

Original Article

AI-Powered Cross-Border Financial Data Integration

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Abstract

International financial institutions face different challenges in cross-border integration of financial data owing to diverse legal frameworks, inconsistent data formatting, and security concerns. The goal of this paper is to try to find the role of AI in mitigating such problems by correctly enabling compliance with the law and the efficient integration of cross-border financial data. We discuss how things were initially done and their associated problems, and how they are done now. This research proposes an architecture based on AI and the rule of law, with techniques for natural language processing, machine learning, and deep learning, in order to integrate data from multiple sources and real-time data validation. Real-life case studies depict both the beneficial and not-so-beneficial sides of AI in the concerned domain. Finally, we discuss some potential avenues for future research that address newer AI systems and ethical issues arising when the financial data from various countries is integrated.

Keywords

Cross-Border Financial Data, Data Integration, Artificial Intelligence (AI), Machine Learning, Natural Language Processing (NLP), Financial Technology (FinTech), Regulatory Compliance, Data Privacy, Data Harmonization, Deep Learning.

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1. Introduction

A. Context and Importance of Integrating Cross-Border Financial Data

Because the world economy is so interlinked, banks and other financial institutions do more business with people from other countries. It should be easy to find and put together financial data from many different countries. Cross-border financial data integration involves the process of integrating and standardizing financial data from a variety of countries into data one could analyse, report upon, or make decisions from. This integration is quite crucial for banks, businesses, investment firms, regulatory agencies, and all dealing in business or investing in countries other than their own. When the integration is done properly, fraud is easier to detect, other countries' regulations are easier to observe, better business insights can be gained, and risks are more effectively controlled. Businesses really have a problem when they cannot connect with ease because of differences in transaction standards, bookkeeping rules, and information formats. Doing this can only delay all procedures and probably cause some money errors.

B. Difficulties in Handling Cross-Border Financial Data

It is hard to collate data coming from different countries with their unique characteristics of financial systems. Major challenges include that the financial data may exist in various forms and on diverse systems. In addition, regions of the world have diverse languages, currencies, and accounting and reporting standards, including IFRS and GAAP. That is possible. Various stipulations contained within GDPR, AML, and KYC make sharing and analysing private financial information difficult. Each one of those directives has rigorous stipulations in every country with regard to how companies should meet the expectations of each. You have to seriously consider privacy and data security, since any breach might damage your reputation and legal standing. Different protocols and speeds for sending data between global companies will present problems with regard to keeping data in sync in real time and make integrated information less accurate and timely.

C. Artificial Intelligence's Impact on Financial Data Integration

AI can only help you solve those problems when you try to combine financial data from different countries. With the use of different forms of AI, such as machine learning, natural language processing, and deep learning, large-scale data in various sources can be intelligently put together. AI algorithms provide readability to unstructured data; these come in the form of rules in many languages and financial statements, and it can convert those into standard formats. Machine learning models will help detect fraud and monitor compliance by uncovering patterns; they are able to flag suspicious-looking transactions for further investigation. It automates activities that take longer and go wrong more often, like data harmonization. This also speeds up the processes and helps the banks and other financial entities become compliant but still make fast decisions based on their knowledge.

D. The Paper's Goals and Scope

This paper looks into the current state of AI and how AI can be used in the future to facilitate cross-border financial data exchange. It considers how AI addresses these issues and tries to paint a comprehensive picture of the problems that arise when trying to integrate globally diverse financial data. The study will review current approaches, identify gaps in knowledge and practice, and put forward an AI-powered framework for integrating data legally and efficiently. It covers everything from rule and technology to how things work and will prove helpful for banks, technology developers, and regulators who use financial data from around the world.

2. Literature Review

A. An Overview of Current Financial Data Integration Techniques

People have predominantly used rule-based systems, standard data exchange protocols, and manual processes to assemble financial data. Several strategies exist for extracting data from various sources and making the data more accessible, including ETL workflows, middleware, and data warehousing. All these fails when it comes to dynamic datasets and rich variety in data, since they all depend on prebuilt schema and mappings. Banks and other financial institutions apply standardized messaging formats such as SWIFT and ISO 20022 in trying to facilitate communication among participants. However, these standards serve better for transactional data than for integrating various financial data sets. These approaches work to a certain extent; however, they will not suffice for cross-border financial activities that need to be extensible, dynamic, and processable in near real time.

B. Current AI Methods for Processing Financial Data

The old ways of handling money are no longer effective, but new methods employing AI can help. Natural language processing will read and understand unstructured text data like contracts, financial reports, and regulatory papers. You also get to use machine learning algorithms to find outliers, notice patterns, and make predictions. That helps find fraud and determines what is going to happen in the market. Neural networks and other models of deep learning make it easier to look at big, complicated sets of financial data. AI also makes the process of mapping various data taxonomies and fixing unmatched data entries much faster. Quality of data, ease of using models and rules governing them are not perfect yet, but these methods make working with financial data faster, better, and smarter.

C. Frameworks and Standards for Cross-Border Data Integration

Various people have, so far, thought of different frameworks and standards that would facilitate cross-border sharing of information among the financial sectors of different countries. Among them are the General Data Protection Regulation, International Financial Reporting Standards, and messaging standards such as ISO 20022. Other groups ensure that countries follow the rules: for example, the Financial Stability Board and International Organization of Securities Commissions. Recently, ontologies and semantic web technologies have increasingly been adopted within data integration platforms with the intention of allowing heterogeneous financial data schema to interoperate. Commonly, constructing common integration frameworks poses a challenge since the regulatory requirements and standards keep on changing. It calls for new and changing answers.

D. Research and Practice Gaps in the Present

While research and business practices have considerably improved, there are still many holes. Many of the existing systems cannot support rapidly changing new data sources and rules. AI methods have to be more closely

combined with deep financial expertise if models are to become increasingly accurate, and make sure they conform to regulations. A total understanding of federated learning and secure multi-party computation as two major privacy protection methods where rules make sharing across borders difficult remains scant by people. Understandability and explainability of AI models, especially when regulators want to see them, is still a tall order. These gaps underline the need to have AI-driven frameworks that are all-inclusive and find a balance between moral issues, adherence to the law, and progress in technology.

3. Cross-Border Financial Data Integration Challenges

A. Data Heterogeneity (Languages, Formats, And Standards)

Financial data cannot be integrated across countries easily because the systems capturing the data speak different languages, use different formats, and apply different rules. Because different countries have systems that capture this data in their own languages, formats, and rules, it becomes hard to integrate financial data across different countries. Financial data can be stored in structured formats, such as relational databases; in semi-structured formats, including XML or JSON; and in unstructured formats, which include PDFs and text reports. Each country has a different way of dealing with other nations. Other countries apply IFRS, while yet others apply Generally Accepted Accounting Principles. Of course, the things that make this harder are the fact that numbers can be shown in different currencies or units, while matching data fields might not lineup. In addition, multilingual data sources require good natural language processing so the translations are correct and the meaning is clear. We apply some really complex methods of transformation and normalization in order to create one dataset for use in analysis and compliance.

B. Issues with Regulation and Compliance (GDPR, AML, KYC, etc.)

There are so many regulations involved in consolidating financial information across many countries. They exist in the interest of personal information security and also to avoid any intention of breaching the law for financial gain. The whole European Union had a law under GDPR that gave stringent directives on how to handle personal data. For example, it tells how to seek consent and maintain privacy. Such regulations give indications of where your personal financial information should be transmitted and kept. AML and KYC laws bind the businesses to be extremely careful while verifying and monitoring every transaction of each customer, checking the identification of customers, deterring fake identities, and watching out for terrorist financing. Sometimes, it's tough to abide by the regulations because usually they are unfamiliar, or sometimes even conflicting against other regulations, whereas in another country it may be different. Companies have to be transparent in the manner of disposing of data and uphold the regulations concerning who accessed it and check frequently. Also, they need to be thinking of how well data and operations work together.

C. Data Security and Privacy Issues

Given that the financial information arises from different countries, this is very private and sensitive and hence needs protection. In case there is a loss of data, a corporation may suffer considerable loss, damage to reputation, and even some kind of legal complications. Of course, strong encryption, secure transmission protocols, and intrusion detection systems need to be set up by financial institutions like banks for both data in motion and at rest. Similarly, restricting log-ins and showing data only to those who need to access can keep it safe. The moment the data moves from network to network and from government to government, each having its different mandates about how to protect it, things become further precarious. Of the two newer kinds of cyber threats, ransomware and more sophisticated phishing attacks pose problems that refuse to go away. You need a plan that leverages newer technology with stringent rules and policies on how to protect your data while you combine it.

D. Scalability and Real-Time Data Synchronization

The financial markets keep changing, and financial data flowing from all over the world has to be collated and synchronized almost in real time. Due to time zones, network transmission delays, and processing delays, it is not easy to do so across borders. Systems must have infrastructure capable of handling huge inflows of data which constantly come in by scaling up, processing, and refreshing the data sets instantaneously. Poorer data synchronization may lead to slower or less frequent reporting of compliance and decision-making, especially in those cases where the financial analysis might be incorrect or outdated. Being scalable also involves being able to

take on more data when businesses grow worldwide. Meeting such requirements for real-time and scalability definitely requires architectures that support distributed computing, cloud computing, and AI-driven automation.

4. AI Methods for Integrating Financial Data

A. Using Natural Language Processing (NLP) to Extract and Transform Data

NLP will help you understand reports, contracts, and emails, among other types of financial data which may be poorly or partially organized. The techniques that can do independent reading and understanding of texts in a large number of languages are named entity recognition, sentiment analysis, and machine translation. This skill is very helpful in cross-border integration because compliance documents and financial disclosures usually use different languages and styles. Besides, putting text data into structured forms makes the aggregation and analysis of the data easier. So, NLP helps with smart data mapping wherein it saves the time of the people by finding the important financial ideas and their relationships within long documents.

B. Machine Learning for Validating Data and Detecting Anomalies

4.2. Machine Learning-based Approach to Detecting Errors in Data People use machine learning while compiling financial data to find mistakes and validate data. Anomalies that these models can find might point to mistakes, fraud, or non-compliance in that they learned how transactions, accounting entries, or reporting trends usually work. Both supervised and unsupervised learning methods can adapt with financial data and make error findings easier with time. Machine learning will support automated validation of the consistency for all data coming out of all sources and spotting of broken or missing values. That way, automation speeds up the compilation of data and makes it better, reducing the number of checks on the manual side. You need to do all those things in order to keep your good name in international money transfers.

C. Deep Learning Models for Predictive Analytics and Pattern Recognition

Two types of deep learning algorithms, such as convolutional neural networks and recurrent neural networks, have been employed in order to find the complex nonlinear patterns in huge financial datasets. Such models turn out to be very useful in the context of market trend analysis, credit risk analysis, and time series data. They allow you to conduct predictive analytics for making smart choices. It is difficult to visualize the relationship of the different countries' data once you integrate data from different countries. That is where deep learning helps. In this way, it becomes easier to follow the rules and to track the portfolio. Deep learning helps to get the features and reduces the number of dimensions that will be helpful when there is a need to go through lots of different financial data. These models are difficult to use, but they can help to get useful information out of combined international financial data.

D. Utilizing Ontology and Knowledge Graphs to Integrate Semantic Data

Ontologies and knowledge graphs are ways to organize data that help computers understand how money works, what things are, and how they are related to each other. These technologies make it easier to think about data that is linked by giving it a common structure and language. They also let different data sources talk to each other. Ontologies can help different ways of looking at the data come together and get rid of languages and standards that do not work well together when data crosses borders. Knowledge graphs let data points connect in real time, making it much easier to see and track money transactions. Putting things in context is how people manage to understand them better. It is also a very important part of following the rules and keeping risks under control. The same also improves the data and makes possible the performance of more complicated analyses.

E. AI-Powered Data Reconciliation and Harmonization

AI-driven data harmonization ensures consistency in data coming from different locations so that data can be used together. Finding duplicate records through AI helps fix the differences and merge variant data fields into one standard template. This is achieved through record linkage, entity disambiguation, and grouping. This step is very crucial during cross-border integration because different ways of representing data are common. The AI model will be able to learn with little human intervention to handle new types of data with complicated rules. This makes them more productive with fewer errors. Reconciliation ensures the accuracy of data coming from different sources; hence, it is easy to view and report on finances. All these AI features put together enable the combining of financial data from different countries in a coherent, dynamic, and changing way.

5. Framework/Procedure for AI-Powered Cross-Border Financial Data Integration

A. Architecture of the System

The AI-driven cross-border financial data integration system shall safely deal with data inflows flexibly and on a large scale from many different international sources. Such network architecture may typically consist of several layers: data ingestion, preprocessing, AI processing, and data storage. The data ingestion layer will integrate with a lot of different systems that the company does not own, including but not limited to financial systems, databases, APIs, regulatory archives, and many others. It will be able to support multiple types of data and many means with which people communicate to one another. The preprocessing layer makes sure the data collected can be read by AI. The AI processing layer consists of models and algorithms for differentiation, inference, and anomaly detection purposes. Besides that, there are tools for data visualization and reporting, securely storing data with encryption and access controls. Thus, it allows users of the system to work with data that are already in the system. Because many people are using microservices and cloud computing to make systems more user-friendly and flexible, it can allow the system to adapt to new rules or additional data.

B. Gathering and Preparing Data

The data collection on cross-border financial integration involved a mix of sources: banks, stock exchanges, government agencies, and financial news portals. In turn, it might include a mix of structured transaction records, semi structured XML feeds, or unstructured reports and contracts. For speed in data acquisition, solid connectivity and APIs are needed to keep up with new changes in formats, frequencies, and interoperability. Preprocessing means cleaning the raw data and normalizing it into a more readable form for AI systems.

Normalization ensures dates, currencies, and units are all written consistently. Cleaning means taking out mistakes, inconsistencies, and duplication in data. Enrichment, however, adds metadata so that meaning is provided to the data. NLP allows for finding people, things in text, and feelings. Data preparation stands out as one of the most important tasks for making a model more correct; this is a way to ensure that the AI processes that happen after it always get good-quality inputs.

C. Design and Training of AI Models

The data collection on cross-border financial integration involved a mix of sources: banks, stock exchanges, government agencies, and financial news portals. In turn, it might include a mix of structured transaction records, semi structured XML feeds, or unstructured reports and contracts. For speed in data acquisition, solid connectivity and APIs are needed to keep up with new changes in formats, frequencies, and interoperability. Preprocessing means cleaning the raw data and normalizing it into a more readable form for AI systems. Normalization ensures dates, currencies, and units are all written consistently. Cleaning means taking out mistakes, inconsistencies, and duplication in data. Enrichment, however, adds metadata so that meaning is provided to the data. NLP allows for finding people, things in text, and feelings. Data preparation stands out as one of the most important tasks for making a model more correct; this is a way to ensure that the AI processes that happen after it always get good-quality inputs.

D. Workflow and Integration Pipeline

It's an integration pipeline using AI in the collection of data, sorting, analysis, and storage of financial data coming from many different countries. First, it collects the data on its own. Then, it cleans up the data and makes sure it's the same as other datasets so that you can use it with them. Next, AI modules check for and fix entity problems, enforce consistency, and look for anomalies. They surface problems to be fixed by a human or computer. The pipeline helps AI models to improve over time with feedback loops happening continuously. Checking the data on its accuracy and observing rules, with workflows automated, reporting back becomes easy and quick to do. Monitoring components look out for issues in data quality, performance of the system, and its security. More data processing should not make it slower or introduce errors; it should be designed to be scalable and fault-tolerant.

E. Mechanisms for Security and Compliance

Any intention of consolidating financial data across different countries should observe security and compliance first, given the set of rules involved and the very personal nature of money matters. Whenever data is in transit or storage, they have to be encrypted through standard methods like TLS and AES. Controls on access

should be role-based to ensure that only properly permissioned people and systems can access datasets. Audit trails keep track of everything done to access and manipulate data, which makes compliance audits easier because it will be easy to trace what happened during audits. Two AI techniques maintain your information private: federated learning and differential privacy. These can work in unison to protect the data while letting model training happen across different locations. In addition, automated regulatory checks should be implemented for the enforcement of laws such as the GDPR, AML/KYC, and limits on cross-border data transfer. It should also provide remediation sources to address problems quickly, detect violations, and report to the regulatory body.

6. Applications and Case Studies

A. AI-Powered Cross-Border Financial Data Integration Examples

Use of AI by some of the most advanced banks and fintech companies has resolved some of the common challenges that arise when various countries share information. Some of the key examples are the use of AI-powered platforms in the automated collection of transaction data from their worldwide branches, standardizing and then running machine learning models to find out suspicious activities which meet the local AML standards. Other examples are the use of NLP for identifying regulatory disclosures from a wide range of sources and normalizing these into a standard format. The use would, therefore, be able to report and monitor compliance as it occurred. Several fintech companies make use of AI in collecting information from customers around the globe. It would provide a better understanding of what credit and risk scores mean. These apps show how AI can support individuals in making faster decisions in complex global financial situations, reduce manual labor, and provide consistency in data.

B. Benefits Seen (Accuracy, Efficiency, Compliance)

AI-driven integration systems automate all the jobs of data collection, transformation, and validation. Because of this, everything works a lot better. Machine learning algorithms will help you work with financial data in finding mistakes made by people and problems which rule-based systems cannot find. The automated validation and reporting system would ease the complicated rules for people to follow and reduce the likelihood of getting a ticket for failure to do so. AI systems have allowed quicker work with big volumes of data and getting updates in almost real time. This is important for rapid reporting and monitoring of risks. Businesses based on full logging and explainable models of AI would be more transparent, easy to verify, and therefore would gain more trust from stakeholders.

C. Obstacles Met and Remedies Put in Place

We have a lot of issues to fix before AI-powered cross-border financial data can be used. Normally, people do not share raw data across borders because they do not want to intrude into someone's privacy, and that makes it hard to train and test models. The businesses need compliance frameworks which are specific because the rules are different for each area. You also get technical problems trying to mix old systems with new AI technology; you need phased migration plans and hybrid architectures. The interpretability of the model is another problem since regulators want AI to make decisions which are easy to understand. Some solutions are federated learning, which will enable model training in a distributed manner without the need to share raw data, developing modular compliance frameworks that can be customized to fit local rules, and building explainable AI techniques so the output from models is more comprehensible by auditors and regulators. It is also easier to make changes if tech suppliers and regulators collaborate.

7. Discussion

A. AI's Effect on International Financial Data Management

AI changed how international banks handled, inspected, and followed the rules for keeping financial data that crossed borders. Automating mundane and challenging tasks from the business itself, AI is helping businesses handle ever-increasing volumes of financial data. It picks up minor patterns that regular systems cannot detect, making fraud detection and risk profiling easier, along with collecting insights on finance. AI allows agility that will help companies move faster towards new market realities and regulations. This, in due time, will mean a shift

toward more stability and openness of the global financial system, wherein operations will be resilient, compliance cheaper, and decision-making easier.

B. Restrictions and Possible Hazards

While AI might change how financial information is put together, there is a host of associated risks and limits to its use. For example, if the data input is poor—that is, incomplete or inaccurate—the model's predictions may easily go wrong. The upshot can be impaired trust and compliance. Some AI models are black boxes, hence difficult to study and gain regulatory approval. If too much reliance is placed on AI, people may stop caring much about automation. That means reduced control by humans, who are then more likely to make unexpected mistakes. As more and more AI systems get deployed, the number of sophisticated hacking incidents also goes up in attempts to manipulate either the data or the models, hence posing an increasing threat to cybersecurity. Finally, there are moral issues related to questions of fairness, data privacy, and algorithmic bias. What is needed is a well-considered risk management strategy that will include robust governance, continuing human intervention, and technical security.

C. Moral Aspects to Take into Account

Ethics are an important thing you should consider when using AI to piece together financial data from different countries. To be precise, financial companies have to make sure their artificial intelligence systems protect individuals' personal information, especially when data protection laws are at their most stringent in some countries. Openness is vital for mutual trust. That is to say, the workings of AI models have to be explainable for why they did what they did. AI engineering should, therefore, be programmed to eliminate bias and discrimination irrespective of an individual's race, nationality, or social status. This will ensure fairness across the board. Besides, actions that may lead to punitive measures against an individual should also be explored when failures or undesirable situations caused by AI systems occur. People are more likely to be honest, fair, and follow the rules when they responsibly use AI. All this helps you keep track of your money in a manner that is good for all over time.

8. Future Directions

A. New Developments in Artificial Intelligence (Such As Explainable Ai and Federated Learning)

New AI technology can even more facilitate the integration of financial information coming from different countries. Federated learning protects privacy and ensures people follow the rules by enabling model training on various data sources without moving the raw data. Explainable AI is trying to make AI models more understandable, which by their nature are difficult to understand, so people can trust choices that machines make. Furthermore, new breakthroughs in transfer learning and reinforcement learning enable the development of AI systems that can improve over time with less help. All these technologies, if they could find a balance between data privacy, interpretability, and model performance, working in concert might solve existing problems and make AI more pervasive in international financial ecosystems.

B. Using AI to Improve Regulatory Compliance

Reg Tech is getting better with time, and AI will further ease the path to compliance for companies. AI can monitor every transaction continuously, execute complex compliance tasks autonomously, and create audit-ready data immediately. Predictive analytics can enable proactive mitigation through the identification of regulatory risks and possible violations before they happen. Setting standards and benchmarks for AI compliance tools will be easier to be performed by AI developers in concert with regulators. Application of AI and automated KYC/AML verification systems in smart contracts will make adaptation to shifting rules easier, too. All this will contribute to making adherence to the rules easier without compromising their stringency.

C. Cooperation Between Regulators and Financial Institutions

In the future, cross-border integration of financial data requires better collaboration among banks and governments. If everyone collaborates in developing common AI governance frameworks, standard data formats, and open auditing processes, it will be easier to build trust and consistency. Regulators are also increasingly using AI to make sure rules are followed and accountability is ensured. This allows the government and businesses to collaborate in creating AI tools helpful in conducting their businesses and abiding by the rules. Having

conversations with each other and sharing information across borders will facilitate harmonization of rules across borders. This would indeed allow better use of global financial data and prevent its fragmentation.

D. Prospects for the Convergence of Blockchain and AI

Together What's new, what's interesting, is blockchain technology that integrates financial data across borders with AI. With blockchain, the origin of both data and money will show a secure and transparent provenance in an immutable, decentralized ledger. On this trusted source, AI may apply enhancement to predictive modeling, analytics, and fraud detection. Smart contracts, in blockchain systems, allow for automated enforcement around compliance regulations. Fewer people need to monitor things. We can take that intelligence from AI, the openness of blockchain, and fix a lot of problems we have right now: trust issues, data integrity issues, real-time verification. This synergy, so to say, researched in the not-so-distant future, could bring cross-border financial systems closer to becoming more reliable, speedier, and compliant with rules.

9. Conclusion

A. An Overview of the Main Conclusions

The paper has discussed hard problems and new ways of sharing financial information across borders with a focus on how AI can change the game. The main results provide evidence that machine learning, deep learning, and natural language processing are representative broad classes of AI technologies effective in solving security, regulatory, and data diversity-related challenges brought in by global financial systems. Adding AI to data makes the outcomes more accurate and provides real-time insights by harmonizing data and outliers, and automatic understanding of meanings. Further, the report discusses vast changes in AI-based systems that help people follow different sets of legislation, like GDPR, AML, and KYC, besides dealing with moral issues and privacy. Certain challenges persist with regard to data privacy, model interpretability, and ethics; case studies again illustrate how this improves the following of the rules, reduces risk, and enhances efficiencies. Results from the activities indicate that AI is capable of establishing a solid, secure, and scalable infrastructure for easy implementation of cross-border sharing of financial information.

B. AI's Role in Facilitating Smooth Cross-Border Integration of Financial Data

AI can help financial data move smoothly across borders because it can handle a great deal of various data types fast and precisely and can conform to complicated rules and regulations. Most rule-based systems could not handle international financial data because of their continuous flow in many languages, forms, and legal systems. Advanced models for analytics and adaptive learning algorithms in AI help companies detect and predict issues and integrate various kinds of information. It means a lot to them in doing their jobs better and keeping within the rules. Automation with the use of AI increases the speed of the processing of data, reduces human-error mistakes, and obliges people to make decisions immediately. All these things mean a lot in today's fast-paced global financial markets. It is with AI that the world becomes a safer and friendlier place: filling gaps in rules and technology, it encourages trust, openness, and new ideas in cross-border financial activities.

C. Concluding Comments

AI handling of cross-border financial data is a big change which has fixed some long-neglected problems and opened up new pathways to collaboration and creativity for persons. With huge potential, AI also bears lots of duties concerning privacy, ethics, and governance for appropriate and lawful results. AI grows steadily; new technologies such as federated learning and the integration of blockchain will make the ecosystems of financial data much safer and more powerful. Thorough use of AI in cross-border integration requires the co-operation of banks, regulators, and technology developers who should make the environment clear. This work lays the ground for further research and applications in real life within both aspects: facilitating easier, safer, and more legal combination of different countries' financial data and helping people learn more about the basics of this tough area.

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