

Centralization in Blockchain innovation Can banks devise a centralized business model for decentralized Blockchain technologies?

Pascal Koenig

Partner
Consulting
Deloitte

Lisa Rodriguez

Student researcher on Blockchain
opportunities—ISMaPP
Assistant to the Head of Public Affairs
CACEIS

Consensus—the cornerstone of business models for Blockchain technology in banking services

An authenticated system of ownership that verifies the entire transaction chain is no longer a dream in the financial sector: this is what is known as “Blockchain technology.” The ability to automatically and unequivocally check whether a person really owns what they claim and to trust other actors are the new benefits offered by Blockchain and is particularly relevant for financial markets.

Blockchain technology is fundamentally based around consensus, i.e., all parties agreeing to network verified transactions. The anonymity of participants constitutes an expensive commitment, as is demonstrated by the work on the Bitcoin Blockchain; when participants are known and trusted,

commitment is possible without the high costs. This commitment can be created in various ways: namely, proof of a stake, where fraudulent transactions would be penalized, or multi-signature validation, where a previously defined majority could validate a transaction. However, we believe that the best alternative for banking services, especially securities services, would be centralized validation in a powerful decentralized system that retains the need for a trusted third party.

This is an opportunity for the banking industry to make Blockchain technology part of the future of banking—a realistic proposition provided there is a set of contributors with regular asset transfers. This is especially true because regulators would initially strengthen pressure on banks if decentralized

Blockchain-driven financial systems were developed in the future. It goes without saying that Blockchain technology will prove disruptive for all actors in the financial value chain in the medium term. Indeed, the purpose of this article is to go further than the traditional futurist perspective regarding Blockchain; the objective here is to outline the innovation's potential to encourage collaboration on the financial services market. Every sector needs to evolve and innovate; historically, the financial industry has wrongly seemed less concerned about innovation because of familiar existing processes and heavy computing infrastructure, but the evidence suggests that it has always been successful in adapting to innovation. It is time for banks to consider the future applications of cutting-edge innovations so as not to be left behind. To this end, rather than viewing Blockchain as a threat, banks must appreciate it as an opportunity to streamline their processes, add value and increase the scope of their role.

1. Integrating Blockchain in banking services—the opportunities offered by crypto-securities

Although Blockchain is the tool that will make the investment value chain quicker and more transparent, it is up to businesses to make the most of the opportunity and call “the trade is the settlement” models into question.

An inspiring definition of a disruptive innovation states that it “allows a whole new population of consumers at the bottom of a market access to a product or service that was historically only accessible to consumers with a lot of money or a lot of skill.”¹ Simplification is the key to disruption; cost reduction comes after, because what really changes is clients' behavior on a market.

The internet brought disruption in terms of information, and now Blockchain entails disruption with regard to money, value, and risk, with crypto-money and crypto-security. Banks can respond to the challenges they face by including Blockchain in the

panoply of services they provide.

A sector such as financial markets, in which transactions are characterized by fungibility, speed, and a plurality of actors, is different from a sector where transactions are rare, as is the case for notarial deeds. Deciding which services to adapt and which to maintain depends on each company's business strategy. Services can be adapted to suit the needs of individual or institutional clients: some need security and a higher level of compliance; others would benefit from speed and transparency. A flexible and resilient answer to clients' needs would be the best choice for implementing Blockchain in banking services.

However, while it is easy to overstate Blockchain disruption, banks have always been adaptable and have shown their ability to work collaboratively to evolve when required. Large capital expenditure has been initiated to develop better services and capabilities, such as contactless payment in retail banking, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network in financial messaging, and the TARGET2-Securities (T2S) platform in securities services in the Eurozone.

In this respect, building up a Blockchain-driven crypto-securities transaction system offers two great benefits. First, the synchronicity of the transaction makes the securities market more liquid and facilitates collateral management procedures. Part of the processing costs could therefore be avoided by banks. Secondly, a Blockchain-based system enhances transparency and traceability and may boost the confidence of investors who see the entire life of a security, thanks to “chained” data in the Blockchain. As a result, the Blockchain forces banks to provide more information throughout the financial value chain.

1 Clayton Christensen, author of *The Innovator's Dilemma*, father of disruptive innovation, and professor of business administration at Harvard University

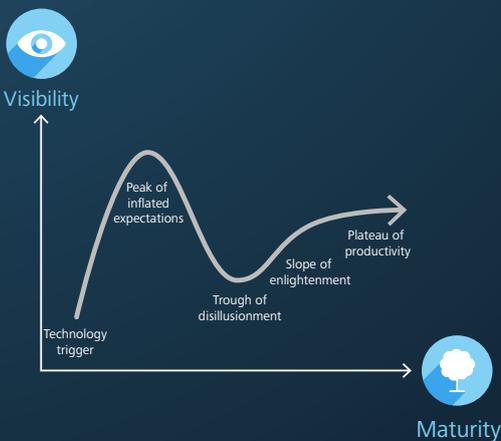




2. Competition in action in the innovation race for Blockchain—who will disrupt whom?

R3CEV, a consortium of 42 banks and technology companies, assumes that Blockchain technology has “the potential to impact the financial services sector the way the internet changed media and entertainment.”² A high level of awareness of the challenges can be a key competitive factor for banks competing with one another, as some of them could become the Netflix of the financial industry or, to a lesser extent, the next IBM or Amazon. Facing a huge technological challenge, these companies have been resilient enough to pivot and develop profitable business models within the new market paradigm. The banks involved in R3CEV have already selected five suppliers to design a system of bond transactions: Ethereum, Chain, Eris Industries, IBM and Intel. In the innovation race, it must be noted that banks would certainly both suffer and benefit as a result of Blockchain.

Yet, the Depository Trust & Clearing Corporation (DTCC)³ white paper⁴ published in January 2016 goes further, assessing the limitations of Blockchain technology integration for current financial applications: we are certainly entering the “disillusionment” step of the innovation maturity process, described in the Gartner curve. The challenge is to overcome it quickly to reach the “slope of enlightenment,” which is not all that far away.



In retail banking, where the expected impact is huge, a lot of new entrants are challenging banking institutions: startups, telcos, and tech and retail companies. However, retail banks can offer new services based on smart contracts. In the field of asset management, the industry would benefit from the development of Blockchain technologies for large portions of the core processes. The aim is to quickly transfer ownership of illiquid securities between asset managers. Digital Asset Holdings has already raised a US\$60 million investment funding plan, backed by the largest banking institutions. In securities services, directly trading securities between counterparties in an interbank network implies a significant risk of disruption of market infrastructure models for exchanges, clearing houses, and central securities depositories.

Nevertheless, the widely prophesized collapse of the current banking system is certainly not the only conceivable outcome: a decentralized system would add fluidity, agility and some disintermediation to the exchange, settlement, and reporting of transactions, but centralized governance would ensure the security and compliance that is so valuable in banking services. While disruption affects every level of financial trade, it will add efficiencies, to the extent that the challenge will be to develop useful applications while protecting global market balance and actors.

3. Building a decentralized Blockchain-driven interbank system with in-built centralization to ensure safety

Cooperation with regulators will play a fundamental role in the development of new systems. On one hand, regulators face the challenge of protecting the market balance while allowing the upgrade of markets and infrastructure to create a regulatory environment that is conducive to better compliance controls and more ethical market practices. On the other hand, safety requirements in the banking system are paramount, to such an extent that it can even be compared to a public utility mission. The G20 Financial Stability Board is already studying the systemic risks linked to FinTech development, and will suggest a regulatory framework with a worldwide approach

2 David Rutter, CEO and founder of R3CEV

3 The Depository Trust & Clearing Corporation (DTCC) is an American post-trade financial services company providing clearing and settlement services to the financial markets. It provides a way for buyers and sellers of securities to make their exchange in a safe and efficient way. It also provides central custody of securities

4 “Embracing disruption: tapping the potential of distributed ledgers to improve the post-trade landscape,” DTCC, January 2016



during the next G20 summit in April 2016. In fact, the skyrocketing evolution of investments in FinTech from US\$4 billion in 2010 to US\$12 billion in 2014 is proportional to the estimated potential of these innovations.

Facing new technical and regulatory challenges could indeed bring benefits to banks. Blockchain has the potential to simplify and speed up contracts, transactions, and systems. Nevertheless, the situation is similar to moving from 3G to 4G with telco operators: phones still need SIM cards to ensure the protection of devices: operations control and transaction security will continue to be a core competency of the banking industry, and regulators will still have to determine the role of each actor within the control processes of financial transactions through Blockchains. While clearing can be faster and increase the liquidity of financial markets, especially for asset managers, fund custody will still require a high level of compliance evaluation. Banks can even imagine upgrading the level of compliance to an unprecedented degree, based on the traceability provided by Blockchains. Moreover, even if Blockchains offer significant advantages, price-setting in the trade market centralized in financial operators will always require a high level of transparency. Yet, placing orders on financial markets is not only a value chain through banks and market infrastructure, as this also requires asset servicing skills (tax, legal, etc.); this aspect would hardly be disrupted. Even if some customers would want to manage their assets themselves via online applications, we can easily argue that the majority of clients would still need the services provided by asset managers and banks—particularly in the fund industry.

By developing practical uses for Blockchain technology, banks would benefit from a collaborative project with regulators and adapt regulatory progress to innovative market activities. In a Blockchain-driven system, ownership of securities would be transparent and highly speculative shorting of securities would be easily and automatically identified. If a peer-to-

peer crypto-securities transactions system were to be adopted widely, banks would have a major opportunity to provide a higher level of control, more than any other actor, in line with the regulator's expectations. In a way, Blockchain-driven systems would be an asset for financial market regulation. The market authorities would still control securities transactions passing through a Blockchain-driven platform and it would also provide new and less cumbersome ways to apply appropriate regulations to the industry.

In securities services, settlement and book entry of non-listed securities could be the first step to speed up execution, improve pricing and reduce the costs associated with the current business processes involving manual operations. However, introducing a wider peer-to-peer transactions system based on Blockchain through an interbank network would require a deep involvement and engagement from a broad consensus between banks, market infrastructure, and public authorities.

Conclusion: A call for collaboration between market actors

The success of financial innovation is underpinned by the capacity of asset servicing companies to include innovation in their operating model, reforming their execution services and simplifying the relations between investors and markets.

If banks do not want to witness an "uberization" of financial services by entrepreneurs who would build new models to redefine the way these services are operated and marketed to consumers and investors, they need to consider how to provide a superior customer experience. But before that, actors could return to the "expectations" step to have a better view of customer demand and differentiate real demands from mistaken or farfetched expectations. It would represent one clever step back to adapt supply to demand.

It is undeniable that every bank is studying what is being done to develop Blockchain technology: the next step is to get involved in an inclusive consensus. Every Blockchain initiative needs to be designed in a network in order to be really powerful. Individual investments, such as the Digital Asset Holding investments, to create the credit default swap of tomorrow or the settlement system of Goldman Sachs, are proactive investments to reduce trading costs, but it would be far more efficient in the context of a global collaboration between all the actors of the banking value chain.

Gathering intelligence to identify the future applications of Blockchain technology also entails collaboration with the Fintech sector, in a context of the fourth industrial revolution, the digital revolution, and the future emergence of artificial intelligence, where Blockchain is only one of many innovative solutions. Some banks have already started—a way to let challengers work with banks. Startups make banks rethink their model, and they can therefore make each other grow. Some banks develop the new tools themselves, some forge partnerships with consortium and labs, and some buy out or enter the capital in startups. To take a broader perspective, the recent Tech.eu study published in early March states that the United Kingdom, France, and Germany have already invested US\$1.4 billion in startup projects since the beginning of 2016. Never forget that, to a certain extent, banks themselves are FinTech, especially asset servicing institutions, providing financial technologies and computing services. Also remember that Blockchain is a tool, invented in 2009, and the possibilities of this boundless technology are as unknown as they are infinite. Finally, remember that innovation always challenges us to think differently about our businesses.

To the point:

- The banking industry is on the cusp of changing its approach on Blockchain technology from monitoring to applications for banking services
- Of all of the features of Blockchain development, consensus is the key element that will help to create a powerful Blockchain system
- A multi-tier collaborative approach to the potential usage would adapt services to clients' needs, whether this entails seeking transparency and speed or ensuring a higher level of control and protection
- The question is not *"Who will win the innovation race?"* but *"How can the banking industry win the innovation race collectively?"*
- A decentralized transactions system including centralized controls and compliance on markets is more realistic than market players think
- Technical and regulatory challenges can be overcome thanks to the inherent strengths of the Blockchain system, in-house infrastructure and skills within banks
- The future worldwide Blockchain-driven interbank platform is still a "work in progress" and will be for years to come