

UNCHAINED

**How the Middle East
Can Unleash Blockchain's
Transformative Potential**



Blockchain, as a distributed ledger technology, is best known as the architecture that underpins cryptocurrencies, but its potential applications go much further.

Indeed, it promises to revolutionize the business and financial environment – by reinventing processes, improving productivity and quality, reducing costs, and enhancing transparency. Combining blockchain with other technologies such as analytics and machine learning could make it even more powerful.

The profound changes this technology can deliver in unlocking value apply as much to the financial services industry as any other – and as much to the Middle East as anywhere else in the world.

Understanding blockchain's potential is therefore of vital importance to banks, businesses and governments in the Gulf Cooperation Council (GCC), in particular the United Arab Emirates (UAE) and the Kingdom of Saudi Arabia (KSA) – both of which are key players in the region's financial services industry. The time to act is now.

SUMMARY

- Blockchain is an innovative digital architecture that eliminates the need for manual processing or authentication via intermediaries. Transactions that use blockchain are quicker, more reliable and more transparent, and generate efficiencies and cost savings. Payments, for example, are instantaneous and have full transactional transparency.
- The UAE – and Dubai in particular – is at the forefront of blockchain technology in the Middle East, while Bahrain and Saudi Arabia have recently also taken steps towards adoption.
- The result will be growing blockchain-based ecosystems that will benefit governments and businesses.
- Financial services companies are among those that could gain the most from adopting blockchain solutions in areas such as payments, supply chain financing and trade, as well as reporting, compliance and operations.
- Remittances are key to banks' revenues in the region, and distributed ledger solutions could result in substantial cost savings and better customer service.
- Other areas ripe for the technology include know your customer, digital signatures and supply chain finance.
- Three major obstacles to the adoption of blockchain are insufficient knowledge among executives; regulatory issues; and the lack of a fully functioning ecosystem that would support the rollout of relevant solutions.
- Regulation is a stumbling block, but regulators have shown that they see the value of blockchain and cryptocurrencies, and are working to support these technologies, which bodes well for future adoption.

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TOWARDS A NEW ECOSYSTEM

When it comes to blockchain and cryptocurrencies, Dubai has repeatedly shown itself to be the Middle East's most ambitious player.

Take one example among many: the Global Blockchain Council, which the emirate established in 2016. The purpose of this body of almost 50 government and business entities is to guide the technology's growth and adoption.¹

The UAE as a whole is also implementing distributed ledger solutions. At the end of 2017, the UAE's central bank announced that it would work with its counterpart in Saudi Arabia, the Saudi Arabian Monetary Authority (SAMA), to develop a cryptocurrency that the two entities and some commercial banks could use for fast, secure settlements.²

We expect that the UAE's forward-looking stance will encourage the development of a blockchain ecosystem that will prove groundbreaking for government and for businesses – from banks to oil and gas companies, and in diverse areas from operations to smart contracts to loans.

Yet these are early days, and the blockchain ecosystem is in its infancy both globally and in the region. That makes it less enticing for, say, a bank to invest in the technology required to support key processes that many of its counterparties or clients currently lack. And although it requires a critical mass for distributed ledger to reach its full potential, early adopters are reaping the rewards. By any standard, the move to blockchain is underway.

There are other issues, but none undermine our confidence in the benefits that distributed ledger technology will provide to businesses and governments in the region through efficiencies, cost-savings, transparency and speed of settlement. Not acting could hurt companies in the short-term. Long-term, inaction might well see them become extinct.

WHAT IS BLOCKCHAIN?

Blockchain is an innovative way to store data in a distributed ledger that allows multiple stakeholders to share access to the same information confidently and securely.

Originally, blockchain was used to support cryptocurrencies, the popularity of which gave rise to the idea of using distributed ledger technology to create trusted products.

The underlying technology provides the infrastructure to build innovative applications beyond cryptocurrencies, including logistics and smart contracts, and has the power to drive profound changes across business, communities and society.

Blockchain will supercharge artificial intelligence and the internet of things to make everything from supply chains to digital identity management smarter and more secure.

Indeed, security is key to the success of blockchain. To date, vulnerabilities in some applications have been exploited with negative consequences. An Accenture-derived solution using Hardware Security Modules essentially solves that problem.³

Among the firms most at risk, and most likely to benefit from blockchain, are those in financial services. Last year, Accenture assessed the world's eight largest investment banks and found that blockchain's biggest impact, with savings of 50 percent or higher, could be expected in areas such as central finance reporting, operations and compliance (see graphic), saving banks billions of dollars annually.⁴

This is of particular relevance for the UAE as it is the region's financial services center and aspires to become a global finance hub. It concerns Saudi Arabia too, which has ambitions to become a centre of finance in the region as part of its Vision 2030 goal to reduce its reliance on oil.

It is no surprise, then, that these governments are leading the push towards blockchain and cryptocurrencies in the Middle East.

Accenture High Performance Investment Bank Model – Blockchain Impact

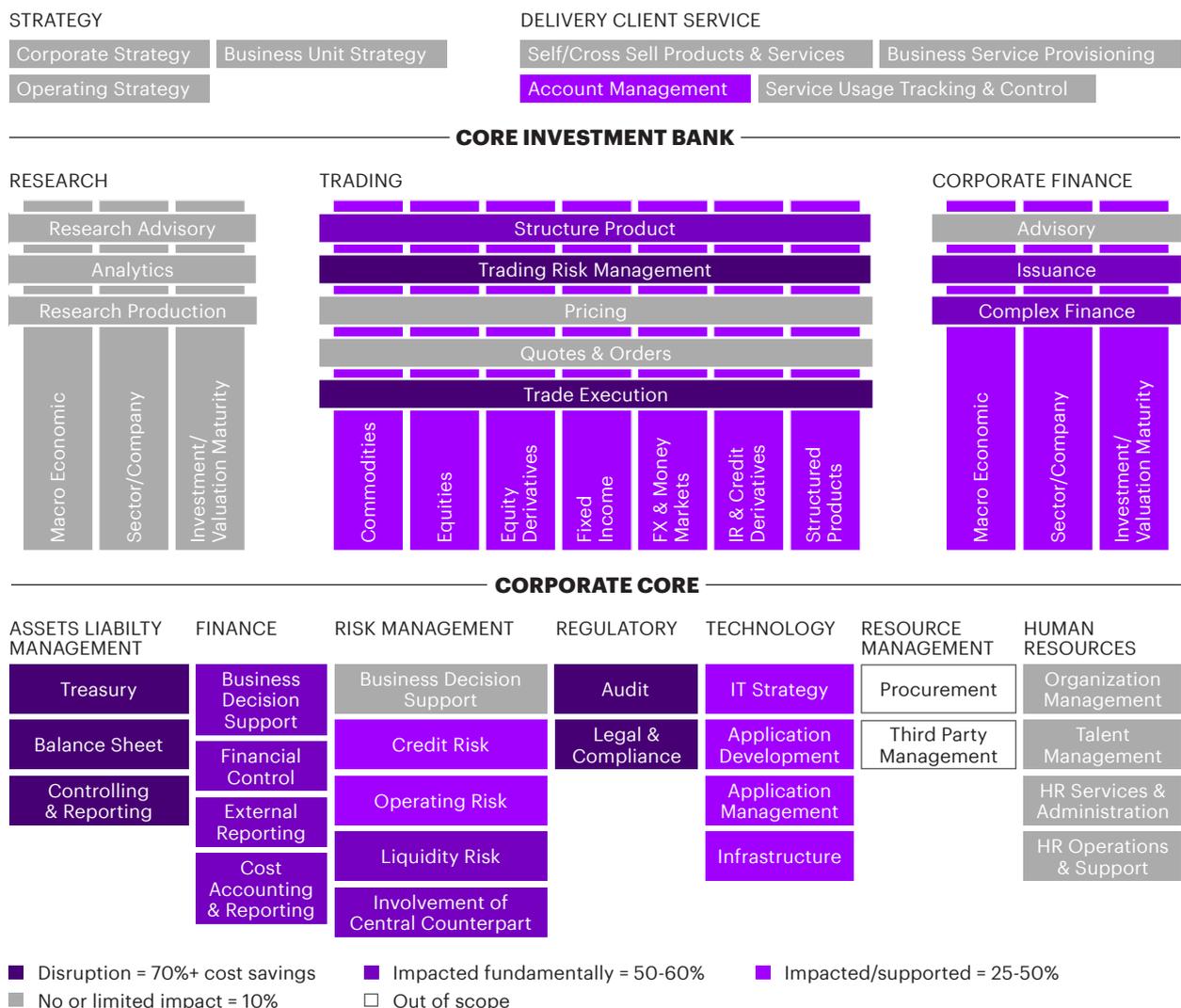


Image source: Accenture Consulting, "Banking on Blockchain: A Value Analysis for Investment Banks", 2017

2 STRONG LINKS DRIVE EFFICIENCIES

In 2015, Accenture released a global report on blockchain's expected impact on capital markets.

That report highlighted some of the benefits of blockchain's decentralized approach (see graphic): for example, that the technology allows asset transfers using smart contracts that rely on the ledger, rather than intermediaries providing a facilitation service. The result is a quicker, cheaper and more transparent system.

The report predicted a four-step process for the technology's uptake: we classed 2015 as the year of exploration and investment; 2016-2017 was the period of early adoption; 2018-2024 are the years of growth; while 2025 would see the maturity of blockchain – that point where it is thoroughly embedded in the system.

Capital Markets Today



Capital Markets in 2025

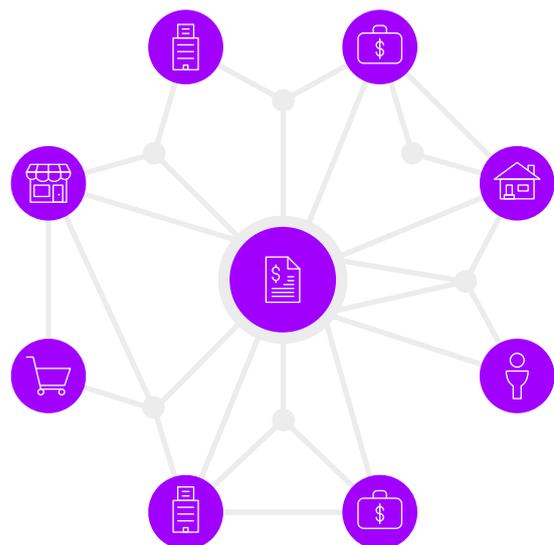


Image source: Accenture Consulting, "Blockchain Technology: Preparing for Change", 2015

This process is well underway around the world. Take China, for example, where 12 of the country's 26 listed banks – including state-owned behemoths such as Bank of China and China Construction Bank – have started using the technology.⁵

Or consider fintech firm R3, which in late 2017 said it and nearly two dozen of the world's biggest banks – including HSBC, Commerzbank and Barclays – had created a blockchain payments system that could be used for transactions involving fiat and digital currencies.⁶

Blockchain allows companies the chance to rewrite how they operate. It brings greater data transparency, removes redundant processes and revamps inefficient capabilities. And beyond simply automating old processes, blockchain eliminates some of the steps required in business transactions, facilitating the restructuring of traditional value chains.

All of that brings economic benefits: UBS said last year that blockchain was likely to have “a significant impact in industries ranging from finance to manufacturing, healthcare and utilities,” adding up to US\$400 billion annually in economic value by 2027.⁷

Based on what has happened elsewhere in the world, Accenture expects that blockchain will prove increasingly useful in several areas in the Middle East: in government services (including health and public services); in financial services, including remittances and trade finance; and in cryptocurrencies.

Government

Earlier this year, the UAE launched the Emirates Blockchain Strategy 2021, part of its push to improve government efficiency. The strategy will see half of all government transactions use the blockchain platform by 2021, which is expected to save US\$3 billion a year.⁸

Dubai already uses blockchain in key government sectors – for example, the technology is used by its land office to document all real estate contracts. It then shares that data with other departments, such as those providing electricity and water.

By 2020, Dubai wants blockchain used for all bill payments, visa applications and license renewals, as well as healthcare.⁹

Saudi Arabia has begun looking to blockchain to deliver similar benefits, and has said it views the technology as essential for development and achieving its Vision 2030 goals.¹⁰ Regional governments successfully using blockchain to streamline operations should encourage business to look more closely at the technology.

Financial Services

Remittances are a key early driver of blockchain in the Middle East, not least because the region, with its expatriate-heavy population (see table), is home to five of the world’s top 15 remittance-sending countries: Saudi Arabia – with around one-third of its 30m-strong population comprising foreign nationals – is the world’s second-largest remitter country, with US\$37.8 billion sent in 2016.

The UAE, Kuwait, Qatar and Oman are also in the top 15, and between them accounted for a further US\$81 billion in remittances in 2016.¹¹ Their expatriate population percentage ranges from around 90 percent (the UAE and Qatar) to nearly 70 percent for Kuwait and about 45 percent for Oman.¹²

Country	Percentage in total population (%)		Date
	Nationals	Non-Nationals	
Bahrain	48	52	2014
Kuwait	30.8	69.2	2015
Oman	56	44	2015
Qatar	14.3	85.7	2010
Saudi Arabia	67.3	32.7	2014
UAE	11.5	88.5	2010
Total	51.9	48.1	

Source: <http://gulfmigration.eu/total-population-and-percentage-of-nationals-and-non-nationals-in-gcc-countries-latest-national-statistics-2010-2015>

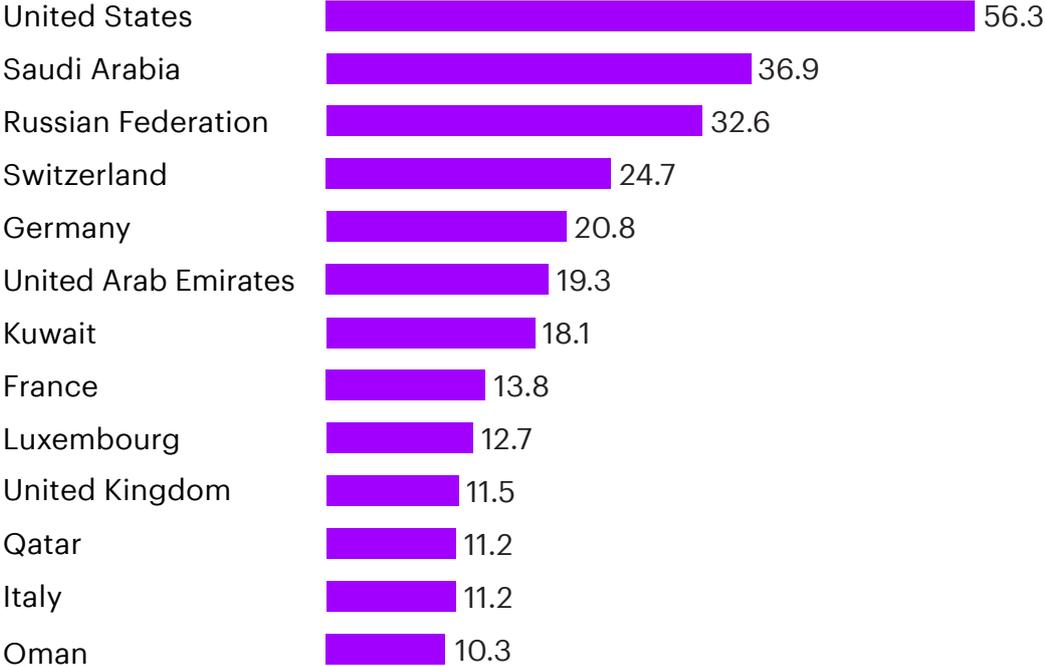
Remittances, therefore, form a major revenue stream for the region’s banks, which helps to explain why, within the past two years, two undertook blockchain proof of concept projects around such payments.

In 2016, Emirates NBD and India’s ICICI bank worked with Infosys Finacle to trial blockchain across areas including remittances and trade finance.¹³ And in early 2017, the National Bank of Abu Dhabi (now known as First Abu Dhabi Bank (FAB)) became the first Middle East bank to partner with Ripple – a global payments network built on blockchain – to provide real-time cross-border payments to its corporate customers.¹⁴

Saudi Arabia is catching up. Earlier this year, SAMA signed a deal with Ripple to help the country’s banks settle payments using the US-based company’s blockchain software.¹⁵ That followed last year’s successful POC from Saudi Arabia’s Al Rajhi Bank – the world’s largest Islamic bank – in which it used Ripple’s blockchain to transfer money between Riyadh and Jordan. That marked the first time the technology had been used in Saudi Arabia.¹⁶

Remittance fees are typically costly – according to the World Bank they total around 7.1 percent of the sum sent on a US\$200 transfer.¹⁷ Blockchain solutions can halve that, Moody’s Investor Services said recently; it estimated the technology could save Saudi banks up to US\$400 million a year.¹⁸

Top Remittance-Sending Countries, 2014



Source: Migration and Remittances Factbook 2016, Third Edition, p14.

Blockchain's possibilities go even further. Financial services firms can use blockchain solutions to streamline other areas of their operations, such as know your customer, digital signatures and supply chain finance.

Among the most dynamic banks in this regard is Emirates NBD. In 2016, the UAE's largest financial institution shook up the sector when it said it would invest AED500 million (US\$136 million) to digitally transform its processes, products and services over three years.¹⁹

Earlier this year, it introduced an anti-fraud measure for checks called Cheque Chain, which integrates blockchain into issued checks to improve security.²⁰ Each check carries a unique Quick Response code, which registers that check on the bank's blockchain platform. The end result: forgery is much harder.

Blockchain could also prove particularly relevant for processes in Islamic finance – for instance, when banks undertake additional steps in terms of buying an asset and then selling it on to the customer – by making those transactions seamless, more secure and more transparent. As banking evolves from the traditional bank-centered model to a diversified business that can target individual customers with specific offerings, the use of technology such as blockchain will separate the winners from the also-rans. This is particularly true for the UAE and the broader region, which is home to large numbers of smaller banks.

Cryptocurrencies

Governments in the Middle East, as in many countries, view cryptocurrencies with caution as they lack a central authority and are beyond the control of monetary policy.

Despite the region's broadly cautious approach to cryptocurrency, it has seen some important developments. Dubai is host to a cryptocurrency exchange, BitOasis, which operates in several countries. Late last year the UAE announced that it was working with Saudi Arabia on a blockchain-based digital currency that banks in both countries could use to ensure greater transaction efficiency.

Perhaps most significant is Dubai's decision last September to develop and launch its own encrypted digital currency, emCash, that people in the emirate can use to pay for government and non-government services – from coffee to school fees, in a cheaper, faster and more secure way.²²

Where Dubai leads on digital developments, others in the region tend to follow. Consequently Accenture expects more such tie-ups between governments and fintech businesses going forward.

3 FACING UP TO THE HURDLES

As elsewhere in the world, blockchain and cryptocurrencies are in their early stages in the Middle East, and in some respects the region has been slower to act than it might.

Accenture believes three factors in particular have slowed blockchain's uptake:

- A lack of widespread knowledge about the technology;
- Regulatory aspects;
- The lack of a fully functioning ecosystem that would support the further adoption of blockchain solutions;
- Uncertainty about the security of the technology.

Broader knowledge

In a recent assessment of the Australian market, Accenture found 60 percent of executives said blockchain would be critical to their organizations over the next three years.²³ While comparable data for the Middle East isn't available, anecdotal evidence suggests that knowledge of blockchain and its applications is far less prevalent.

Part of the challenge is that many in the financial services industry in particular are focused on transformation – overhauling their core banking legacy systems – which has overshadowed the analysis of benefits that might be gleaned from blockchain.

Blockchain's potential means executives should consider it more closely, not only from the innovation or digital perspective, but also for its role in driving operational efficiencies and cost reductions, and as an integral part of the roadmap in bank transformation.

Regulatory issues

China, where a dozen large banks have started using blockchain, provides a useful example of how the authorities can encourage the technology's uptake. A paper published earlier this year by the China Banking Regulatory Commission pushed the advantages of blockchain technology in areas such as loans.²⁴

Regulators in the UAE and Saudi Arabia have taken comparable steps to widen understanding and applications of blockchain. Authorities in Abu Dhabi have announced a program with a number of institutions, including Abu Dhabi Commercial Bank, Abu Dhabi Islamic Bank and UAE Exchange, to develop a blockchain-based Know Your Customer application.²⁵ In February, Saudi Arabia's SAMA set up a pilot program with Ripple enabling local banks to use the US company's blockchain-based product for cross-border payments. The sandbox arrangement also includes training for interested banks.²⁶

Those sorts of proactive, industry-friendly approaches will help to raise the profile of blockchain-based solutions. It is also important for governments to incentivize companies to use the technology in areas such as supply chain finance. One example of this is Dubai's government's test of the technology, along with several private companies including Emirates NBD and Santander, to harmonize trade finance on a single platform.²⁷

Ecosystems

Blockchain solutions deliver the best value when applied to a network of organizations, clients and trading partners. Yet few of the typical Middle East company's clients or partners have adopted blockchain applications,

which means companies that are inclined to go down the blockchain road have little incentive, and network effects are difficult to leverage.

This will change as increasing numbers of businesses, government departments and suppliers use blockchain and the business case for the technology becomes clear. Over the next few years we believe this region will see a critical mass of users develop; at that point, those that would benefit from blockchain but who have avoided it will find themselves at a disadvantage, while early adopters will be at the forefront.

Indeed, Ripple provides a powerful example of the importance of a functional ecosystem: because the company has already connected more than 100 financial institutions around the world to its RippleNet network,²⁸ a blockchain-based payments network has been created that others can access by signing up and integrating into their operations.

Supply chain finance, on the other hand, lacks that central player, which makes using a blockchain application more complicated, as a firm would need to ensure its suppliers, partners and other banks were using it too. Over time that will change, but for now it remains a restricting factor.

4 **LOOKING AHEAD**

Even though blockchain adoption in the Middle East has proceeded at a slower pace than in some parts of the world, we believe that what has been done to date has laid the groundwork for a more rapid uptake in the years ahead.

Businesses that adopt blockchain solutions where appropriate should enjoy a range of benefits, including greater efficiency and transparency and, ultimately, higher profits. Those that do not do so will become less competitive. Where banks and governments like that of Dubai are leading the way, others will follow.

If blockchain's victories in other parts of the world are any guide, success in this arena will be built on partnerships between established companies and upstart fintech firms, with government and regulators providing an environment for frictionless collaboration.

Ultimately, the evolution of the blockchain and cryptocurrency space in this region will involve a hybrid model of local and global partners. The latter will bring internationally applicable solutions, a large footprint and a standardized way of operating – yet they will lack the understanding of a young, dynamic market that homegrown firms will have. This points to an opportunity for leading companies to not only adopt blockchain to realize internal improvements, but to develop innovative blockchain-based solutions and business lines that could provide future sources of growth.

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ABOUT ACCENTURE

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