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Building Trust in Digital Finance: Why AI-Driven Compliance Will Define the Future of Cross-Border Investing

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ABSTRACT: Despite rapid advances in digitalisation, cross-border investing remains constrained by persistent concerns over security, transparency, and institutional trust. Cyber-fraud, identity theft, opaque platform governance, and fragmented regulatory regimes continue to undermine confidence in digital financial ecosystems, creating substantial information asymmetries that deter international investment participation. Addressing these structural vulnerabilities requires compliance architectures capable of providing real-time, multi-jurisdictional oversight, capabilities that traditional rule-based systems cannot deliver. This study examines how artificial intelligence (AI)-driven compliance can serve as a foundational mechanism for strengthening trust and enabling secure cross-border investment. Drawing on a systematic synthesis of scholarly research, regulatory reports, and industry evidence published between 2018 and 2025, the study analyses four thematic domains: AI-driven compliance mechanisms, digital trust and transparency, investor confidence formation, and cross-border investment participation. The findings demonstrate that AI-enabled automation, anomaly detection, behavioural profiling, and identity verification significantly enhance compliance accuracy and reduce regulatory violations. Moreover, explainable AI, audit trails, and blockchain-supported verification improve institutional transparency and reinforce user trust, which in turn increase investor confidence and platform adoption. Integrating Information Asymmetry Theory, Institutional Trust Theory, and the Technology Acceptance Model, the study develops a unified framework showing how AI reduces uncertainty, strengthens institutional credibility, and supports technology acceptance in digital finance. The paper concludes that AI-driven compliance is not merely a technological enhancement but a structural enabler of secure, transparent, and scalable cross-border investing. It offers conceptual, theoretical, and practical insights that can guide policymakers, regulators, and financial institutions in designing next-generation digital finance infrastructures.

KEYWORDS: Digital Finance, AI-Driven Compliance, Digital Trust, Cross-Border Investing, Regulation Technology

1. INTRODUCTION

The accelerating digitalisation of global finance is reshaping how individuals, firms, and institutional investors access and participate in cross-border markets (Anyia et al., 2025). Digital platforms, algorithmic trading technologies, and mobile investment applications have lowered traditional entry barriers and enabled seamless engagement with global financial products. Yet despite these advancements, security, transparency, and trust remain the central determinant of investor engagement in digital cross-border finance (Teng, 2025). Persistent challenges including cyber-fraud, data breaches, identity theft, regulatory fragmentation, and opaque platform governance, continue to undermine investor confidence (John et al., 2025; Ologun et al., 2025). These vulnerabilities are especially pronounced in environments where digital transactions span multiple jurisdictions with uneven supervisory capacity, creating uncertainty and heightening perceived risk. As financial ecosystems become increasingly interconnected, the need for reliable, transparent, and adaptive compliance infrastructures becomes more urgent (Anyia et al., 2025).

Artificial intelligence (AI) has emerged as the most advanced and adaptive response to these systemic challenges. AI-driven compliance integrates machine learning, natural language processing, anomaly detection, and automated decision systems to support real-time monitoring, identity verification, and regulatory reporting across complex international transactions. Unlike traditional rule-based models (Kodete, 2021), AI systems excel in high-volume, high-velocity risk environments, detecting complex patterns and subtle anomalies that would likely evade manual detection (Ibitoye, 2025). Recent evidence shows that organisations implementing AI-enabled compliance architectures report significant reductions in regulatory violations, faster resolution of compliance cases, and higher detection accuracy often exceeding that of manual or semi-automated

systems (Anichukwueze et al., 2025). These capabilities are essential for cross-border digital finance platforms operating across heterogeneous regulatory landscapes where fraud risks and compliance burdens escalate exponentially.

Beyond operational efficiency, AI-driven compliance reshapes the trust architecture of digital financial ecosystems. By generating transparent audit trails, explainable decision pathways, and continuously adaptive risk-scoring models, AI enhances perceptions of reliability, accountability, and platform integrity (Nair & Sudhakar, 2025; Olugbade et al., 2023). Studies show that algorithmic trust cues reduce fraud anxiety and increase platform adoption (Okolo et al., 2022; Kodete, 2021), while AI-enhanced security systems such as biometric authentication and blockchain-integrated verification, strengthen users' confidence in the security of digital financial environments (Zangana et al., 2025). Such trust is foundational for cross-border investment, where investors must rely on platform's ability to manage jurisdictional complexity, secure sensitive data, and maintain compliance across national boundaries (Nair & Sudhakar, 2025).

At a broader level, AI-driven compliance enables deeper financial integration by supporting interoperability between regulatory frameworks and digital infrastructures (Davidor et al., 2024). As global markets shift toward digital assets, decentralised finance, and instant cross-border payments, governance structures must evolve from fragmented oversight to intelligent, risk-based supervisory systems (Ahmed et al., 2025). AI provides the predictive, adaptive, and scalable capabilities required for this transformation. Despite these developments, the role of AI-driven compliance in shaping trust formation and cross-border investment behaviour remains theoretically underexplored and empirically fragmented. Prior studies focus on isolated components, algorithmic trust cues (Kodete, 2021), blockchain-based security (Zangana et al., 2025), multi-agent fraud surveillance (Ibitoye, 2025), and AI-enabled banking operations (Ahmed et al., 2025; Ologun et al., 2025), yet none integrate these insights into a unified framework explaining how AI-driven compliance mechanisms reduce jurisdictional risk and build investor confidence across global markets. Moreover, empirical evidence remains fragmented, with limited attention to the interplay between AI-enabled transparency, digital trust mechanisms, and investment behaviour across multiple regulatory environments. Consequently, there is a pressing need for examination that synthesises existing evidence and articulates the pathways through which AI-driven compliance can underpin the future architecture of cross-border digital investing.

2. SYSTEMATIC REVIEW OF RELATED STUDIES

Recent scholarship demonstrates a growing convergence between artificial intelligence, digital trust, and regulatory compliance in global financial ecosystems. Kodete (2021) provides an early conceptual foundation by integrating behavioural decision-making theories with AI-based trust-scoring mechanisms. The study shows that algorithmic trust cues, generated through machine learning, natural language processing, and anomaly detection, significantly influence user confidence and digital platform adoption. Although contextual limitations exist, the findings underscore the critical role of technological trust in shaping financial behaviour within emerging digital infrastructures.

Building on the organisational dimension of AI deployment, Davidor et al. (2024) introduce an AI-enabled valuation framework for digital transformation projects in investment banking. By enhancing discounted cash flow modelling, real-options valuation, and market comparables with machine-learning algorithms, their study demonstrates that AI increases valuation precision by up to 35%. The authors also highlight the importance of robust data governance and alignment with regulatory compliance structures, emphasising that AI-enabled financial innovation must operate within clear supervisory boundaries.

Complementary technological advancements are highlighted by Zangana et al. (2025), who examine how blockchain and AI jointly enhance security, identity verification, and regulatory compliance across financial institutions. Their results, especially AI-powered fraud detection achieving 92% accuracy, demonstrate that distributed ledger systems combined with AI architectures strengthen institutional trust while reducing operational vulnerabilities. However, issues of scalability and regulatory uncertainty persist. Similar compliance transformations are documented by Teng (2025), whose analysis of EU green regulations shows how digital traceability tools, algorithmic verification, and platform-level governance mechanisms reconstruct cross-border compliance obligations, effectively positioning digital platforms as "compliance gatekeepers." The application of AI to real-time compliance monitoring is expanded in Ibitoye's (2025) multi-agent AI architecture for global FinTech ecosystems. Through decentralized, interoperable agents performing behavioural profiling, transaction risk scoring, and jurisdiction-specific compliance enforcement, the study demonstrates substantial improvements in fraud surveillance, detection accuracy, and regulatory reporting. These findings directly reinforce arguments supporting AI-driven compliance as a foundation for secure cross-border financial operations.

At the consumer level, Nair and Sudhakar (2025) show that trust in digital banking is strongly influenced by perceived security, regulatory compliance, and ease of use. Their empirical evidence from Indian banking customers confirms that visible compliance signals and intuitive platform design significantly reduce perceived risk, supporting broader claims that trust mediates technology adoption in financial services.

The human-oversight dimension of AI compliance is addressed by Tasew and Azubuike (2025), who propose an Explainable AI (XAI) learning architecture for professional training. Their D.R.I.V.E.N. methodology strengthens interpretability, critical evaluation of algorithmic decisions, and transparency, key prerequisites for trustworthy AI-enabled compliance systems. In a related vein, Ahmed et al. (2025) and Okolo et al. (2024) demonstrate that AI enhances security, risk management, and compliance accuracy in banking, while noting persistent challenges concerning digital literacy, fairness, and governance.

Cross-border implications are further highlighted by Anya et al. (2025), who examine AI's role in strengthening cybersecurity for EU–Africa digital trade. Their findings show that AI-driven threat detection, predictive analytics, and automatic response systems are essential for building the trust frameworks required to support international digital exchanges. Similarly, Zorina (2025) shows how AI enhances ESG-related supplier compliance in global procurement networks by improving transparency, scalability, and predictive risk assessment, illustrating the growing use of AI in oversight-intensive, multi-jurisdictional environments.

Finally, strong quantitative evidence for the transformative power of AI-driven compliance is provided by Anichukwueze et al. (2025). Their enterprise-wide AI compliance framework demonstrates a 73% reduction in regulatory violations and 94% accuracy in multi-jurisdictional compliance. With 89% precision in predicting potential breaches, their findings present compelling support for AI as an essential tool for managing

the complexities of international regulatory environments. Collectively, these studies establish a robust conceptual and empirical foundation for understanding how AI-driven compliance enhances transparency, accuracy, and trust, ultimately supporting safer and more efficient cross-border financial participation.

3. THEORETICAL FRAMEWORK

This study is anchored in three interrelated theoretical perspectives: Information Asymmetry Theory, Institutional Trust Theory, and the Technology Acceptance Model (TAM), which collectively explain how AI-driven compliance mechanisms influence digital trust, investor confidence, and cross-border investment behaviour.

Information Asymmetry Theory posits that uncertainty arises in financial markets when one party possesses more or better information than the other. In cross-border digital investing, investors typically lack visibility into platform governance, risk exposures, and regulatory compliance processes, creating significant asymmetries that heighten perceived risk and deter participation. AI-driven compliance helps reduce these asymmetries by enabling real-time transaction monitoring, automated identity verification, and predictive detection of anomalous behaviours. By producing audit trails and consistent data-driven decisions, AI enhances informational clarity and reduces uncertainty. This aligns with the theory's central argument that reducing asymmetries enhances market efficiency and encourages greater engagement in financial exchanges.

Institutional Trust Theory provides the next layer of explanatory insight by emphasizing the role of institutional mechanisms, rules, procedures, and governance structures, in fostering user confidence. Trust in digital financial platforms is not generated solely through interpersonal perceptions but through confidence in the institutional systems that govern transactions. AI-driven compliance reinforces institutional trust by improving transparency, accountability, and regulatory alignment. Explainable AI (XAI), automated reporting, and traceable decision pathways make platform operations visible and predictable, thereby strengthening perceived institutional integrity. When investors believe that a digital platform has robust and trustworthy compliance mechanisms, their willingness to transact across borders increases. This theory helps explain why transparency-based features of AI, rather than speed or automation alone, are critical for strengthening investor confidence.

The Technology Acceptance Model (TAM) further explains the behavioural mechanisms through which AI-driven compliance influences user adoption of digital financial platforms. According to TAM, perceived usefulness and perceived ease of use shape individuals' attitudes and intentions toward adopting new technologies. In the context of cross-border investing, AI-driven reliability, security, and risk mitigation directly contribute to perceived usefulness, while seamless identity verification, automated compliance checks, and intuitive security interfaces enhance perceived ease of use. As investors view AI-enabled systems as reliable, efficient, and simple to navigate, their likelihood of adopting digital platforms increases. TAM therefore clarifies how trust-enhancing technological features translate into behavioural acceptance and sustained investment activity.

4. CONCEPTUAL MODEL

This study proposes a conceptual framework illustrating how AI-driven compliance strengthens the trust architecture of digital finance and subsequently enhances cross-border investment participation. The logic is grounded in institutional trust theory and information asymmetry theory. AI reduces asymmetries by providing real-time, accurate, and transparent compliance information. It strengthens institutional trust by improving regulatory responsiveness and platform integrity. Consequently, investor willingness to participate in cross-border markets increases as perceived risk declines and system credibility is enhanced. The conceptual model posits a causal chain:

AI-Driven Compliance → Lower Risk + Higher Transparency → Stronger Digital Trust → Increased Investor Confidence → Higher Cross-Border Investment Participation

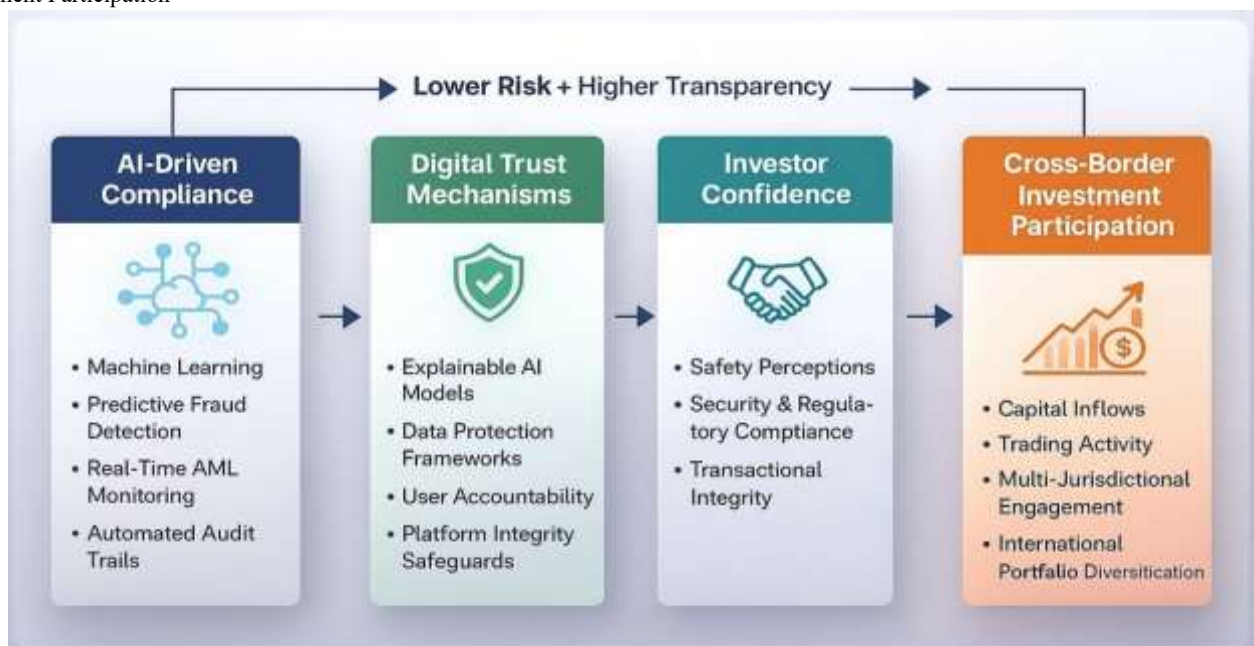


Figure 1: AI-Driven Compliance Conceptual Model

AI-driven compliance refers to the deployment of machine learning, natural language processing, and automation tools to enhance regulatory compliance processes in financial systems. This includes automated Know-Your-Customer (KYC) verification, real-time Anti-Money Laundering (AML) monitoring, predictive fraud detection, sanctions screening, and the creation of tamper-proof audit trails. Financial institutions adopting these tools achieve faster and more accurate anomaly detection, reduced false positives, and greater regulatory reporting efficiency. Case examples such as Revolut and Stripe illustrate how AI deployment has significantly improved transaction monitoring accuracy and compliance speed.

Digital trust mechanisms represent the structural and technological components that enhance the reliability and credibility of financial platforms. These include transparency of system operations, development of explainable AI models, robust data protection frameworks, user accountability structures, and platform integrity safeguards. Reports from BIS and IOSCO highlight that financial platforms using AI-enabled supervision and transparent audit trails provide higher levels of operational assurance to users. For instance, Wise (TransferWise) employs automated verification systems and transparent fee disclosures supported by AI algorithms to build strong user trust.

Investor confidence reflects users' perceptions of safety, transactional integrity, regulatory compliance, and predictability of digital financial systems. High confidence emerges when investors believe the platform can protect their data, prevent fraud, and maintain compliance with cross-border regulations. Literature shows that investors are more willing to engage in cross-border digital transactions when platforms actively display security features, verification controls, and transparent risk disclosures. For example, Binance's AI-enabled fraud monitoring systems and identity verification procedures have been shown to reduce scam-related disputes, thereby improving investor confidence despite regulatory challenges.

Cross-border investment participation refers to the extent of capital inflows, user engagement, trading activity, and investment flows facilitated through digital platforms. As financial markets become increasingly digitized, AI-driven compliance becomes essential for managing multi-jurisdictional risks. Platforms such as Flutterwave and Stripe demonstrate that compliance automation enables faster onboarding, secure transactions, and seamless integration across regulatory environments. When investors perceive a high degree of trust and confidence in the digital financial system, they are more likely to widen their investment portfolios internationally, increase transaction frequency, and allocate more capital to cross-border instruments.

5. METHODOLOGY

This study adopts a conceptual and qualitative research design, an approach that is particularly appropriate for emerging domains where theoretical consolidation is needed to unify fragmented insights. AI-driven compliance in cross-border investing is a relatively new academic and policy discourse, characterised by scattered evidence across cybersecurity studies, financial technology research, behavioural trust models, and regulatory governance literature. Because empirical models in this area remain limited, a qualitative synthesis provides the depth and flexibility required to interpret existing findings and develop a coherent conceptual framework that explains how AI-driven compliance mechanisms foster transparency, strengthen digital trust, enhance investor confidence, and ultimately enable greater cross-border investment participation.

The study relies exclusively on secondary data drawn from three major sources. First, scholarly articles published between 2018 and 2025 were reviewed to capture current debates on AI compliance architecture, digital trust formation, cross-border finance dynamics, blockchain-based security, and algorithmic governance. Second, regulatory and institutional publications were analysed, including reports from the Financial Action Task Force (FATF), the Bank for International Settlements (BIS), the International Organisation of Securities Commissions (IOSCO), the OECD, and national regulatory bodies. These documents provide detailed evidence on global AML/KYC reforms, AI adoption in financial supervision, and the evolution of regulatory technology (RegTech) and supervisory technology (SupTech). Third, industry case materials from digital finance platforms such as Revolut, Wise, Flutterwave, Binance, and Stripe were examined, offering practical illustrations of how AI-enabled compliance, identity verification, and transaction monitoring operate in real-world cross-border financial environments.

The data collection process began with systematic searches across Scopus, Web of Science, Google Scholar, and regulatory databases. Keywords such as "AI-driven compliance," "digital trust," "RegTech," "cross-border investing," "AML/KYC automation," and "predictive fraud detection" guided the retrieval of relevant documents. Studies were screened to ensure methodological clarity, conceptual relevance, and significant contribution to understanding how AI supports compliance and trust in global financial systems. This was followed by a thematic content analysis in which recurring concepts were identified, coded, and categorised. Four dominant analytical themes emerged from this process: AI-driven compliance mechanisms, digital trust and transparency systems, investor confidence formation, and cross-border investment participation. Insights across these themes were compared and synthesised to generate a multi-layered conceptual model explaining how AI reduces systemic risk, enhances platform credibility, and encourages greater participation in international investment ecosystems.

Conceptual validity was strengthened by triangulating insights from academic literature, regulatory documentation, and industry evidence, ensuring that conclusions reflect diverse and credible perspectives. Reliability was enhanced through transparent research procedures, clear inclusion criteria, and the grounding of interpretations in established theoretical frameworks such as Institutional Trust Theory and Information Asymmetry Theory. Ethical considerations were minimal, as the study relied solely on publicly available secondary data, and all sources were properly acknowledged to maintain academic integrity.

6. THEMATIC DISCUSSION OF FINDINGS

AI-Driven Compliance Mechanisms

The evidence clearly demonstrates that AI-driven compliance plays a central role in reducing the information gaps that traditionally undermine confidence in cross-border digital finance. In line with Information Asymmetry Theory, automation, anomaly detection, and identity verification increase informational clarity by providing investors with real-time insight into platform integrity and compliance behaviour. Findings from Ibitoye (2025), Anichukwueze et al. (2025) and Olugbade et al. (2024) show that multi-agent architectures and predictive analytics enable continuous monitoring, rapid anomaly detection, and jurisdiction-specific enforcement, thereby diminishing the uncertainty that discourages participation in

global markets. These intelligent capabilities also align with the Technology Acceptance Model, as the enhanced accuracy, speed, and reliability of AI-driven compliance systems increase perceived usefulness, an essential determinant of user adoption.

Taken together, these studies confirm that AI functions as the backbone of next-generation compliance architectures. Its capacity to process vast transactional datasets, detect complex fraud patterns, and adapt to evolving risk signals far exceeds the capabilities of traditional rule-based systems. The demonstrated improvements in surveillance accuracy, reduction in false positives, and significant declines in regulatory violations across jurisdictions underscore that AI-driven compliance is not merely an efficiency tool but a foundational mechanism for managing the complexities of cross-border digital finance. In operationalising both IAT's reduction of uncertainty and TAM's emphasis on functional advantage, AI-driven compliance provides the predictive, adaptive, and transparent infrastructure necessary for trustworthy global financial interactions.

Digital Trust and Transparency

Digital trust and transparency closely align with the core propositions of Institutional Trust Theory, which asserts that confidence in financial systems emerges from the reliability, integrity, and predictability of institutional processes. Across the reviewed studies, explainability, traceability, and verifiable audit trails consistently appear as the primary mechanisms through which AI-driven compliance transforms traditionally opaque regulatory functions into visible, accountable, and trustworthy institutional practices. Evidence from Kodete (2021) and Zangana et al. (2025) demonstrates that algorithmic trust cues, blockchain-based verification, and biometric authentication enhance perceptions of institutional credibility by ensuring data integrity, secure access, and transparent decision pathways. These features simultaneously reduce information asymmetry by making compliance actions observable, while improving perceived usefulness and ease of use in line with TAM, as intuitive verification processes and visible compliance signals lower perceived risk. Consequently, transparency becomes a behavioural catalyst that strengthens institutional trust, shapes perceptions of safety and fairness, and increases user willingness to engage in digital financial transactions.

Investor Confidence Formation

Investor confidence emerges at the intersection of all three theoretical frameworks, reflecting how AI-driven compliance simultaneously reduces uncertainty, strengthens institutional credibility, and enhances technology acceptance. From the perspective of Information Asymmetry Theory, AI-enabled identity verification, real-time monitoring, and predictive surveillance directly lower perceived risk by narrowing the information gaps that typically deter participation in cross-border investment. At the same time, the consistency, reliability, and regulatory precision of AI-driven compliance reinforce Institutional Trust Theory by signalling that digital platforms can uphold standards across jurisdictions and maintain stable, predictable oversight. These assurances cultivate confidence not in the technology alone, but in the institutional structures governing digital finance. Complementing these effects, the Technology Acceptance Model explains how improved ease of use, security, and system reliability enhance perceived usefulness, an important behavioural determinant of trust and adoption, as evidenced by Nair and Sudhakar (2025). Empirical findings from Ahmed et al. (2025) further show that AI-enhanced security and compliance strengthen organisational resilience, which investors interpret as evidence of regulatory alignment and operational integrity. As such, the studies demonstrate that investor confidence is strengthened not by AI's technical sophistication per se but by the extent to which AI enhances transparency, predictability, and risk mitigation.

Cross-Border Investment Participation

Cross-border investment participation illustrates how the three theoretical mechanisms converge to produce both behavioural and market-level outcomes. By reducing information asymmetries through real-time monitoring, harmonised reporting, and predictive compliance analytics, AI lowers the uncertainty that traditionally constrains cross-border capital flows, directly aligning with Information Asymmetry Theory. Institutional Trust Theory is reinforced as AI-enabled platforms demonstrate consistent, multi-jurisdictional compliance reliability, reflecting what Teng (2025) describes as the evolution of digital platforms into "compliance gatekeepers." These systems operationalise regulatory expectations with greater precision and transparency, strengthening investor confidence in the institutional integrity of cross-border transactions. At the same time, enhanced system reliability, interoperability, and seamless verification processes improve perceived usefulness and ease of use, reflecting the Technology Acceptance Model's core propositions. As AI reduces regulatory friction, increases operational predictability, and enhances perceptions of safety, investors become more willing to initiate and sustain international transactions. Empirical evidence shows that platforms with robust, transparent, and adaptive AI-driven compliance attract higher user engagement, increased transaction volumes, and deeper integration into global financial networks. Ultimately, AI-enabled compliance functions as a catalyst for capital mobility and global market participation by lowering informational and regulatory barriers and embedding trust into the architecture of cross-border investing.

7. NOVEL CONTRIBUTIONS

This study advances scholarship on digital finance and cross-border investment in several important ways. First, it provides a theoretical integration by synthesising previously isolated insights on AI-driven trust cues, blockchain-based security, and regulatory compliance into a unified framework. By combining Information Asymmetry Theory, Institutional Trust Theory, and the Technology Acceptance Model, the study explains how AI-driven compliance simultaneously reduces uncertainty, enhances institutional credibility, and shapes investor adoption behaviours. This holistic perspective deepens theoretical understanding of the mechanisms through which AI fosters trust and promotes participation in cross-border digital finance.

Second, the study has clear policy and practical relevance. By emphasising explainable AI, transparent audit trails, and adaptive compliance architectures, it provides evidence-based recommendations for designing trustworthy digital finance platforms capable of operating across multiple jurisdictions. The findings also underscore AI's potential to transform regulatory supervision from reactive rule enforcement to predictive, risk-based oversight, offering practical guidance for the development of RegTech and SupTech systems. Finally, the study lays the foundation for future research by identifying gaps related to long-term behavioural effects, cross-country comparative analyses, and the scalability of multi-jurisdictional AI systems. Conceptualising trust as the outcome of technological, institutional, and behavioural interactions, it opens avenues for empirical validation using quantitative, qualitative, and mixed-method approaches in diverse digital finance contexts.

8. CONCLUSION

The rapid digitalisation of global finance has created unprecedented opportunities for cross-border investment, yet persistent challenges related to security, transparency, and trust continue to constrain participation. Investors face complex risks arising from jurisdictional fragmentation, regulatory uncertainty, and vulnerabilities in platform governance, which exacerbate information asymmetries and undermine confidence. This study addresses these critical gaps by demonstrating that AI-driven compliance is a central mechanism for mitigating such challenges. By leveraging real-time monitoring, predictive analytics, anomaly detection, and explainable AI (XAI) systems, digital finance platforms can provide transparent audit trails, seamless verification processes, and adaptive risk management, thereby fostering investor confidence and enabling more robust cross-border financial participation.

The study makes a substantive theoretical and practical contribution by integrating Information Asymmetry Theory, Institutional Trust Theory, and the Technology Acceptance Model into a unified conceptual framework. This synthesis clarifies the mechanisms through which AI-driven compliance reduces uncertainty, enhances institutional credibility, and promotes technology adoption. Drawing on a thematic synthesis of evidence from academic research, regulatory reports, and industry practice, the study positions AI not merely as a technical enhancement but as a foundational enabler of trust, governance, and operational integrity in global digital finance.

From a practical perspective, AI-enabled compliance systems offer strategic advantages by improving operational efficiency, reinforcing investor trust, ensuring regulatory alignment, and facilitating deeper integration into global financial networks. Ultimately, this study establishes a theoretically grounded, empirically informed foundation for understanding how AI-driven compliance underpins trust formation, investor confidence, and sustainable cross-border investment. It underscores that the future of global digital finance will depend not only on technological innovation but also on the ability of platforms to integrate AI-enabled compliance into the very architecture of cross-border investment, creating secure, transparent, and predictable financial ecosystems that can withstand the complexities of multi-jurisdictional markets.

9. PRACTICAL AND MANAGERIAL IMPLICATIONS

The findings of this study yield several important practical and managerial implications for digital finance platform operators, regulatory institutions, and policymakers. First, the analysis demonstrates that AI-driven compliance mechanisms can substantially enhance risk management and operational integrity in cross-border financial ecosystems. Through real-time monitoring, predictive analytics, and automated anomaly detection, AI systems enable platforms to identify emerging risks proactively and to respond with greater precision than traditional compliance processes. This capability not only reduces operational vulnerabilities but also strengthens the reliability of platforms operating across multiple regulatory jurisdictions. Second, the study underscores the critical role of transparency and explainability in building and sustaining investor trust. Digital finance managers should prioritise the integration of explainable AI (XAI), blockchain-supported audit trails, and automated verification architectures that make compliance processes observable and easily interpretable.

Third, the study highlights significant strategic benefits for firms that adopt AI-enabled compliance as part of their governance architecture. Such platforms can differentiate themselves by demonstrating superior regulatory alignment, enhanced due diligence capabilities, and stronger adherence to global financial standards. This creates a competitive advantage and positions firms to attract both institutional and retail investors who increasingly demand transparency, security, and predictability in digital finance environments. Finally, the findings offer actionable insights for regulators and policymakers. AI-enabled compliance architectures facilitate more effective supervisory oversight by shifting regulatory practices from reactive, rule-based enforcement toward predictive, risk-based intervention. Regulators can leverage these systems to enhance surveillance capacity, harmonise regulatory expectations across jurisdictions, and reduce systemic risks in cross-border financial markets.

10. LIMITATIONS

Despite its theoretical and conceptual contributions, this study has several limitations that should be acknowledged. First, the research is primarily conceptual and relies exclusively on secondary data, including scholarly articles, regulatory reports, and industry case studies. While this approach allows for a comprehensive synthesis of existing knowledge and the development of a unified framework, it does not provide direct empirical validation through primary data collection or experimental testing. Second, the temporal scope of the review, limited to studies published between 2018 and 2025, may not fully capture emerging AI technologies, evolving regulatory frameworks, or novel digital finance models beyond this period. Third, while the study addresses cross-jurisdictional considerations, regulatory, institutional, and cultural differences across countries may affect the generalizability of the findings. Finally, the effectiveness of AI-driven compliance mechanisms depends on technological heterogeneity, including data quality, model interpretability, and organisational capacity, aspects that are not explored in detail in this conceptual analysis.

11. FUTURE RESEARCH DIRECTIONS

Building on the identified gaps, several avenues for future research emerge. Empirical studies are needed to validate the conceptual relationships proposed in this framework, using quantitative, qualitative, or mixed-method approaches to examine how AI-driven compliance influences trust, investor confidence, and cross-border investment behaviour in real-world contexts. Cross-country comparative studies could explore how variations in institutional quality, regulatory stringency, and cultural factors moderate the effectiveness of AI-enabled compliance mechanisms. Longitudinal research would provide insights into the sustainability and evolution of trust formation and investment behaviour over time, particularly as AI technologies and regulatory regimes evolve. Further investigation into technology-specific implementations, such as reinforcement learning, federated learning, and natural language processing, could clarify how different AI architectures perform in cross-border compliance tasks, including fraud detection, KYC automation, and ESG reporting. Additionally, research into human-AI interaction and governance could examine how oversight, ethical considerations, and explainability influence the adoption and credibility of AI compliance systems. Finally, as decentralized finance (DeFi), digital currencies, and tokenized assets gain prominence, future studies should assess how AI-driven compliance can manage emerging risks and regulatory challenges in these rapidly evolving digital finance environments. Collectively, these

directions provide a roadmap for empirically validating, refining, and extending the conceptual framework, ultimately advancing both theory and practice in AI-enabled cross-border finance.

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