



Blockchain: Instead of Why, Ask Why Not?

The distributed ledger technology underlying cryptocurrency is advancing quickly, requiring banks to take the initiative or risk falling behind in the next generation of digital commerce.



Executive Summary

Ask a group of bank technology executives what they might have done differently in the past three to five years, and the responses come easily: We could have wrestled with the data monster differently, laid out a foundational architecture sooner, dived deeper into analytics and customer insights, and had a more cohesive business strategy advanced by digital rather than a tactical mobile strategy.

All legitimate, honest regrets. But unless they act soon, some banking leaders could soon be adding one more item to that list – waiting too long on blockchain. The hesitancy is understandable. The rollout of blockchain-based digital currencies during the past few years has produced its share of ripped-from-the-headlines stories reporting on wild price fluctuations and exchange collapses.

The technology underlying cryptocurrency is building undeniable momentum, with the potential for momentous impact on financial services, the world of commerce and society at large. Quickly gaining a reputation, if not full legitimacy, as the “Internet of finance,” blockchain provides the digital ledger that enables Bitcoin, BitShares, Ethereum, Ripple and hundreds of their crypto kin to transfer assets more quickly, reliably and securely.

Blockchain is still new, though. And from conversations we’re having with our clients, it’s apparent that leaders of the cautious-by-nature financial services industry are both excited and apprehensive. Should we make the leap to gain first-mover advantage? Give it a couple more years to mature? Wait for the various blockchain consortia and open source communities to sort it

out and bet on the winner? Just keep collecting the float from traditional transactions while it lasts? Hope the dinosaurs will win out and kill this innovative approach from taking root?

While blockchain can be focused on solving existing efficiency problems, it could also be targeted at creating new opportunities and business models.

We predict banks will generate value from their initial investments in blockchain without necessarily facing the predictable snafus and hiccups on the front lines that typically accompany major technology and process shifts. Through some highly targeted approaches, many of which we are piloting today, banks can learn about and experiment with blockchain. (See Quick Take, page 5, for a gallery of blockchain pilots.) In this way, banks can better understand its potential and perhaps grab some quick wins in the realms of document exchange, record-keeping, multi-signature and digital asset transfer using smart contracts.¹

A question we've heard bankers ask earnestly and repeatedly is what problem does blockchain solve? Is this a solution in search of a problem? Well, the answer is that while blockchain can be focused on solving existing efficiency problems, it could also be targeted at creating new opportunities and business models.



Blockchain's Key Benefits

Blockchain offers financial institutions several important benefits, including:

- **Enhanced security.** Banks work heroically to protect customer and enterprise data, but breaches are inevitable. Blockchain elevates security through cryptography and a tamper-resistant design, while eliminating the risk of a single point of failure. If a breach does occur, its location can be determined and isolated, precisely and quickly.
- **Simplification and cost reduction.** Blockchain can simplify processes in a friction-filled market by removing the need for intermediaries and manual processes. The shared infrastructure can help reduce costs within the bank and at an industry level. Santander InnoVentures estimates that banks can save \$20 billion² a year by implementing blockchain technology.
- **Transparency.** Regulators are likely licking their chops at blockchain's potential. With access to blockchains, authorities can see the specifics of transactions for themselves instead of relying on the veracity of banks' reporting. The question is how ready banks will be when regulators demand blockchain transparency.

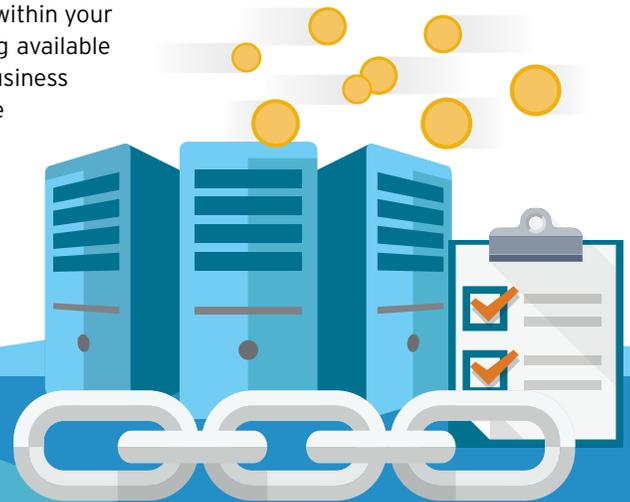
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Recognizing these benefits, some financial institutions are already in the game. Japan's Mizuho Bank conducted a three-month trial³ completed in March, that used blockchain to speed cross-border instrument transfer. Bank of America has filed 15 blockchain-related patents⁴ and has 20 more in the works. The Bank of Ireland recently completed a blockchain trial centered on trade reporting.⁵ R3 just announced the development of a Corda distributed ledger⁶ fit for purpose for financial services. R3 is also working on at least eight different proofs-of-concept (PoC)⁷ to show how distributed ledgers can be used to streamline a wide range of transactions on Wall Street and make them easier to regulate.

Starting Points: Getting Started with Blockchain

The following suggestions can help banks develop a path for moving forward with blockchain:

- **Keep an open mind.** Sharing blockchain's potential within your enterprise can uncover new approaches and use cases. Identify and involve a core set of evangelists and seed them within your business and technology teams to drive true innovation.
- **Become better educated.** When building awareness of blockchain within your organization, first become knowledgeable about its opportunities, risks and limitations. For example, learn about how smart contracts can open the door to digital asset transfer, as well as a host of other applications. Could they fundamentally improve your current business processes? Further, as you make investments in IT, consider one option in the list of possible future states that might include blockchain and evaluate decision-making in the context of such a possibility. Does this require your organization to make different decisions, or at the very least keep team members open to such a possibility?
- **Explore blockchain's potential.** Search for ways that blockchain might fit into your current enterprise landscape, as well as the business and technology process changes needed to realize value from each use of blockchain. Your organization doesn't need to wait for interoperability with the outside world to reap blockchain rewards (i.e., streamlining costly internal processes).
- **Find a pain point and work it.** A good way to build your organization's awareness and interest around blockchain is to identify a problem that provides hands-on experience with the technology. This "hedge" investment can be a lever for spreading the word about blockchain to a broader audience within your bank, without spending millions of dollars. Perform a small PoC using available solution accelerators and establish a point of view on particular business process areas for which blockchain can provide benefits. Pilots provide necessary hands-on experience to your teams and allow new thinking on how business processes can be significantly improved by harnessing the power of blockchain. Iteratively work on enhancing the pilot.



Quick Take

A Gallery of Blockchain Pilots

We are engaged in an array of initiatives to test the potential of blockchain. These pilots include:

- Accelerators for digital identity assurance and verification using blockchain.
- Secure document exchange, authentication and storage within a blockchain solution for multiple counterparty transactions.
- Accelerators for integration with various blockchain frameworks.
- A platform for cryptocurrency acceptance.
- A digital securities settlement platform.
- A decision engine to compare exchange rates across multiple payment providers.
- Fund transfers over blockchain between a bank and its subsidiaries.

By getting out in front on blockchain, a few early adopters will reap major returns on their blockchain investments. Meanwhile, others will wait and see, hoping for greater clarity and, perhaps, consortium consensus. It doesn't have to be an either/or situation, though.

For example, one of our clients began its journey by building a PoC, using our accelerators, to enable document-sharing between bank subsidiaries that leverage smart contracts. The first iteration focused on proving the capability; the second iteration is about scaling the solution and understanding how business processes need to be aligned to best leverage its potential benefits.

For another client, we are performing technology proofs to enable multi-signer asset transfer capabilities that

leverage smart contracts. Discussions are in process about how that capability might be scaled.

Another option to consider is a private internal blockchain to improve record-keeping for audits, create shared databases between subsidiaries and streamline back-office operations. The possibilities are diverse.

- **Consider your consortium and partners.** If your organization is already part of a consortium, or is considering one, expectations should be defined very carefully. Is it enough to put your organization's name on the consortium, or can the relationship provide added value through more active participation? Your team will still need help integrating blockchain into your bank's back office. This typically requires broader partner discussions to prepare for the future.

Taking the Initiative

We strongly believe that by getting out in front on blockchain, a few early adopters will reap major returns on their blockchain investments. Meanwhile, others will wait and see, hoping for greater clarity and, perhaps, consortium consensus. It doesn't have to be an either/or situation, though. Learn more about what's at stake. Build interest. And pick some paths to experiment with and embrace the technology. Blockchain's coming. Probably sooner than we think.

Footnotes

- ¹ Elliot Maras, "Are Smart Contracts the Future of Blockchain?" CCN.LA, Jan. 13, 2016, <https://www.cryptocoinsnews.com/smart-contracts-future-blockchain/>.
- ² Yessi Bello Perez, "Santander: Blockchain Tech Can Save Banks \$20 Billion a Year," CoinDesk, June 16, 2015, <http://www.coindesk.com/santander-blockchain-tech-can-save-banks-20-billion-a-year/>.
- ³ Peter Sayer, "Mizuho Bank Eyes Blockchain to Speed International Securities Transactions," *Computerworld*, March 9, 2016, <http://www.computerworld.com/article/3042438/financial-it/mizuho-bank-eyes-blockchain-to-speed-international-securities-transactions.html>.
- ⁴ Arjun Kharpal, "Bank of America Is Going Big on Blockchain," CNBC, Jan. 28, 2016, <http://www.cnbc.com/2016/01/28/bank-of-america-is-going-big-on-blockchain-plans-to-file-20-patents.html>.
- ⁵ Stan Higgins, "Bank of Ireland Conducts Blockchain Trial for Trade Reporting," CoinDesk, April 5, 2016, <http://www.coindesk.com/bank-of-ireland-conducts-trade-reporting-trial-using-blockchain-tech/>.
- ⁶ Pete Rizzo, "9 Big Takeaways from R3's New Distributed Ledger Debut," CoinDesk, April 7, 2016, <http://www.coindesk.com/9-takeaways-r3s-new-distributed-ledger-tech/>.
- ⁷ Michael del Castillo, "R3 Reveals 8 Areas of Focus for Blockchain Bank Trials," CoinDesk, April 14, 2016, <http://www.coindesk.com/r3-reveals-8-areas-of-focus-for-blockchain-bank-trials/>.

About the Authors

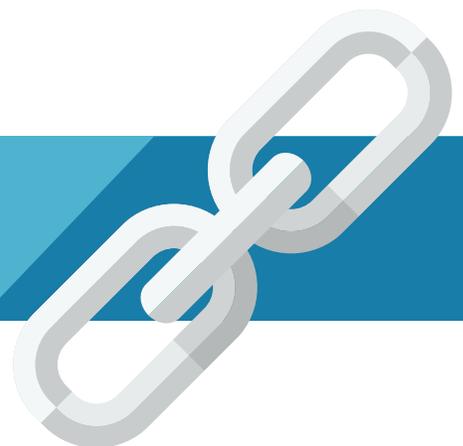
Prasad Chintamaneni is President, Global Industries and Consulting. In this capacity, he focuses on transforming strategic client relationships through market-leading industry practices integrated with differentiated solutions and consulting. Prasad joined Cognizant in 1999 and established key relationships with many of Cognizant's largest banking and financial services clients. Most recently, Prasad served as President, Banking and Financial Services (BFS) Practice, with responsibility for the business unit's global P&L, sales, business development, consulting, client relationship management and delivery. Under Prasad's leadership, Cognizant's BFS business unit has emerged as one of the largest financial services practices in the industry, earning Cognizant third on the 2016 FinTech Forward rankings. Prior to joining Cognizant, Prasad spent seven years in investment banking and financial services, including five years with Merrill Lynch as an investment banker and as a member of Merrill's business strategy committee in India. He earned a postgraduate diploma in business management from XLRI School of Management in India and bachelor of technology degree in chemical engineering from the Indian Institute of Technology, Kanpur, India. He can be reached at cprasad@cognizant.com.



Lata Varghese leads Cognizant's Blockchain Consulting Practice and is actively helping clients understand distributed ledger technology and evaluate technology providers emerging in the stack. She is also responsible for establishing a leading alliance network of blockchain technology partnerships for the company. Her practice works closely with Cognizant's blockchain technology team to explore real-world working solutions leveraging distributed ledger architecture in its environment and helps navigate the hype cycle of the technology. Lata has over 20 years of consulting and technology service provider experience with the banking and financial services industry. In her role, she works at the business end of emerging digital technologies, looking at new business models enabled by technology, innovation, digital solutions and adoption, change management and strategic thinking. Her responsibilities include enhancing go-to-market capabilities, client footprint and thought leadership for banking and financial services clients in the area of digital banking solutions. Lata obtained her bachelor's degree in electrical engineering from the National Institute of Technology Calicut and an M.B.A. from Xavier Institute of Management. She can be reached at Lata.Varghese@cognizant.com.



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World Headquarters

500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277
inquiry@cognizant.com

European Headquarters

1 Kingdom Street
Paddington Central
London W2 6BD
Phone: +44 (0) 207 297 7600
Fax: +44 (0) 207 121 0102
infouk@cognizant.com

India Operations Headquarters

#5/535, Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060
inquiryindia@cognizant.com



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