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Peer Review

Review of: "A FinTech Clustering Framework: Technology, Model, and Stakeholder Perspectives"

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This review article offers a well-structured and insightful contribution to the FinTech literature by addressing a significant conceptual gap: the lack of a unified and comprehensive understanding of FinTech. The proposed clustering framework, organized around technology, business models, and stakeholder perspectives, provides a robust foundation for classifying and interpreting the dynamic FinTech ecosystem.

A notable strength of this study is its practical orientation. Rather than viewing FinTech solely as a technological phenomenon, it rightly emphasizes the interplay between enabling technologies, innovative business models, and diverse stakeholders, including startups, banks, regulators, technology firms, and customers. This multidimensional approach enhances the framework's relevance for researchers, practitioners, and policymakers seeking a broader and more nuanced understanding of FinTech.

To further strengthen this framework, the integration of regulatory and governance dimensions is recommended. Introducing a fourth cluster or a cross-cutting layer—tentatively titled "Regulatory and Governance Environment"—would capture critical elements such as licensing requirements, data privacy, cybersecurity, consumer protection, anti-money laundering (AML) controls, algorithmic accountability, operational resilience, open banking regulation, and supervisory technology. These aspects are essential because FinTech firms operate within highly regulated financial ecosystems, where trust, compliance, risk management, and institutional oversight are pivotal to sustainable innovation.

Moreover, governance considerations can be embedded within the stakeholder perspective by explicitly recognizing regulators, central banks, compliance teams, auditors, industry associations, and public sector institutions as active participants in shaping FinTech adoption. The framework illustrates how

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these actors influence product design, customer onboarding, data governance, risk control, dispute resolution, and market conduct. Including a detailed mapping table linking FinTech categories to their key regulatory concerns would enhance clarity—for example, associating digital lending with credit risk and algorithmic fairness, digital payments with interoperability and fraud prevention, wealth management technologies with suitability and disclosure, and crypto-assets with market integrity and AML risks.

Operationalizing the framework for empirical research and policy evaluation would improve its practical utility. Each cluster can be translated into measurable indicators: under technology, variables such as artificial intelligence (AI) adoption, blockchain integration, API usage, cloud infrastructure, cybersecurity maturity, and mobile-first delivery; under business models, factors such as revenue streams, partnership networks, customer segmentation, and cost efficiency; under stakeholders, metrics including customer adoption rates, banking partnerships, regulatory engagement, investor participation, and ecosystem collaboration; and, if added, the regulatory-governance layer could encompass licensing status, compliance maturity, audit mechanisms, data protection practices, complaint resolution protocols, and operational resilience measures.

For empirical applications, the framework can guide surveys, case studies, content analyses, and cross-sector comparisons. Researchers can evaluate FinTech firms by scoring them across these dimensions and exploring the correlations between technology sophistication, business model innovation, stakeholder involvement, regulatory preparedness, and performance outcomes. Policymakers can leverage the framework to assess national FinTech ecosystems, identifying areas of concentration or weakness, such as an overemphasis on payments or lending with insufficient governance, and benchmark regulatory gaps or developmental impacts across countries.

In summary, this study makes a meaningful contribution by providing a holistic framework that advances the understanding of the multifaceted nature of FinTech. Its impact would be further enhanced by explicitly incorporating regulatory and governance considerations and translating conceptual clusters into empirically measurable indicators. These enhancements would transform the framework from a purely conceptual classification tool into a practical instrument for research, ecosystem assessment, and regulatory strategy formulation in the evolving fintech landscape.

Declarations

Potential competing interests: No potential competing interests to declare.