

Blocks away

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Recent research has explored the commercial real-estate profession's attitude towards blockchain and identified the barriers to wider implementation, writes Megan Hanney

World-leading institutions have identified commercial real estate as the next sector to be transformed by blockchain. The technology has already had a huge impact on the financial services sector, and is predicted to be 5 to 10 years away from revolutionising commercial real estate.

Recent research by Nottingham Trent University investigated blockchain's impact on commercial real estate by revealing the barriers faced by the sector and potential solutions. Interview participants included RICS, Boston Consulting Group, CBRE, Clifford Chance, Cushman & Wakefield, Deloitte, HM Land Registry, JLL, Liquid Real Estate Innovation, McKinsey & Co, Savills, and the University of Oxford.

The research found the most prominent use cases for blockchain to be smart identities and smart contracts in occupier and investment markets. Smart identities allow both individuals and assets to improve due diligence processes by eradicating the need for physical documents and manual verification, while [smart contracts](#) contain algorithmic transaction rules enabling functions such as electronic signatures, account verification and automated payments.

John Abbott, director of digital, data and technology at [HM Land Registry](#), notes how "insurance companies leasing big John-Lewis-type retail units are already using smart contracts to self-execute transactions. The contracts are configured to update rental values automatically by examining the retail price index and inflation. An automated email is then sent to the occupier explaining the change while simultaneously requesting a signature of agreement through the blockchain."

Use of blockchain in commercial real estate offers various benefits. The 1st is increased transparency: multiple listing services built on the blockchain can eliminate fees for market information while providing clarity and better pricing logic. Paul Bagust, global property standards director at RICS, states "there is an absolute demand now from clients and global investors that professional services are provided as transparently as possible".

Next, blockchain increases data security and improves analytical capabilities. The technological structure of the distributed ledger makes hacking virtually impossible. It also allows real-time analysis of transactions, enhancing the speed, quality and quantity of data produced. An analyst using legacy systems might typically spend 80 per cent of their time gathering data and only 20 per cent analysing it, but blockchain [would reverse these figures](#).

Blockchain predictions

- Overall, blockchain can enable significant cost savings by reducing the amount of time and resource required for existing systems.
- It is estimated that by 2021, blockchain will save businesses \$50bn in business-to-business transactions.
- It is also predicted that blockchain will [add \\$300-\\$400bn of annual economic value globally](#).

The 3rd benefit is increased liquidity. Kevin Shtofman, global technology real-estate strategist at Deloitte, explains how 'democratisation of the investment market becomes possible when assets are tokenised and fractionalised, allowing real-estate investment to be crowdsourced from all over the world within minutes instead of weeks or months'. Registration of investments on the blockchain also simplifies investor exchanges and eases diversification pressures on portfolios.

Barriers to adoption

Despite the benefits of such uses, adoption faces numerous barriers. Commercial real estate is known to be one of the least receptive sectors to innovation, with conventional firms tending to [have extremely conservative cultures regarding new technologies](#). Thus David Shrier, who leads a short course on blockchain for business leaders at the University of Oxford, maintains that 'culture will be the no. 1 barrier to adopting blockchain'. A result of the prevailing culture is a lack of research and development on blockchain and poor understanding of the technology itself.

However, Mike Gedy, executive director of strategic advisory services at CBRE, highlights that 'blockchain will only be built into specific elements of process and transaction workflows, so not everyone requires an in-depth understanding of how the technology works. Considering this, firms should still have experts for blockchain just as they have for other data-based technologies.'

As with most new technologies, there is much hype around blockchain, and it is often misconstrued as a solution for all problems. This is not the case. Blockchain is one of many competing technologies including artificial intelligence, augmented reality, data analytics, machine learning and more. Over the next 3 to 5 years, these competing technologies are expected to be the focus for commercial real estate. Yet with exponential growth and deployment of blockchain further down the line, it will be expensive for firms that have not yet taken on the technology to catch up at that stage.

There is further resistance to exploring blockchain thanks to current margins in commercial real estate. While the major players continue to make big enough margins, the urgency to innovate subsides. Timco Toppen, capital markets adviser at Cushman & Wakefield, explains that 'margins in the commercial real-estate sector significantly differ to those in the construction industry. It is only when profit margins are challenged, for instance during an economic downturn, that the urgency to innovate grows. Thus, blockchain adoption will most likely be initiated by a government agency or professional body rather than commercial real-estate firms.'

Concerns around data privacy and the number of parties involved also act as a barrier to blockchain. Bagust states that 'many professionals are unsure that blockchain is the correct solution due to uncertainty around who owns what data and how that data can be used'.

However, the number of parties involved will depend on the type of blockchain being built: public, private or permissioned, that is, where certain parties are granted access to improve processes together. Nottingham Trent's research revealed permissioned blockchain to be most suitable for commercial real-estate firms. Blockchain involves fewer parties and can resolve data privacy concerns quite easily compared to a public blockchain; it also provides greater functionality than a private blockchain.

The final barrier is the fear of job losses, as blockchain has the potential to remove intermediaries. It was argued by numerous participants that brokers are the most likely to be affected, but firms must also consider whether other service lines could charge the same fees in the future given that due diligence, knowledge creation and data analysis will be extremely efficient.

However, it is rarely acknowledged that with job loss and automation comes job creation. At the same time that Goldman Sachs automated trading desks, it [employed new data scientists and computer engineers](#) . Similarly, when Amazon's CEO [deployed 100,000 robots, 315,000 new employees were hired](#) . When blockchain is fully implemented in commercial real estate, new roles will be created in the same way. Rather than having people measure the same buildings multiple times, they will be redeployed to provide more valuable advice.

There is a lack of research and development on blockchain and poor understanding of the technology itself

There is confidence that traditional service lines and commercial surveyor roles will still exist and be valuable in the future. Yet this confidence comes with a massive caveat: they must evolve with technology. Technology will not completely replace humans in the foreseeable future; rather, it will complement them. Human advice based on the best technology will most often beat technology or a human alone. However, as Dan Hughes from Liquid Real Estate Innovation highlights, the problem is that 'technology alone will very often beat a human working in isolation of technology'.

Ways forward

A major finding from the research was the suggestion that commercial real-estate firms should pursue the consortium model used by the financial services sector when deploying blockchain. This would allow the technology to be tested with input from multiple entities to ensure consensus between major players. After testing the technology, a migration path is established for ideas to scale for commercial adoption. However, Shrier highlights that innovation portfolios require an 80 per cent failure rate when pioneering new ideas. Consortium parties therefore need a high tolerance for failure and a supportive boardroom.

There are 2 further lessons to be taken from the financial services sector. The 1st is that partners should be chosen selectively, with more focus on access to good data and a willingness to collaborate than on a firm's reputation or brand. The 2nd is that professionals should aspire to emulate the financial sector's structure of compliance, which exists not only for the sake of transparency but also to better enable technology.

Adoption will therefore become a success through an inflationary spiral as global real-estate firms desire the competitive advantage of using blockchain. This process has also been demonstrated by [De Beers, whose use of blockchain](#) caused other big players in its sector to turn off existing stacks and redirect trade flows through the new structure.

Research findings

- CBRE has completed blockchain pilots with clients.
- JLL has launched blockchain-based valuations; Francesco Federico, EMEA digital director at JLL, describes the advantages: "Our new process means that banks can easily check the validity of a valuation simply by accessing an online portal that relies on blockchain, rather than having to go through the traditional, more human-intensive process."
- Cushman & Wakefield is participating in blockchain valuation pilots and exploring opportunities for transaction-focused services.
- Savills has internal management groups investigating blockchain from the board to graduate level.
- RICS is watching blockchain closely and looking to create standards to align with new developments.
- HM Land Registry has developed blockchain prototypes for smart contracts alongside a proof of concept for a fully digital register with machine-readable data. Given that many commercial firms rely on the registry for commercial and corporate ownership data, the organisation acts as an enabler.
- Blockchain models typically advocate utility by focusing on the operational value of the technology. However, utilities are notoriously prone to failure if they don't scale well, which makes access to market the priority for companies looking to sell blockchain products to the commercial real-estate sector.
- The research also found that, in terms of timeframe, blockchain deployment will be a lot faster for firms with established innovation groups, those working with start-ups and those running their own incubators.

While the UK's legal framework complements scalability by limiting the risk of monopoly behaviour, blockchain use remains a fiercely complex prospect. The legal minefield includes competition, data and joint ventures. Considering these challenges Jonathan Kewley, technology partner at Clifford Chance, advises the sector to engage with law firms in the early stages of development.

Finally, while information governance and management of data is important, it should not stop firms from deploying blockchain. Hughes argues that the requirement for perfect data depends on the use case: "Blockchain is just a ledger of transactions so it can have terrible or fantastic data. Organisation of data is not a prerequisite for deploying blockchain. The quality of data can only really be established when the use case is known. The most important thing is to ensure a comprehensive digital business strategy is in place."

Within 10 years, blockchain will dominate many commercial real-estate business lines. Mass constructs are going to change dramatically, especially those related to transactions. Shtofman states "those who are willing to invest upfront, try things on a small scale and be willing to fail will be the ones that succeed. Firms with long, bureaucratic processes will struggle."

World-leading commercial real-estate firms have already entered the pilot stage and are testing blockchain prototypes; some have implemented and are using them. While 2018 was the year of proof of concept, 2019 is looking like the year in which value is proved, while 2020 will be the year it scales up into commercial real estate and is adopted across the sector.

To conclude with the words of Steven Lang, research director at Savills: "our clients are looking into blockchain and we can't look like we're behind, as an industry. Think of the stockbroker in the mid-1980s who may have ignored electronic trading. The commercial real-estate sector is in trouble if we decide blockchain isn't for us because we'll get forced to

adopt it later, kicking and screaming.?

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Further information

- Related competencies include: [Big data](#) , [Data management](#)
- This feature is taken from the [RICS Property journal](#) (May/June 2019)
- Related categories: [Due diligence](#) ; [Introduction to proptech](#) ; [Property finance and funding](#)