paterson, J. M., Miller, T., & Lyons, H. (2023). Demystifying Consumer-Facing Fintech. In *Cambridge University Press eBooks* (p. 29). Cambridge University Press. <https://doi.org/10.1017/9781009334297.005>
25. Pazouki, S., Jamshidi, M., Jalali, M. S., & Tafreshi, A. (2025). The integration of big data in finTech: Review of enhancing financial services through advanced technologies. *World Journal of Advanced Research and Reviews*, 25(1), 546. <https://doi.org/10.30574/wjarr.2025.25.1.0060>
26. Peng, X., & Li, L. (2025). Concerns About the Rapid Growth of FinTech: Data Privacy, Breach, and Cybersecurity Issues and the Resulting Regulatory Reforms (p. 431). https://doi.org/10.1007/978-981-96-2516-1_33
27. Pulatov, T. (2025). Concepts of Digital Financial Technologies and Their Legal Nature. *International Journal of Law and Policy*, 3(1), 22. <https://doi.org/10.59022/ijlp.260>
28. Rehman, F. ur, Attaullah, H. M., Ahmed, F., & Ali, S. (2023). Data Defense: Examining Fintech's Security and Privacy Strategies. 3. <https://doi.org/10.3390/engproc2023032003>
29. Reinman, S. L. (2015). *Open Knowledge*

- Repository. *Reference Reviews*, 29(5), 21.
<https://doi.org/10.1108/rr-05-2015-0113>
30. Rupeika-Apoga, R., & Eleftherios. (2020). Ideas for a Regulatory Definition of FinTech. *International Journal of Economics and Business Administration*, 136.
<https://doi.org/10.35808/ijeba/448>
31. Shekhar, V., & Sanjogita, R. (2025). Navigating The Dark Side Of Fintech: A Developer Perspective. *Management Practice Insights.*, 3, 58.
<https://doi.org/10.59571/mpi.v3si1.10>
32. Tan, J. (2025). Research on the Role of AI in FinTech and Consumer Trust. *SHS Web of Conferences*, 213, 1012.
<https://doi.org/10.1051/shsconf/202521301012>
33. Ul-Durar, S., Bakkar, Y., Arshed, N., Naveed, S., & Zhang, B. (2024). FinTech and economic readiness: Institutional navigation amid climate risks. *Research in International Business and Finance*, 73, 102543.
<https://doi.org/10.1016/j.ribaf.2024.102543>
34. Uzougbo, N. S., Ikegwu, C. G., & Adewusi, A. O. (2024). Legal accountability and ethical considerations of AI in financial services. *GSC Advanced Research and Reviews*, 19(2), 130.
<https://doi.org/10.30574/gscarr.2024.19.2.0171>
35. Vasile, V., & Manta, O. (2025). FinTech and AI as Opportunities for a Sustainable Economy. *FinTech*, 4(2), 10. <https://doi.org/10.3390/fintech4020010>
36. Vijayagopal, P., Jain, B., & Viswanathan, S. A. (2024). Regulations and Fintech: A Comparative Study of the Developed and Developing Countries. *Journal of Risk and Financial Management*, 17(8), 324. <https://doi.org/10.3390/jrfm17080324>
37. Yadav, Y. (2020). Fintech and International Financial Regulation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3684821>
38. Yadav, Y., & Brummer, C. (2019). Fintech and the Innovation Trilemma. *The Georgetown Law Journal*, 107, 235.
<https://scholarship.law.vanderbilt.edu/cgi/viewcontent.cgi?article=2112&context=faculty-publications>
39. Zarifis, A. (2024). Leadership in Fintech Builds Trust and Reduces Vulnerability More When Combined with Leadership in Sustainability. *Sustainability*, 16(13), 5757.
<https://doi.org/10.3390/su16135757>