

# BANKING ON BLOCKCHAIN

A VALUE ANALYSIS FOR  
INVESTMENT BANKS



# BANKING ON BLOCKCHAIN: **A VALUE ANALYSIS FOR INVESTMENT BANKS**

**As the struggle to raise profitability continues, innovations like blockchain could offer investment banks a lifeline.**

As with many new technologies, it's generating much excitement. Some analysts have likened its disruptive potential to that of the Internet, with the power to drive dramatic efficiency gains, save \$billions and substantially reduce risk. But there's also a lot of hype.

So what tangible costs/benefits, business applications and ROI does blockchain really offer?

To find out, we joined forces with top benchmarking firm McLagan, a business unit of Aon plc, to conduct an in-depth impact analysis and make fact-based estimates of the cost savings and other benefits that might be achieved.

**“We joined forces with McLagan to conduct an in-depth impact analysis and reveal the facts.”**

# WHY THE BUZZ ABOUT BLOCKCHAIN?

**Blockchain – a catchall phrase for distributed ledger technology – is a new type of database system which enables multiple parties to share access to the same data, at virtually the same time, with an unprecedented level of confidence.**

Currently, data reconciliation sits at the heart of most business models. However, because everyone maintains their own data, the process is beset with inefficiencies, such as the need for different parties to constantly message data back and forth between them to get things done. Blockchain, by contrast, could enable a progression from today's multiple and sequential data reconciliation models to a much more efficient process in which reconciliation is an integral part of the transactional process.

## THE OPPORTUNITY

**The long-term opportunity for banks is to repoint key operational, risk and finance systems to blockchain-based, shared data platforms.**

This would enable decommissioning of large parts of their process and data infrastructure. While getting to this end-state will take time and multiple iterations, significant potential for cost and efficiency gains should continue to fuel interest and investment.

Although there have been some estimates of the value blockchain could create, we believe capital markets leaders need a more detailed impact analysis to assess the business case for blockchain. This is especially critical for C-suite executives under pressure to constantly evaluate the potential of multiple emerging technologies. With legacy systems to consider, regulation to comply with and stakeholders to convince, how can you be sure that backing blockchain will deliver the competitive advantage and shareholder value you need?

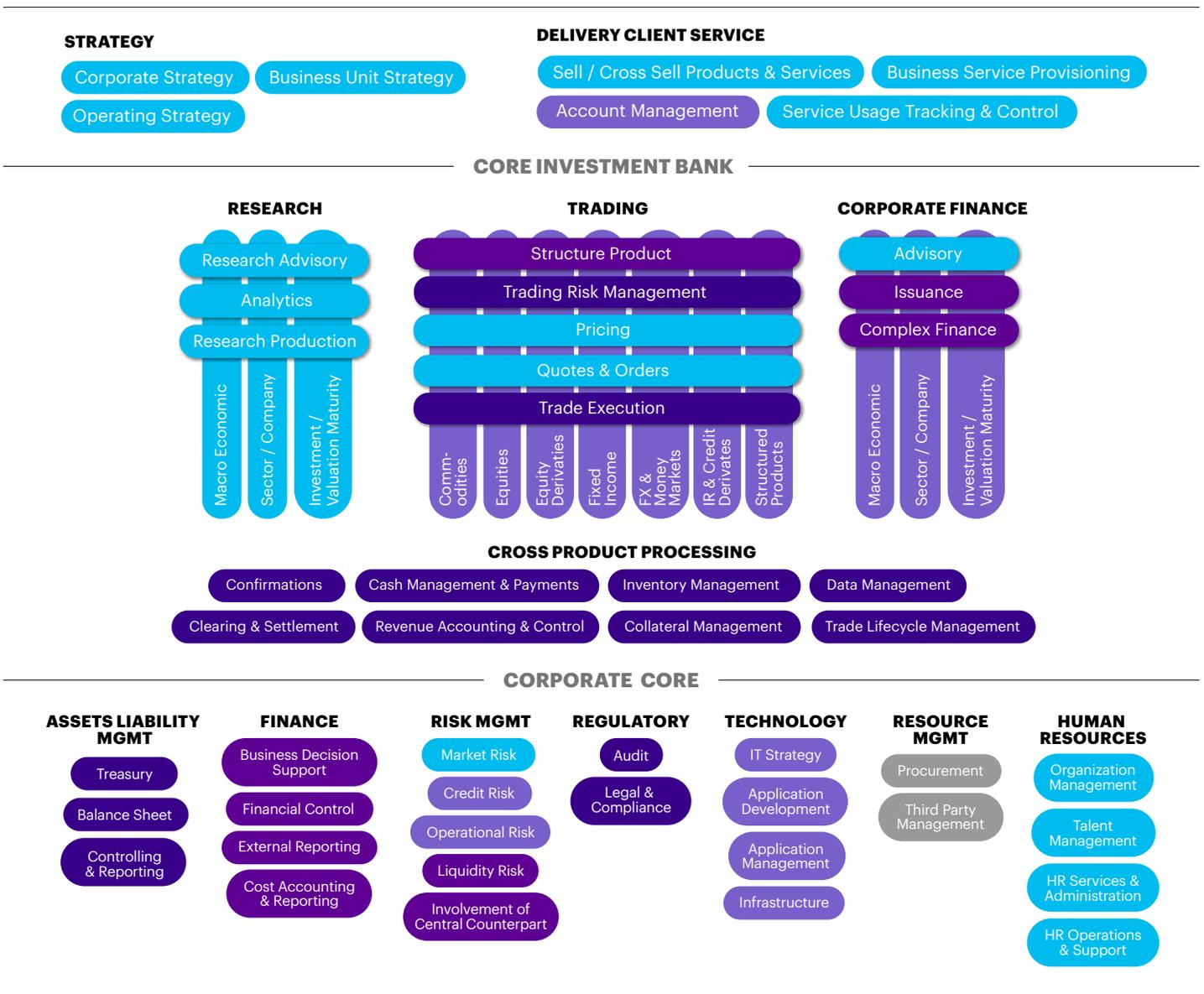
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# OUR RESEARCH

To fully understand the operational impact of blockchain, we conducted a study in conjunction with McLagan. A world-class capital markets benchmarking provider, McLagan performs comprehensive financial benchmarking of the largest banks every year. It uses granular cost data sourced directly from the general ledgers of participating banks. In this study, we mapped McLagan’s aggregated

operational cost data from eight of the world’s largest investment banks (based on revenues) against our proprietary Accenture High Performance Investment Bank model. This gave us visibility into where blockchain is likely to have the most impact across the entire spectrum of front-to-back processes and operating metrics of an investment bank (see diagram 1).

**DIAGRAM 1**  
**ACCENTURE HIGH PERFORMANCE INVESTMENT BANK MODEL<sup>®</sup> –**  
**BLOCKCHAIN IMPACT**



**KEY** ● DISRUPTION = 70%+ COST SAVINGS ● IMPACTED / SUPPORTED = 25-50% ● OUT OF SCOPE  
 ● IMPACTED FUNDAMENTALLY = 50-60% ● NO OR LIMITED IMPACT = 10%+

## THE RESULTS

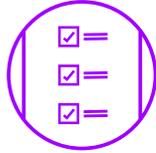
Mapping more than 50 operational cost metrics from McLagan's data against our High Performance Investment Bank model delivered clear indicators. The four examples below are a small snapshot to illustrate typical efficiency impacts with a level of granularity achieved via our proprietary analysis.



# 70%

### POTENTIAL COST SAVINGS ON CENTRAL FINANCE REPORTING

As a result of more streamlined and optimized data quality, transparency and internal controls.



# 30-50%

### POTENTIAL COST SAVINGS ON COMPLIANCE

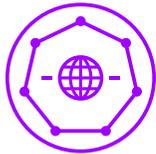
At both a product level and centralized basis due to improved transparency and auditability of financial transactions.



# 50%

### POTENTIAL COST SAVINGS ON CENTRALIZED OPERATIONS

Such as KYC and client onboarding due to more robust digital identities and mutualization of client data among participants.



# 50%

### POTENTIAL COST SAVINGS ON BUSINESS OPERATIONS

Such as trade support, middle office, clearance, settlement and investigations by reducing or eliminating the need for reconciliation, confirmation and trade break analysis as key parts of a more efficient and effective clearance and settlement process.

# HOW 8 BANKS COULD SAVE **\$8 BILLION PLUS**

**At today's cost structure, the results demonstrate initial savings of \$8 billion on a cost base of \$30 billion. These estimates do not include potential costs and investments required. This equates to approximately 27% across the eight banks we surveyed.**

## CRITERIA

To guide our analysis, we used a conservative set of criteria, including the following assumptions:

- That a network effect will only take hold in mature markets by 2025
- Regulatory rules will allow the adoption of blockchain solutions and decommissioning of legacy infrastructure. Indeed, after the credit crisis of 2008, regulators will likely be reluctant to materially reduce the role of newly created and strengthened clearing and settlement infrastructure (ACHs, RTGSs, CCPs and CSDs) without being absolutely confident that blockchain networks are a safe, secure and resilient alternative.
- The impact on cost of premises (buildings, facilities) was excluded
- Differences between fixed and variable costs were factored in.

At this stage, these estimates could prove conservative. Our initial estimates assume business and central operations<sup>1</sup> would be 'fundamentally impacted', suggesting cost savings of approximately 50%, as seen on the High Performance Investment Bank heat map in diagram 1. In fact, our initial use case, proof of concepts and early test environments show the potential to further increase these savings so that they move into the 'disruption' category, raising the total in excess of 70%. Considered in this light, annual cost savings would equate to 38% or around \$12 billion. If we take an average of this \$12 billion with the \$8 billion base case cited above, we estimate \$10 billion in annual cost savings.

It's important to note that if significant problems or regulatory hurdles prevent blockchain's widespread adoption then these savings may not be realized.

Given predictions of material cost savings, it's no surprise that spending on blockchain in the financial services sector is accelerating, especially at a time when the rising cost of capital is making it hard to increase profitability by traditional methods. In September 2015, Aite Group, an independent research organization focused on financial services, forecast that blockchain spending among capital markets players in 2016 would be around \$125m<sup>2</sup>. Just nine months later, a study by Greenwich Associates, an independent benchmarking research firm, predicted that 2016 blockchain spend by capital markets firms would be closer to \$280m<sup>3</sup> – more than double the previous estimate. This illustrates that industry investment in blockchain is not only accelerating, it is doing so at a rate that is rising so fast that makes it difficult to quantify the sums accurately.

**\$280M**  
2016 CAPITAL MARKETS  
SPEND ON BLOCKCHAIN  
– 2X ESTIMATIONS

**30%**  
AVERAGE  
ESTIMATED  
POTENTIAL ANNUAL  
SAVINGS

# INSIGHTS & IMPLICATIONS

**Blockchain's components – such as cryptographic hashes, distributed databases and consensus building – are not new. But when combined, they create a very powerful new form of data sharing and asset transfer, capable of eliminating intermediaries, central third parties and expensive reconciliation processes.**

Since the 2008 global financial crisis, the capital markets industry has faced a perfect storm of diminished returns, largely due to the rising cost of regulatory compliance, rising capital allocations and liquidity costs, and dwindling revenue.

*“We estimate that investment banks spend around two-thirds of their IT budgets supporting legacy back-office infrastructure, plus \$billions more each year on cost reduction initiatives.”*

In other words, it's costing too much time, effort, liquidity and capital to support processes that don't offer a sustainable improvement in profits. Consequently, banks, central banks, exchanges and clearing houses are urgently experimenting with blockchain as a way to tip the cost fundamentals and return to profits that improve Return on Capital.

To be clear, we are not suggesting that blockchain is a panacea to remedy all the ills of investment banking. For many use cases, conventional database structures or processes will achieve a similar outcome without the costs and challenges of a blockchain solution. Examples include internal automation, staff reduction and outsourcing/offshoring.

**However, there is compelling evidence that blockchain could radically reduce, if not entirely eliminate, many existing clearing and settlement processes.**

## SAVE \$BILLIONS A YEAR

It has enormous implications for trade confirmations, reconciliation, cash management, asset optimization and other exceptions-based business logic processes that cost \$billions a year.

## REDUCE TIME WINDOWS

Depending on the underlying asset(s) and counterparty requirements, it also promises to optimize settlement by greatly reducing the time or even completely eliminating windows for delivery versus payment, while supporting the needs of market makers.

## IMPACT COST DYNAMICS

Ultimately, it would **enable decommissioning** of large parts of today's back office infrastructure and externalization of key operational processes to industry utilities – profoundly impacting cost dynamics.

# THE BLOCKCHAIN GENIE IS OUT OF THE BOTTLE

**There is undoubtedly good reason for all the excitement around blockchain in financial services and particularly in capital markets. While we don't believe it will completely disintermediate or replace the current ecosystem players, we do think its impact will be transformational.**

A common analogy is the rise of the Internet: those who embraced change created entirely new products and business models – and reaped the rewards. Of course there were many business models that resulted in costly failures too. In a similar way, blockchain is challenging industry players to fundamentally reimagine their data sharing processes. There is no turning back, especially considering the pronounced impact it will have in prompting investment banks to re-architect current business models, operational functions and profitability profiles – in both the short and the long term. However, C-suite managers should consider making controlled and well-hedged bets to avoid expensive mistakes while being well positioned to reap benefits of the new model.

But to fulfil the promise, investment banks must rethink their strategies and approaches to workforce optimization, data center requirements, storage, networking and security. As with the Internet, the early adopters will be best placed to optimize costs, drive entirely new revenues and benefit from all that blockchain can deliver. Learning from past experiences with transformative technologies, investment banks have adopted the strategy of setting up in-house labs, joining industry consortiums and funding or forming joint-ventures with firms fully invested in blockchain.

**With this tantalizing prospect attracting so much interest, innovation and investment, are you ready to seize the opportunity?**

“Blockchain is challenging industry players to fundamentally reimagine their data sharing processes. There is no turning back.”

## NEXT STEPS ACCELERATE YOUR ACTION PLAN

**Leveraging blockchain technology starts with an action plan to address key questions such as:**

### STRATEGY

What is your **strategy to evolve your business** to the next level and what combination of innovations will be key to achieving that strategy? Where will you find the most value?

### ALIGNMENT

How do your **multi-year investment plans align** with how the available technologies, capabilities, and market offerings are developing? Are you investing / building within the limits of today's capabilities or tomorrow's potential?

### KNOWLEDGE

Are you **plugged into the right industry, regulatory, and cross-industry innovation forums** to stay informed and be an active player in shaping how the next period of innovation will play out (to your best advantage)?

### EXPLORE

Have you **explored the human and technology resources** required to support blockchain distributed ledger technology environments?

## ARE YOU READY TO BENEFIT FROM BLOCKCHAIN?

**As our research suggests, blockchain technology could deliver significant benefits.**

While many parts of the investment banking ecosystem first need to align for distributed ledger technology to maximize its potential, we are already seeing some industry leaders demonstrate what is possible, right now.

By putting the right pieces in place, allied to a clear vision, you could start to achieve short-term wins while building a more efficient, secure and cost-effective operating model to unlock sustainable gains, savings and long-term competitive advantage.



## CONTACT

To learn more about the benefits of blockchain for your business or discuss how any of the ideas in this paper could improve your organization's performance, please visit [accenture.com/blockchain](http://accenture.com/blockchain) or contact:

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## ABOUT MCLAGAN

McLagan provides compensation consulting, operational benchmarking and best practice research across the financial services industry. McLagan combines 50 years of thought leadership in strategy, performance, human capital management, and compensation data with fact-based advice to create a tailored solution specific to your organization. McLagan is part of Aon Hewitt, a business unit of Aon plc (NYSE: AON). For more information on McLagan, please visit [mclagan.aon.com](http://mclagan.aon.com)

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### References

#### 1 Operations defined as:

- a) Business Aligned: Trade Support and Middle Office, Clearance/Settlement/Investigations, Documentation/Confirmations, Operational Control, Customer Service/Client Relationship Management, OTC Clearing
- b) Central Operations: Funds Transfer, Collateral Management/Margin, Corporate Actions/Income Processing, Static Data/Data Management, Reconciliation/Investigation, Client Valuations/Pricing, Network Management, Know Your Client/Client Onboarding, Operational Control – Shared Services, Tax Operations.

#### 2 Aite Group:

<http://aitegroup.com/report/demystifying-blockchain-capital-markets-innovation-or-disruption>

#### 3 Greenwich Associates:

<http://www.greenwich.com/press-release/wall-street-blockchain-investments-top-1billion-annually-0>