Solicitors Regulation Authority

Risk Outlook report: cryptocurrencies and other distributed ledger technologies

2 February 2023

Introduction

All types of businesses are utilising new technologies all the time and the legal sector is no exception. While not every firm will be at the forefront of use and development for a whole host of reasons, some technologies might be unavoidable as they become the standard for the industry.

This Risk Outlook report focuses on distributed ledger technologies (DLTs), such as blockchain-based cryptocurrencies and their implications for legal services providers.

These have a high potential to benefit firms and their consumers. However, issues such as the anonymity of current cryptocurrency systems do pose risks. Every firm should weigh up the pros and cons of new technologies before investing in new systems.

DLTs refer to a network or database where all participants can verify transactions or ownership within the network. Just as a typical ledger is a collection of financial accounts, DLT has a digital 'record of consensus' [https://www.finra.org/sites/default/files/2017_BC_Byte.pdf] with an audit trail. The most common current form of this is blockchains. These systems are now widespread [https://www.linkedin.com/pulse/blockchain-lawtech-innovation-stephenson-law-legal-hackers-mcclory] , and will continue to grow [https://www.statista.com/statistics/1015362/worldwide-blockchain-technology-market-size/#:~:text=The%20worldwide%20blockchain%20market%20was,billion%20U.S.%20dollars%20by%202027.] .

These are topical and fast developing areas. Some law firms are already using blockchain technology to increase their efficiency and verify transactions - which might support firms to improve or expand their services.

The implications of these systems will vary by firm size and sector but solicitors have many reasons to consider how they might impact their and their clients' businesses. For example:

- The Law Commission has confirmed that smart contracts can be used [https://lawcom.gov.uk/project/smart-contracts/] in England and Wales and is proposing law reforms for other digital assets [https://lawcom.gov.uk/project/digital-assets/] such as non-fungible tokens (NFTs).
- Some law firms might also be asked to advise on legal issues related to cryptoassets. In July 2022 it was announced that the Law Commission plans to publish proposed legislation [https://www.lawgazette.co.uk/law/mor-proposes-major-new-project-to-boost-blockchain/5113229.article] on the legal status of cryptoassets.
- The Master of the Rolls, Geoffrey Vos, has described them as being at the same stage of development as the internet in 1995.
- LawtechUK expects that non-lawyers and venture capitalists will take a greater role [https://www.legalfutures.co.uk/practice-points/technology/lawtech-tipping-point-likely-to-come-from-non-lawyers] in developing and funding legal tech startup companies.

How are these systems being used?

A wide range of industries connected to the sector are already using these technologies. In the home buying software platforms used by estate agents, 70 per cent are either connected or in the process of connecting [https://lawtechuk.io/programmes/smarter-contracts/home-buying-and-selling] to a shared blockchain or DLT infrastructure.

In the legal sector there is increasing use of blockchain technologies [https://www.cityam.com/blockchain-technology-and-its-impact-on-the-legal-profession/] in document management systems (DMS), document notarisation, chain of custody and property rights.

Smart contracts are increasingly widely used by businesses and advised on by firms. For instance 200 finance companies [https://www.securitiesfinancetimes.com/securitieslendingnews/industryarticle.php?article_id=225567&navigationaction=industrynews&newssection=industry] are now using a contract automation platform from a City law firm, while across the Top 100 global law firms headquartered in the UK, 28 per cent report investing in 'contract lifecycle management' [https://www.pwc.co.uk/industries/legal-professional-business-support-services/law-firms-survey.html] in 2021.

In the insurance industry smart contracting allows for rapid provision of payouts. For example, some travel insurance for flight delays gives an automated claim payment [https://lawtechuk.io/programmes/smarter-contracts] with proof of ticket purchase.

Non-fungible tokens (NFTs) are used in increasingly innovative ways in the legal sector. For example:

- In late 2021 a UK law firm became the first to offer advice as an NFT [https://www.legalcheek.com/2021/10/uk-law-firm-becomes-first-to-sell-legal-advice-as-nft/] where the tokens can be redeemed for one hour of legal advice on certain subjects.
- At least one law firm has created an electronic bill of lading system [https://lawtechuk.io/programmes/smarter-contracts/trade] to show exclusive possession of trade documents.

What distributed ledger technologies are relevant to legal services?

There are a range of different uses of DLT that are relevant to legal services. We list some of the main forms below:

Open all [#]

Blockchain

Blockchain is a common type of distributed ledger. It is a system for storing data across a wide network of computers, using the need for consensus across the network to secure the integrity of the information it holds.

Its main advantage is that it can maintain trust without the need for a central authority. The name comes from the way in which it handles data, as a chain of unchangeable packages of information [https://www.finra.org/sites/default/files/2017_BC_Byte.pdf], or blocks. Transactions are backed by a series of 'blocks', which are timestamped and linked [https://www.finra.org/sites/default/files/2017_BC_Byte.pdf]. The result is an irrevocable record of all transactions on that chain organised as a timeline, making the chain immutable as it cannot be changed after it has been created.

A blockchain can be used to hold any type of information. They have most frequently been used as a means of recording transactions, notably cryptocurrencies such as Bitcoin. Although systems such as Bitcoin anonymise their transactions, this is not an essential part of how a blockchain works.

Digital signature

Digital signatures [https://www.finra.org/sites/default/files/2017_BC_Byte.pdf] can verify a digital message to prevent fraud or counterfeit. A digitally signed message becomes invalid if

altered after signing. This is because they are encrypted with a key known only to the signer, [https://www.gartner.com/en/information-technology/glossary/digital-signature] but can be decrypted only with a related key that the signer distributes openly. As that public key will only decrypt documents that were originally encrypted with the signer's private key, this gives a high degree of trust that they are genuine.

A legally valid and enforceable way of signing a document, e-signatures became increasingly important [https://www.lawsociety.org.uk/topics/coronavirus/our-position-on-the-use-of-virtual-execution-and-e-signature-during-the-coronavirus-covid19-pandemic] worldwide during the pandemic lockdowns. Nearly 90 per cent of top City firms have reported investment in e-signatures according to one study [https://www.pwc.co.uk/industries/law-firms/law-firm-survey-report-2021.pdf] .

Cryptocurrency

A cryptocurrency is a digital currency [https://www.investopedia.com/terms/c/cryptocurrency.asp] that uses blockchain or other DLT. They are not issued by any central authority but instead reside on a blockchain.

As that chain keeps an irrevocable record of all transactions and needs a majority of participating systems to agree to any change, cryptocurrencies cannot easily be manipulated or counterfeited.

Early cryptocurrencies have had extremely volatile prices. With many being traded through commercial exchanges [https://www.theguardian.com/technology/2022/nov/18/how-did-crypto-firm-ftx-collapse] , which are not as secure as the underlying blockchains, they have also been affected by frauds and the most recently the high profile collapse of exchanges. Most recently this has led to high falls in value at the time of writing, after a long boom, in a similar way to previous market reactions to new technologies. [https://cointelegraph.com/news/what-the-dot-com-bust-can-teach-us-about-the-crypto-crash]

Stablecoins [https://www.investopedia.com/terms/s/stablecoin.asp] are a type of cryptocurrencies tied to an external value, such as a government-issued currency (a fiat currency) or commodity, as a means of overcoming traditional high-price volatility.

Smart contracts

Smart contracts involve drawing up an agreement in computer code, frequently but not always using blockchain systems. Smart contracts are executed and enforced automatically through a distributed ledger [https://www.finra.org/sites/default/files/2017_BC_Byte.pdf] so do not need intermediaries.

By automating contract performance and enforcement, these systems have the potential to greatly speed up many legal transactions.

Non-fungible tokens (NFTs)

An NFT is a digital asset on a blockchain [https://www.investopedia.com/non-fungible-tokens-nft-5115211] with unique identification. Unlike fungible tokens such as cryptocurrencies, NFTs' unique nature means they are often used for digital art or collectibles, but they can also digitally represent real-world assets like property rights.

Decentralised autonomous organisations (DAOs)

DAOs are a new form of blockchain-based organisation [https://www.legalcheek.com/lc-journal-posts/welcome-to-the-futuristic-world-of-the-decentralised-autonomous-organisation/] . Their members can vote on their governance using digital tokens [https://www.legalcheek.com/lc-journal-posts/welcome-to-the-futuristic-world-of-the-decentralised-autonomous-organisation/] through

transparent and democratic decision-making processes. They will need legal advice in the same way as any other commercial entity.

Opportunities for firms

DLTs offer firms the potential to improve the speed, flexibility and traceability of many transactions, while at the same time reducing costs.

Open all [#]

Speed and cost savings

The high potential cost and time savings from wider use of smart contracts will mean a likely growth in demand for their use.

Firms that adopt these systems will be able to benefit from increasing productivity, handling greater numbers of largely automated transactions.

Some contracts can involve a routine, manual process. Automatic drafting and contract management processes can free up more time for high-value work [https://lawtechuk.io/programmes/smarter-contracts] and allow for more transactions at a lower cost. Examples of time and cost savings already made include:

- The first provider chosen for a global DLT trial for property transactions, Search Acumen, estimates that conveyancers can save up to five hours per transaction [https://www.legalfutures.co.uk/associate-news/search-acumen-launches-end-to-end-residential-conveyancing-platform] with its end-to-end residential conveyancing platform.
- A blockchain conveyancing trial [https://todaysconveyancer.co.uk/blockchain-trial-cuts-property-transaction-process-substantially/] involving property firms, software developers and banks found DLT cut conveyancing processes from three months to three weeks.

The Land Registry now allows deeds to be signed with electronic signatures [https://lawtechuk.io/programmes/smarter-contracts] , which has helped speed up the conveyancing process. The registry is working on the use of a 'qualified electronic signature' [https://lawtechuk.io/programmes/smarter-contracts] , which would allow signatories to sign without a witness due to an alternative identity verification process.

The UK-based Coadjute network uses blockchain technology to connect the existing software systems [https://www.coadjute.com/why-coadjute/] of different parties in a property transaction. It believes that the time to move house could be cut by up to 50%. [https://propertyindustryeye.com/the-conveyancing-association-appoints-coadjute-as-an-affiliate-member/] In April, the company estimated that 70% [https://propertyindustryeye.com/the-conveyancing-association-appoints-coadjute-as-an-affiliate-member/] of all estate agents are using a platform that would be connected to the Coadjute network. [https://www.coadjute.com/our-partners/]

Announced partners in the conveyancing space include LexisNexis, Redbrick, Osprey,and Thomson Reuters.

Traceability

DLT enhances traceability in several ways:

- E-signatures can be used anywhere, so work remotely and across borders.
- The integrity of data [https://www2.deloitte.com/mt/en/pages/financial-services/articles/mt-risk-article-can-blockchain-turn-the-tide-on-financial-crime-compliance.html] provided by DLT reduces the risks of internal fraud or interference with verified information, helping risk management and due diligence.
- Blockchain can underpin some anti-money laundering (AML) software [https://amluae.com/how-blockchain-helps-in-aml-compliance/] , as its immutability can help detect fraudulent transactions.

- Decentralised identity, which uses DLT to securely store and share identity data, can reduce exposure to data breaches [https://www.gartner.com/doc/reprints?id=1-27FK1LFV&ct=210913&st=sb] . Also known as self-sovereign identity, a decentralised and user-controlled online identity system [https://www.perkinscoie.com/en/news-insights/self-sovereign-identity-and-distributed-ledger-technology.html] could have applications in the legal sector, such as for identity verification.

NFTs are harder to forge than written deeds, as proof of ownership is tied to the asset [https://www.forbes.com/sites/forbesbusinesscouncil/2022/07/12/nfts-a-vcs-friend-in-deed/?sh=244a6151369a] . They are becoming a feature of property transactions [https://www.thetimes.co.uk/article/should-you-buy-an-nft-property-in-the-uk-qbp53gnll] as a means of providing increased security.

Current blockchain systems are pseudonymous in that the names of those involved in them can be hidden, which obviously complicates the task of identifying owners. However, they provide a permanent record of all transactions between accounts. This offers advantages in a wide range of fields. A blockchain based conveyancing system [https://theconversation.com/how-the-blockchain-will-transform-housing-markets-75691] , for example, could:

- reduce the risk of fraudulent access or alteration of property or transaction records
- increase efficiency due to automated due diligence processes
- reduce or eliminate legal and title costs for consumers.

Barriers and threats

Open all [#]

Trustworthiness

Although blockchain provides a transparent and reliable trail, it can be complex and many systems allow identities to be hidden. This can reduce trust in the system. For example accidental transfers of money are difficult or impossible to reverse [https://www.theguardian.com/technology/2017/nov/08/cryptocurrency-300m-dollars-stolen-bug-ether] .

Recent evidence shows [https://www.legalservicesconsumerpanel.org.uk/wp-content/uploads/2022/07/22.07.19-How-consumers-are-using-legal-services-report-FINAL.pdf] that while many are comfortable to use various technologies in many situations, there is hesitancy for some providers and consumers of legal services.

Our joint research [https://legalservicesboard.org.uk/research/social-acceptability-of-technology] with the Legal Services Board (LSB) also found some solicitors were hesitant to adopt new technologies: 34% (of 166 legal professionals) were not willing to use smart contracts (36% were willing).

Money laundering and fraud

Criminals are attracted to DLT for a variety of reasons, including the perceived anonymity of blockchain technology and the ease of defrauding many consumers through crypto scams. It has been particularly significant in ransomware attacks. There may have been $14bn worth of cryptocurrency crimes in 2021 [https://blog.chainalysis.com/reports/2022-crypto-crime-report-introduction/] , nearly double the level in 2020. However, it is important to note that this represents less than one percent of all crypto transactions in that year. [https://blog.chainalysis.com/reports/2022-crypto-crime-report-introduction/] Most uses are legitimate.

The involvement of anonymised cryptocurrencies will raise the money laundering, terrorist financing and sanctions risk in transactions. Firms may be exposed to this risk without warning, for example if an estate being handled in probate proves to include

crypto assets. Identifying the source of funds is an obvious reason, and there are more points to consider in our Q&A on crypto and money laundering [https://jobs.sra.org.uk/solicitors/resources-archived/money-laundering/guidance-support/aml-questions-answers/#collapse_8a34] .

Despite their robust nature, it is also possible for blockchain systems to be hacked. This could allow for thefts and fraudulent transactions. Most known cases of this [https://www.epiqglobal.com/en-us/resource-center/articles/blockchain-can-be-hacked] have however involved attacks on cryptocurrency exchanges rather than on the blockchains themselves.

Establishing jurisdiction

International use of smart contracts might be difficult and any errors in the contract might be challenging to correct. Deciding where digital assets or acts stored in the smart contract are 'located' can be more difficult than for traditional contacts [https://www.finextra.com/the-long-read/430/when-smart-contracts-go-wrong] and leave ownership unclear.

Value instability

The value of current cryptocurrencies is highly volatile, a risk when holding clients' crypto assets, for example when dealing with an estate. The risk is not truly different from any other highly volatile asset class, but cryptocurrencies have seen notably wide swings in price.

Firms might find clients wishing to pay bills in cryptocurrency. If so, there are a number of points firms might need to consider, some of which are in our [https://jobs.sra.org.uk/solicitors/resources-archived/money-laundering/guidance-support/aml-questions-answers/#collapse_2d4d] Some examples include:

- Our client account rules require money held on account to be held in a bank or building society. As there are no compliant client accounts for crypto-assets offered by banks or building societies at present, payment for services in crypto assets will only be possible after the services have been provided or as a fixed fee.
- It is important to meet price transparency requirements, bearing in mind the high fluctuations in value of crypto currencies.

How could this change in the future?

The current falls in cryptocurrency values and the failure of exchanges represent the end of the initial boom in values often seen with investment in a new technology. They are likely to drive innovation in new forms of cryptocurrency that do not have the problems of the existing versions.

Part of the motive for the development of new 'stablecoins' has been to produce cryptocurrencies with more predictable values to make them a more widely usable type of asset. If these new forms of cryptocurrency are also linked to secure digital identity standards, then they might help to reduce fraud and money laundering by providing unequivocal records of who the parties to transactions were.

The ongoing work by multiple technology businesses on digital property [https://www.ft.com/partnercontent/crypto-com/nfts-the-metaverse-economy.html] is likely to involve NFTs as the equivalent of land deeds. Transactions and disputes involving ownership of such property are likely to become an increasingly normal part of the legal process.

Decentralised autonomous organisations, as a new form of virtual organisation, will need legal advice that meets their particular needs, particularly when disputes between

members happen. This provides opportunities for firms that are in a position to provide such specialist advice and support.

Where firms themselves want to operate as DAOs, they will need to make sure to meet all their regulatory obligations, for example having:

- designated compliance officers at all times, who we have approved
- appropriate managers
- procedures for handling client money in accordance with the SRA Accounts Rules
- effective record keeping to demonstrate compliance with their obligations.

What we are doing to help

The rise of DLT is one of many ongoing developments in technology and innovation which are affecting the legal market. We want to help firms and their consumers experience their benefits while taking reasonable steps to avoid the threats that these new, powerful developments can bring.

Our SRA Innovate [https://jobs.sra.org.uk/solicitors/resources-archived/sra-innovate/] page highlights the work we are doing to support innovation in the legal sector. We help law firms and lawtech businesses interested in developing or using innovative technologies through our:

- fit-for-purpose authorisation process for new business models
- Ethics Guidance helpline to advise on regulatory barriers
- waivers for some rules to test new technologies
- advice on innovative product or service design
- links to sources of government funding for innovation and lawtech development
- innovators' forum to hear about any challenges
- proof-of-concepts or trials
- information on, and lessons learned from, ongoing trials, projects and innovation sandboxes [https://jobs.sra.org.uk/solicitors/resources-archived/sra-innovate/latest-innovate-update/]
- research [https://jobs.sra.org.uk/sra/research-publications/] on new technologies and developments in lawtech
- previous Risk Outlook reports, such as Innovation in a competitive landscape. [https://jobs.sra.org.uk/sra/research-publications/risk-outlook-paper-innovation-competitive-landscape/]

Further guidance available

Various resources give regulatory, legal or policy information on DLT and cryptoassets:

- The Law Society of England and Wales's second edition of Blockchain: legal and regulatory guidance [https://www.lawsociety.org.uk/topics/research/blockchain-legal-and-regulatory-guidance-second-edition] explores developing technologies that will impact advice and litigation as well as impacts on how legal services are practised.
- LawTechUK's and the UK Jurisdiction Taskforce (UKJT)'s statement on the legal status of smart contracts and cryptoassets.
- LawtechUK's sandbox program [https://technation.io/] also gives business, regulatory and data support on opportunities arising from DLT.

Various government departments also provide resources on DLT opportunities. For example, the Digital Street tag [https://hmlandregistry.blog.gov.uk/tag/digital-street/] on the HM Land Registry blog provides information on emerging technologies impacting the property market and the registry.

We would like to hear about your views and experiences [https://form.sra.org.uk/s3/Risk-Outlook-2022-Blockchain-and-the-legal-sector] with these technologies.

Learning how they are already affecting firms will help us work with the market and make sure our regulation is proportionate and effective.