
Microsoft
5 ways blockchain is transforming Financial Services

Introduction

The Financial Services industry is fundamentally about facilitating the trusted exchange of value between multiple, untrusting parties. Brokering that trust is an enormous responsibility and carries significant risk, which is why the industry has become increasingly reliant on costly intermediaries, manual processes, and error-prone reconciliations. Today, more and more Financial Services institutions are looking to blockchain to enable more efficient cross-organizational collaboration, eliminate intermediaries, and create disruptive business models.

Blockchain appeared in 2008 as the basis of the Bitcoin protocol. Bitcoin's combination of cryptography and distributed systems enables value to be transferred as quickly as the internet transfers data. While this was initially limited to facilitating immediate "spot" transactions, new protocols such as Corda and Ethereum eventually enabled users to set terms under which they would transfer value at a future point in time. It was then that enterprises – particularly in the financial services industry – began to take notice.

Over the past 2-3 years, blockchain has emerged as a viable technology for addressing multi-party business processes and value exchange without complex shared data schemes and third-party intermediaries. At its core, a blockchain is a secure, shared, distributed ledger – a new shared data structure where banks can record transactions and work together to validate updates. Smart contracts act as a shared tool to govern changes to the underlying ledger in accordance to pre-agreed rules or terms.

This shared record enables organizations to collaborate more efficiently – and because every member of the network holds a record of every transaction, it is nearly impossible to manipulate data undetected. While cryptocurrencies like Bitcoin were responsible for popularizing blockchain technology, blockchain protocols with business-oriented uses are now proliferating, revealing the value of this innovative technology to disrupt business models and transform operations. This offers three key benefits:

RISK MITIGATION

COST REDUCTION

IMPROVED CUSTOMER OUTCOMES

Let's take a look at five functions of Financial Services that are already being transformed by blockchain technology.

RISK MITIGATION

COST REDUCTION

1 Trade Finance

Helping to mange the financial risk of international trade for importing and exporting parties

Current state

Today's solutions for managing trade finance are built on antiquated technology and processes that exist in silos. This adds significant risks, complexity, and time into trade processes, as all parties have to manually verify data. Pain points include:

- Error-prone, manual processes for creating, validating, and auditing trade data and documentation
- Siloed data that is difficult to verify, leading to multiple versions of the truth and major fraud, compliance, and audit risks
- Disconnected legacy systems that limit new business opportunities and make it difficult for small and medium businesses to gain access to financing alternatives

Future state

Blockchain opens the door for streamlined trade finance, enabling participants to exchange data easily and track assets in real-time. Microsoft is leveraging Corda, an enterprise-grade ledger that enables banks to limit who sees what information and selectively share data with only relevant parties. The solution involves blockchain technology paired with Azure and APIs, and could be used in the future to involve technologies like AI, machine learning, IoT, and more. Benefits include:

- Simplified integration between banks, corporations, and the ecosystem of trade service providers of KYC and credit data
- Reduced risk of fraud and lower compliance costs
- New business opportunities enabled by ease of connections to new origination sources and the ability to build secure data pipelines to pools of financeable assets

Blockchain at work:

Issuing an SBLC in days, not weeks

The situation

In 2015, Microsoft's business model shifted from selling software licenses to digital subscriptions. As a result, the number of partners selling cloud services increased rapidly, straining the existing risk assessment processes of Microsoft Treasury. Microsoft needed to quickly scale up their process of assessing creditworthiness and working with banks issuing Standby Letters of Credit (SBLC).

The need

The traditional process of issuing an SBLC to partner-sellers was time-consuming and involved many manual verification steps. This was due to a lack of shared data between the banks, the sellers, and Microsoft. This process made it difficult for sellers at Microsoft to operate effectively.

The solution

Bank of America Merrill Lynch collaborated with Microsoft to digitize and automate the credit assessment process with a blockchain-powered shared data repository. As a result, the process of issuing an SBLC was reduced from 3-5 weeks to just 3-5 days. The solution reduced counterparty risk, enhanced audit transparency, and improved predictability of working capital.

Bank of America
Merrill Lynch

RISK MITIGATION

COST REDUCTION

2 Commercial Insurance

High-value insurance scenarios, such as reinsurance, or maritime and aviation insurance

Current state

Specialty insurance deals with high-value assets and typically requires collaboration between many parties: insurers, consumers, brokers, aggregators, platforms, reinsurers, banks, and more. This means that guaranteeing visibility and efficiency between each party is critical. Pain points include:

- Siloed information and lack of standardization of documents and policies results in time and money wasted on manually resolving different data sets
- Lack of real-time visibility into asset location and condition
- Difficulty of accurate underwriting and pricing, due to lack of clarify
- Inefficient, paper-based tracking mechanisms, resulting in time-intensive audits
- High incidence of fraud and financial crime

Future state

Blockchain's ability to provide a single source of truth provides massive operational simplification and data transparency between many parties. Furthermore, blockchain can facilitate the creation of trade consortiums that many organizations can easily join, such as the platform created by EY, Microsoft, and Guardtime. Benefits include:

- Reduced frictional costs and administrative burden, faster payment reconciliation, indisputable audit trails, and lower risk of fraud
- Improved data quality through real-time visibility into the location, condition, and safety of high-value assets moving around the world
- Accurate, dynamic, and fair underwriting and pricing based on better risk assessments
- Better customer service by improving timeliness of claims' processing and payments
- Possible on an enterprise scale through partnership between Microsoft and Corda

RISK MITIGATION

COST REDUCTION

3 Regulatory Compliance

Maintaining and documenting compliance with government regulations – such as Dodd-Frank, Basel III, and KYC/AML – meant to ensure stability and resiliency of markets, protect consumers, and prevent money laundering

Current state

Regulatory requirements are critical to ensuring stability and resiliency of markets, protecting consumers, and reducing the risk of criminal behavior – but maintaining compliance is a hurdle for banks. Failure to prove compliance may result in massive fines. Pain points include:

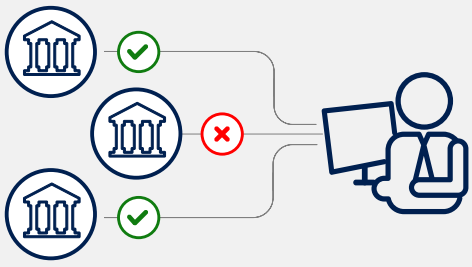
- Duplicative and siloed data sources
- Time-consuming, manual review, reconciliation, and auditing processes
- Difficulty maintaining data lineage across multiple systems
- Risk of data breach at multiple steps in the process

Future state

Blockchain can enable faster, more accurate, more secure reporting by automating compliance processes that draw on undisputable data sources.

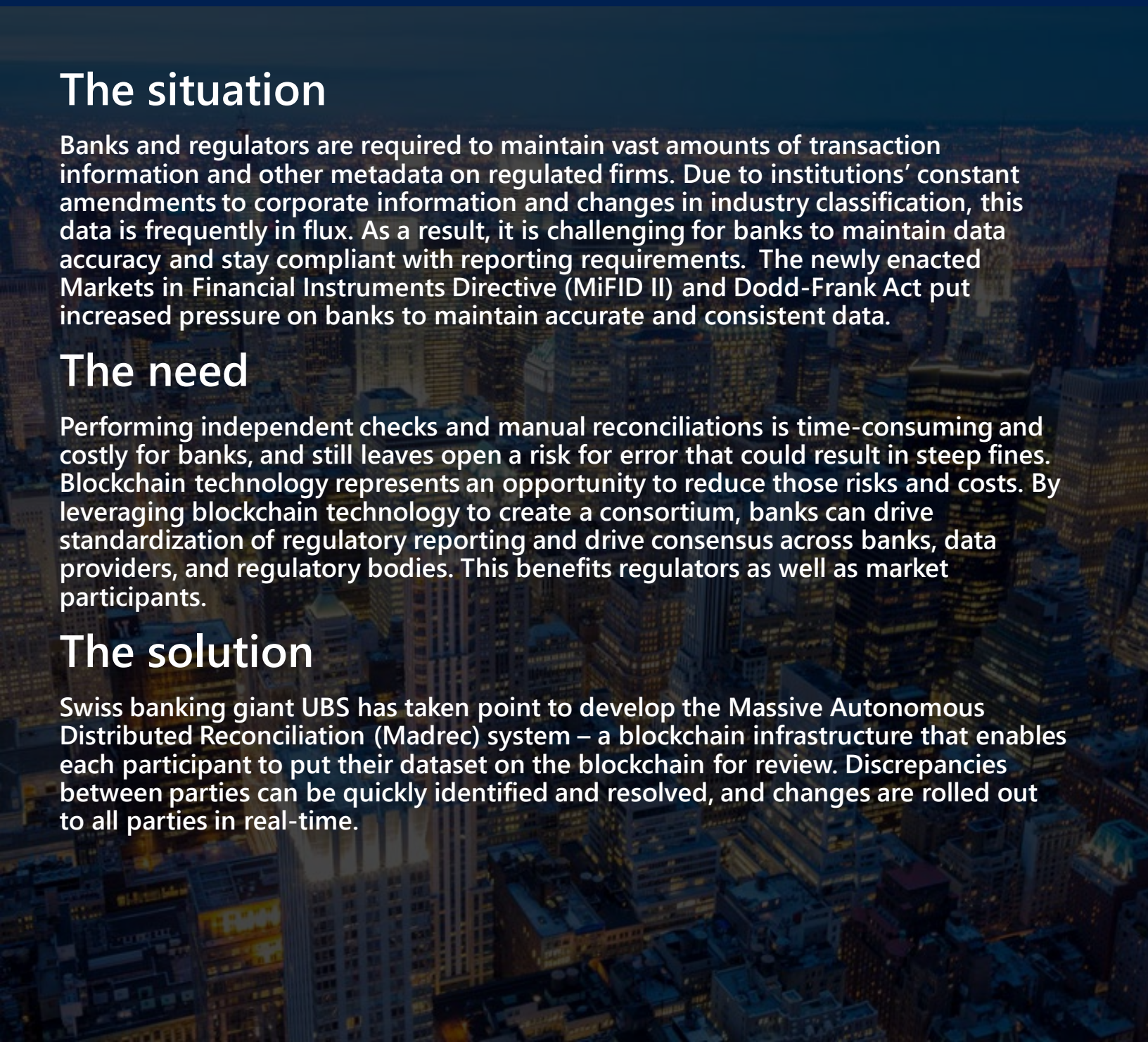
- Private blockchains like Corda enable regulator nodes to "pull" more trade data in a consistent format, requiring less active resourcing from banks
- Secure recording, storage, and review of customer and transaction data throughout the lifecycle, resulting in a significant reduction in back office regulatory reporting costs
- Aggregation of traditionally siloed data sources

Regulators can use blockchain to check for compliance in real time, reducing the need for costly in-person audits



Blockchain at work:

Simplifying compliance and data reconciliation



The situation

Banks and regulators are required to maintain vast amounts of transaction information and other metadata on regulated firms. Due to institutions' constant amendments to corporate information and changes in industry classification, this data is frequently in flux. As a result, it is challenging for banks to maintain data accuracy and stay compliant with reporting requirements. The newly enacted Markets in Financial Instruments Directive (MiFID II) and Dodd-Frank Act put increased pressure on banks to maintain accurate and consistent data.

The need

Performing independent checks and manual reconciliations is time-consuming and costly for banks, and still leaves open a risk for error that could result in steep fines. Blockchain technology represents an opportunity to reduce those risks and costs. By leveraging blockchain technology to create a consortium, banks can drive standardization of regulatory reporting and drive consensus across banks, data providers, and regulatory bodies. This benefits regulators as well as market participants.

The solution

Swiss banking giant UBS has taken point to develop the Massive Autonomous Distributed Reconciliation (Madrec) system – a blockchain infrastructure that enables each participant to put their dataset on the blockchain for review. Discrepancies between parties can be quickly identified and resolved, and changes are rolled out to all parties in real-time.

RISK MITIGATION | COST REDUCTION | IMPROVED CUSTOMER OUTCOMES

4 Claims Processing

Processing insurance disbursements to beneficiaries while protecting against fraud

Current state

The insurance industry is particularly vulnerable to having multiple disparate copies of the same data – and the process of mediating between different versions of the truth is time-consuming and expensive. Pain points include:

- Time-consuming and expensive process of gathering information for assessments
- Differing opinions about the correct value of a claim between a claimant, insurer, broker, adjuster, and more
- Customer frustration due to opaque processes and delays in claims processing
- Threat of insurance fraud

Future state

Automatic claims built on blockchain smart contracts enable a single version of the truth for claim data, increase trust between parties, and create a more efficient claims process. Benefits include:

- More accurate assessments through historical claims data
- Integrated data source for all parties, reducing conflicts about claim value
- Automatic disbursement when criteria are met, reducing hassle for beneficiary
- Reduced risk of fraudulent claims

COST REDUCTION

IMPROVED CUSTOMER OUTCOMES

5

B2B Contract Processing

Services offered by a bank to act as an intermediary between two contracting parties, securely store contract documentation, hold money in escrow, or guarantee a loan

Current state

The current process of contract processing, such as setting up a bank guarantee, often requires multiple in-person meetings between multiple parties and the bank – and this can be a frustrating process. Pain points include:

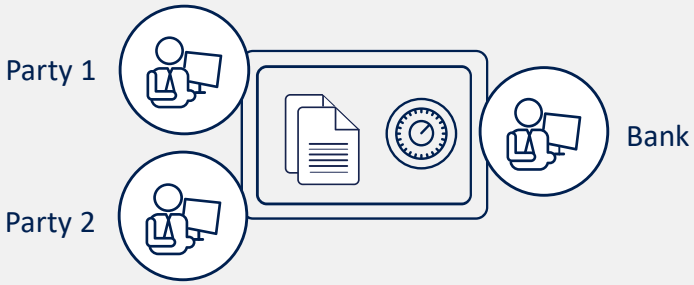
- Time-consuming creation process for all parties, often requiring multiple in-person visits to the bank to go over paperwork
- Repetitive verification process for any changes to the agreement
- Heavy dependence on physical documents, which run the risk of getting lost

Future state

Banks can use blockchain technology to build secure Digital Lockers that store sensitive documents. By creating and maintaining contracts in a Digital Locker, banks can enable all parties to easily and securely collaborate on documents. Benefits include:

- Superior customer experience, as customers no longer have to make multiple bank visits
- Faster and easier document verification and approval
- Increased security and ease of access for documents

Instead of meeting in-person to create and update bank guarantees, the borrower, lender, and bank can all collaborate in real-time on documents stored in a secure digital locker.



Learn what blockchain can do for you

We've seen five areas of the Financial Services industry where blockchain is already showing promise by enabling dramatically reduced risks, lowered costs, and improved customer experience. As blockchain technology grows and matures, it will create dramatic shifts in the industry that will go beyond improving existing processes.

Across the entire life of an asset, blockchain can provide total visibility of movement between banks and customers. This represents a total shift in the longstanding "financial supply chain" from opaque and siloed to transparent and indisputable. With a new era of radical transparency and efficiency improvements, intermediaries can be replaced with direct, trusting relationships between financial institutions and their customers.

Get started with Microsoft today

Curious if blockchain is the right fit for you? Microsoft is uniquely positioned to advise financial institutions on how to leverage blockchain to meet their needs.

- Decades of **enterprise experience and relationships** mean that Microsoft has the expertise to make blockchain meet the needs of businesses – as well as help businesses identify other solutions in scenarios where blockchain is not the right fit.
- We take our **commitment to trust** seriously. Microsoft Azure has more security and compliance certifications than any other hyperscale cloud provider, and we ensure that your data remains in your control.
- We're bringing our **vision of democratizing technology** to blockchain. With Azure Blockchain, enterprises can simplify development with tools that enable developers to get started quickly and scale blockchain projects around shared business processes.
- Microsoft's blockchain offerings are built on our **open, trusted cloud platform** that works with the ledger of your choice and decreases time-to-value by integrating with existing systems of record.

To learn more visit azure.com/blockchain