

# Blockchain 2015: Strategic Analysis in Financial Services

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It All Started with the Internet...

# 1994 was a Bad Year for Banking

- It signaled the end of IT, and the beginning of the Internet era
- Technology became a slippery slope since then
- For 10 years, financial institutions didn't innovate much with the Internet
- It could be argued that FinTech was a response to that lack of innovation during the early Internet years

*[At the end of 1999, only 20% of US national banks were offering Internet banking, although it represented 90% of banking system]*

# In the mid-2000's FinTech Attacked the Banks, and it was called "Unbundling Banking"



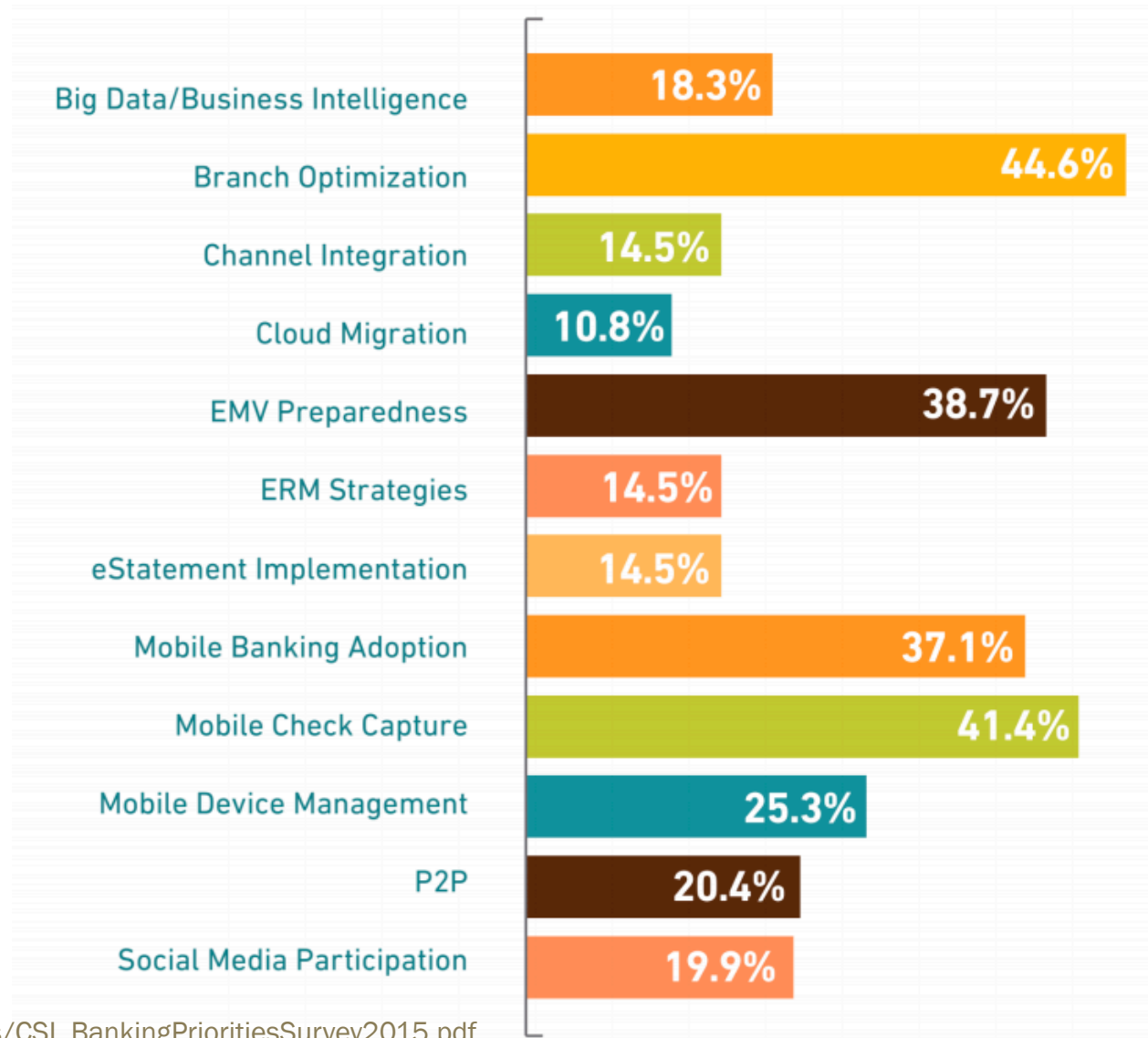
- ◆ In startup fashion, most attacks aren't head-on, start small & look harmless at first sights, therefore are ignored
- ◆ So, the banks didn't feel FinTech initially, because it crept up

Graphs Source: CB Insights



# In 2014, Banks Didn't Plan for the Blockchain

*Which of the following areas will be a strategic focus in 2015?  
Choose three:*



Source: [https://www.fmsinc.org/documents/CSI\\_BankingPrioritiesSurvey2015.pdf](https://www.fmsinc.org/documents/CSI_BankingPrioritiesSurvey2015.pdf)

# Actually, they had plans to continue being focused on other priorities:



Source: Deloitte 2015 Banking Outlook

<http://www2.deloitte.com/global/en/pages/financial-services/articles/2015-banking-outlook.html>

Then, the Blockchain Happened...

*...and Suddenly, it's Becoming the New Internet*

# But there is Good News: Two Outcomes for Banks

- ① Some blockchain companies will attack your business, although peripherally at first
- ② Some blockchain technologies/companies are for you, to strengthen or defend your positions

➔ *Blockchain is helpful, doesn't signal the end of banks, but innovation must permeate faster than Internet did in 1995-2000. Early years are formative. Banks shouldn't just see blockchain as cost savings. It's also about new opportunities.*

# What is the Blockchain?

# Defining Technology Eras

IT Supremacy



Data computation

Database applications

Transaction processing

Business Intelligence

Global operations

1994

Internet Years

Personal Communications

Self Publishing

E-Commerce

Social Interactions

Blockchain Promise



Decentralization of Trust

*Enabling*

Value Flow without Intermediaries

2015



# Taking an **ATOMIC DDDive** in Explaining the Blockchain

## 1. PROGRAMMABLE

**A**SSETS

**T**RUST

**O**WNSHIP

**M**ONEY

**I**DENTITY

**C**ONTRACTS

## 2. BASED ON:

**D**ecentralization

**3D's** **D**isintermediation

**D**istributed Ledgers

## 3. AFFECTING:

*Governance*

*Value Creation*

*“Exchanging Assets Without Central Intermediaries”*

Everything about the blockchain touches the core of banking.  
This is why it will be a challenging encounter.

# Consumers Ask Why?

When it comes to covering their risk, banks and credit card companies will give consumers instantaneous answers/settlements (like for purchase authorizations or withdrawing money from an account); but when it comes to our own transactions (e.g. depositing a check or transferring money), we typically have to wait days before receiving confirmations.

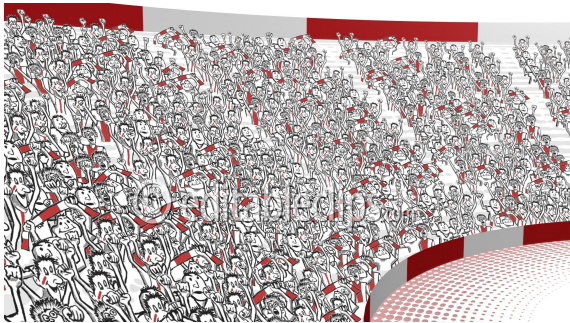
→ *Can the blockchain help?*

# The Startup Dilemma

# Banks and FinTech Startups: A Strange Relationship



Banks see startups like this strange beast that needs to be examined



Investing in startup ecosystems and accelerators gives them a spectator seat, not a participating one



By staying “close” to them, they think they will benefit from symbiosis, but they are degrees removed from them in reality, because they are only visiting the animals in the zoo

# The Reality is You Need to Take the Animal Home ...

... to see if they will survive

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"OK, this domestication thing has gone too far!"

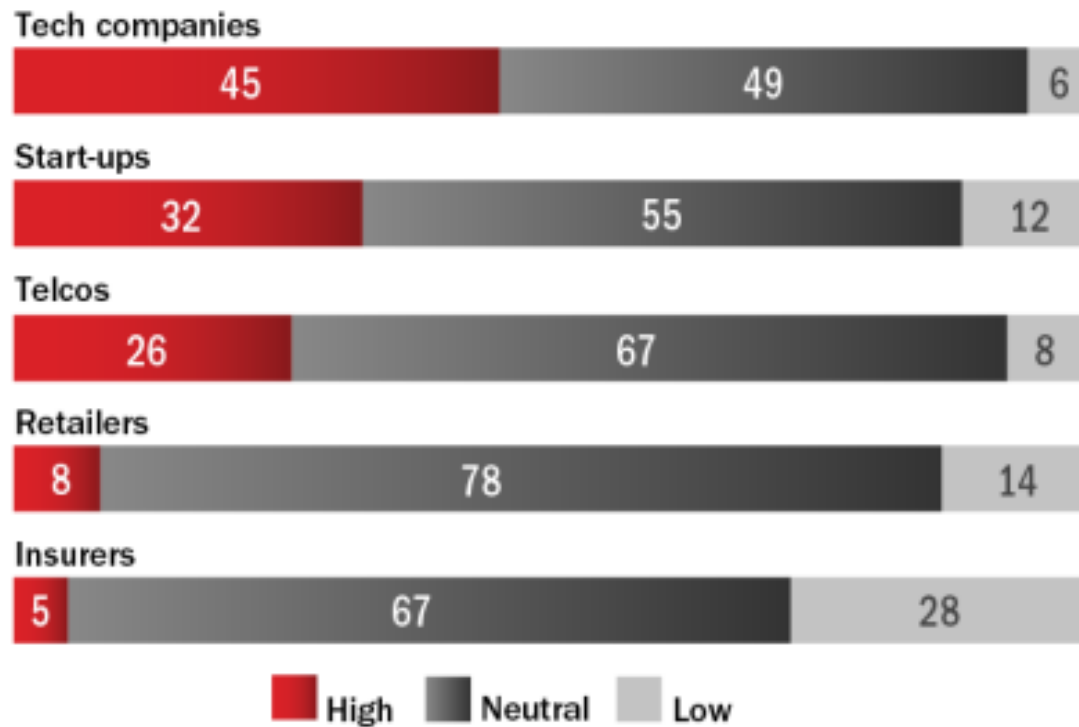


"You'll experience denial, anger, bargaining, depression, acceptance, and finally, stuffing."

*This is a common dilemma for large corporations when faced with external innovations that surpass their internal abilities to absorb or usurp*

# Because the Perceived “Tech” Threats Are Real

## GLOBAL BANKS PERCEIVED THREAT OF INDUSTRY DISRUPTION



Source: Efma-Infosys Finacle © Feb 2015 Digital Banking Report



# Themes that Emerged in 2015

# Blockchain vs. Establish Methods/Networks

Blockchain and old constructs, such as clearing houses and private exchange networks (SWIFT, CCP, FIX, DTCC) are like oil and water: they will not mix well because one is based on centrally trusted intermediaries, and the other is based on “no” intermediaries and peer-to-peer trust.

→ *Warning: Retrofitting the blockchain will be challenging, and may not yield significant benefits.*

# Having the Blockchain without Bitcoin

- Banks rejected Bitcoin as a knee-jerk reaction, rooted by regulatory compliance requirements, and loss of control fears; both valid concerns in the short term.
- But Bitcoin is a rich blockchain laboratory. Bypassing it would result in a steeper learning curve for adopting the blockchain

➔ *Reality Check: Blockchain without Bitcoin is a valid construct*

# Doing Proof of Concepts (POC's)

- POCs are timid experiments that don't show commitments.
- POCs won't always allow you to see the potential benefits.
- It's better to implement smaller projects end-to-end, where you can see results.
- But POC's can be used to narrow down the portfolio of committed projects.

# Integrations with Current Systems

- It is easier to start implementing blockchain solutions in new segments, without internal integrations.
- If your starting position is your current systems, then you are looking at 18-24 months for full implementations.

➔ *Insight: Why not start with no baggage, and earn new customers that want to try something new?*

# Role of External Consultancies

- They can help you re-engineer change, and implement large projects, once you know what you need to do.
- But they may not have all the answers, nor the required thought leadership.
- You need to learn the basic minimums of blockchain capabilities, e.g. don't outsource smart contracts experiments, rather work with smart contracts yourselves.



# Blockchain Rushes to Capital Markets

- Many pivots lead to Capital Markets: iTBit, TradeBlock, Chain pivots, and DAH's iterations are all gunning towards the opportunities capital markets
- Major Consortia are also targeting that space, e.g. R3 CEV and Linux Foundation
- 2016 Question: Will the blockchain make a dent in capital markets, or will it experience organ transplant rejection?

# High Venture Capital Valuations

- The Capital Markets segment is where most of the large valuations are found.
- These are large bets. Some will materialize, but others will fail.
- Early stage startups are generally more reasonable, except for some that are birthed in Silicon Valley, as they start with higher than normal valuation expectations.
- Some newcomer VCs and PE investors (including some corporates) are fueling this over-valuation, due to fears of missing out.

# Sector Analysis

**APPLICATIONS &  
SOLUTIONS**

**MIDDLEWARE &  
SERVICES**

**INFRASTRUCTURE  
& PROTOCOLS**

# Cryptocurrency Exchanges



- ◆ Due to country financial regulations, there are many Exchanges (at least 1 per country, theoretically)
- ◆ They are playing a useful role for consumers today, but their future is undetermined
- ◆ Questions for 2016:  
Will a bank purchase an Exchange? Or will banks offer similar services?

# Brokerage Services



- ◆ There's a blurring line between Brokerage and Exchanges
- ◆ The difference is they hold your assets centrally, like a bank would
- ◆ But their fate is tied to the Exchanges
- ◆ Some Bitcoin purists say their central functionality is counter Bitcoin's decentralization ethos

# Software Wallets



- ◆ Many choices and variations
- ◆ Some are smartphone based, others web-based
- ◆ Some let you hold your currency in the wallet itself, others use a key on the wallet to unlock access to your funds
- ◆ There is a race to add functionality to wallets
- ◆ Question for 2016: Will our wallets be our mini-bank?



# Hardware Wallets



- ◆ Adoption of hardware wallets has been timid in 2015
- ◆ Some are adding identity, shopping, security linkages
- ◆ Question for 2016: Will adoption take off?

# Microtransactions



- ◆ Made to fit for the blockchain
- ◆ Adoption in 2015 is showing signs of hope
- ◆ Innovative use cases being tried, including ones with publishers
- ◆ 2016 Challenge: Will the killer app for cryptocurrency microtransactions emerge?

# Investments and Loans



- ◆ Embryonic market in 2015
- ◆ Expecting lots of innovation in 2016 with newer players
- ◆ Some Robo-advisor startups might get challenged by blockchain ones, unless they add blockchain to their offerings

# Money Services



- ◆ The gigantic size global remittances is making this segment very crowded
- ◆ Reality is each global corridor has unique characteristics, and global approaches will be challenging
- ◆ Many are gunning for Western Union, the largest player every startup dreams of unseating
- ◆ But a number of non-cryptocurrency companies also have a shot at making a dent
- ◆ 2016 Question: Will a contender emerge?

# Capital Markets



- ◆ It's the quadrillion dollar opportunity that is the most obvious
- ◆ But disrupting the current clearing networks will not be easy
- ◆ Startups are raising their stakes by raising a lot of money in this segment, but not all will survive
- ◆ There is a gap between where vendors want to go and how fast banks/markets can move
- ◆ 2016 Question: What volume of transactions will flow through blockchains?

# Trading Platforms



- ◆ This is where the next cryptocurrency stock exchange might come from
- ◆ Startups are imagining a mirrored world with a plethora of financial instruments like derivatives, bonds, stocks, etc.
- ◆ 2016 Challenge: Achieving viable market-making liquidity

# Merchant Services



- ◆ They facilitate Bitcoin e-commerce
- ◆ That segment's growth depends on the growth of Bitcoin e-commerce
- ◆ Integrations with websites are still tricky
- ◆ 2016 Question: Will traditional merchant processors add Bitcoin to their arsenal?

# Compliance



- ◆ Exciting space
- ◆ Startups are still developing their products
- ◆ Customers are banks who want to keep an eye on their Bitcoin clients, and LE's who want to learn how to tame AML on the blockchain
- ◆ Trend toward monitoring vs. compliance
- ◆ 2016 Question: Will traditional AML vendors integrate these offerings?



# Financial Data



- ◆ Financial data analysis is still an embryonic market
- ◆ Cryptocurrency markets are still running outside traditional money markets
- ◆ 2016: Will the Bloomberg of Crypto emerge?

# Trade Finance



- ◆ Not a very visible area yet, but it promises more transparency in supply chains, reducing fraud and assuring authenticity and origin of products
- ◆ In theory, tracking the provenance and authenticity of products makes sense, but...
- ◆ 2016 Question: Will it be a utility feature or a game changer?

# ATM's



- ◆ There are about 20 ATMs manufacturers
- ◆ Their vision is to add more services
- ◆ They rub shoulders with the alternative money service providers segment
- ◆ 2016: Will they become indispensable or remain a curiosity?

# Banks



- ◆ These are some of the pioneers
- ◆ They are serious about the blockchain
- ◆ They are doing extra-ordinary things: fund accelerators, formal internal committees, publish thought leadership, speak at conferences, serious about innovating and testing proofs of concepts, leading consortia, and not afraid of new ideas
- ◆ Question for 2016: Will their skunk work permeate the rest of their banks footprint?

# Payroll and Insurance



- ◆ Timid activity, but there is potential for 2015
- ◆ Some interesting seed ideas percolating in the Insurance space

# Payments



- ◆ Several use cases, but fragmented usage
- ◆ Consumer experience not there yet for the mainstream
- ◆ Both B2B and B2C solutions exist
- ◆ Challenge is to getting embedded inside popular use cases

# Sector Analysis

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**MIDDLEWARE &  
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& PROTOCOLS**

# Blockchain Services



- ◆ Embryonic start for 2015
- ◆ Potential upside because banks like to be hand-held
- ◆ 2016: Will the Big Consultancies and IT Outsourcing companies claim this segment, or wait a little longer?



# Software Development



- ◆ They make it easier to develop blockchain apps without worrying about the underlying infrastructure
- ◆ Some blurred lines with Services, because they offer that too
- ◆ No big winners yet
- ◆ 2016: Will standard development practices emerge?

# General APIs



- ◆ That's where Bitcoin programmability started
- ◆ They offer the nuts and bolts of the Bitcoin API
- ◆ Question for 2016: Can they evolve?

# Specialized APIs



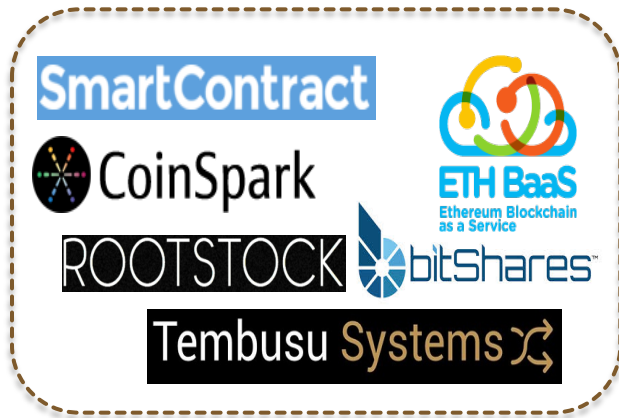
- ◆ Tackling specific functionality around digital assets creation, tokenization of assets, notarization/verifiability of data/processes
- ◆ Challenge for 2016: Will real, end-to-end use cases emerge?

# Blockchain Platforms

- ◆ They are one step above the protocols, and insulate developers from the nitty-gritty of cryptography constructs
- ◆ 2016 Challenge: Will they reach a critical mass of adoption as they compete with the native capabilities of blockchains?



# Smart Contracts



- ◆ Smart Contracts are the big promise of blockchains
- ◆ They are still hard to master for the average developer
- ◆ 2016 Challenge: Will a leader emerge?

# Sector Analysis

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# Public Blockchains



- ◆ That's where it all started
- ◆ Today, Bitcoin is the largest blockchain and will continue to be
- ◆ But Ethereum is emerging as a very viable alternative

# Special Blockchains



- ◆ The jury is still out on the longevity of special purpose blockchains
- ◆ They might make sense as private blockchains (e.g. Ripple)



# Payment Protocols

- ◆ They carry the promise of native microtransactions on the blockchain, with flexible programmability capabilities
- ◆ Still early to tell, but we should expect advances in 2016



# Miners

- ◆ There are hundreds of miners running thousands “nodes”
- ◆ They get rewarded for solving mathematical equations that validate transactions on the blockchain networks (proof-of-work)
- ◆ Mostly confined to Bitcoin mining, but emerging with other blockchain mining (e.g. Ethereum)



# What Should Banks Do?

Implementing the blockchain is:  
80% Business Process / 20% Technology  
*[it's not the other way around]*

# Challenges

- Good intentions are not good enough
- Get your own hands dirty, don't outsource the learning
- Get your minds dirty, try some ideas even if they fail
- Failing is OK for startups, but can banks learn to fail?
- Integrations will not be easy
- Blockchain applications are different; but they must be written

# Opportunities

- Don't think "what problem is the blockchain solving"; rather "what opportunities can we create with it"- *it takes a paradigm shift*
- Starting in new fields will be easier (forget integration, initially)
- A bank without a blockchain strategy is a laggard

# Recommendations

- Invest in learning blockchain technologies
- Learn how to:
  - Write smart contracts
  - Create/Tokenize assets and notarize data/processes on the blockchain
  - Interact with blockchain APIs
  - Program a blockchain
- Don't outsource these tasks, or you'd be outsourcing your learnings
- Pair a business manager with a technical person to uncover innovations

# Institute the Blockchain Czar Role

- Brings focus into blockchain-related activities
- Role:
  - Removes obstacles to blockchain implementations
  - Shares what every department is doing
  - Lubricates best practices adoptions
  - Project-manages across various implementations
  - Paired with an IT person for ad-hoc experimentations that don't require approvals
  - External and internal spokesperson and evangelist
- Qualifications:
  - Knows banking operations and technology implementations
  - Experienced in reengineering/change management
  - Blockchain enthusiast



# Can Banks Evolve their AML/KYC for the Blockchain Era?

*“Today's AML paradigm is based on heavy customer due diligence and light (intra-company) transaction monitoring. Blockchain tech enables enhanced transactional analyses that were not possible, before. In the pre-blockchain era, regulated financial institutions could only do intra-company transactional analysis, and had to share information via analog or documentary methods. Network-wide analytics that are possible with blockchains transcend industries and jurisdictional borders. There is now an opportunity to trade-off reduced KYC requirements (thus fomenting financial inclusion) for the increased behavioral transparency afforded by the blockchain.”*

**-Juan Llanos**, Certified AML Specialist and Risk / Fintech / Crypto Expert

**→ 2016 Question: Can Law Enforcement Authorities / Regulators embrace this paradigm shift?**

There is no Try. Do or Lag.

*It's better to shoot yourself in the foot, than to have someone else shoot you in the head.*

# 2016 Predictions

# What Might Happen in 2016?

- Compliance will move to intelligence
- Regulation will show signs of re-invention
- Companies will use the blockchain like having a website
- \$1.5B of non-currency assets will be transacted on blockchains
- VC investments in blockchain related startups will exceed \$2.5B
- Some FinTech companies will also be challenged by Blockchain contenders
- Some consortia will start delivering, but it's not a panacea for everything
- Some blockchain startups will start to fail (visibly)
- Bitcoin as a cryptocurrency will enter online banking

# Final Thoughts

The blockchain is not a lethal threat to the banks, but it presents challenges and signals turbulent times for technology adoption. It might be the last chance for banks to ride a significant technology-based innovation cycle. If the banking sector fails to embrace the blockchain, the field of “alternative financial services” (aka FinTech) will accelerate its growth even more.

# About Virtual Capital Ventures



Virtual Capital Ventures (VcapV) is a boutique-style, early-stage technology venture capital firm, focused on decentralized peer-to-peer technologies and applications. Based in Toronto, VcapV invests in North American startups that think big, and act bigger. Founded by William Mougayar, a veteran entrepreneur, mentor to startups, board member and experienced operator, the fund is advised and backed by some of the industry's top players.



# thank you

Also, check:

[Global Landscape of Blockchain Companies in Financial Services](#)

[Dear Big Bank CEO, Re: Blockchains: Obliterate, don't Automate](#)

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