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Blockchain: advertising's hero?

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There are few buzzwords being thrown about as much as blockchain. With the apparent ability to resolve almost every issue experienced by every company, blockchain is being hailed as tech's hero. The advertising sector is no exception. The big question is whether blockchain can actually deliver on its almost mythical promises.

What is
blockchain?

Starting at the beginning, what actually is blockchain? Blockchain is a generic term applied to any form of decentralised ledger, recording transactions across multiple locations.

A transaction could be anything – from a payment being made, a vote being cast or goods being delivered. Each of these transactions forms a 'block'.

At the time it is created, each 'block' is then verified by everyone who is part of the network. This happens through a series of complex mathematical problems being solved by each participant.

Importantly, each 'block' is built upon and references the previous block. This means that blocks cannot be altered at a later date without causing disruption throughout subsequent blocks. This results in data that cannot be retrospectively tampered with.

What does decentralised mean?

A key part of any blockchain is the fact that it is decentralised. This means that there is no single point of truth – instead, every person within the network (a 'node') keeps their own independent record of the entire blockchain and communicates between one another to synchronise their ledgers.

Why is this important? It removes a key security issue – without a single point of truth, you also do not have a single point of failure. There is no 'official' copy of the blockchain, nor is any node more trusted than any other. Should a node fail, the blockchain remains intact and continues to operate without issue.

The problem with centralisation

With so much wealth now being represented not by physical possession of cash or goods and instead being stored in virtual bank accounts, the risk of loss of this information or failure of these systems is increased (and the impact of any such risk is significant). Imagine if a hacker were to access the records of a major bank and reset every customer's bank account balance to 0 before deleting all back-up copies of data. This would result in significant disruption across the entire banking industry and society as a whole. Without back-ups of previous data, the records in the bank's systems in effect become the truth. Suddenly all the virtual wealth of every customer has been removed, without any way of restoring these records to their previous state.

Equally, imagine (as has recently happened in the UK) that a major bank's IT systems fail, meaning that they are unable to process any transactions. Suddenly

customers' mortgage payments and bill payments cannot be made. Customers are unable to pay for any goods – meaning they cannot buy food, drink or other vital goods. Major transactions that are reliant on those systems to complete (for example house purchases) cannot be processed. And imagine that this situation continues not just for an hour but for days.

Both of these issues arise as the bank is a centralised point of truth – without it being able to provide that truth, all systems and processes that are reliant on it break down. A decentralised ledger fixes both these issues – all balances are transparently available across the network and a transaction can be created and processed by any one of the nodes, rather than being dependent on any specific node. If a single node is hacked, the impact is limited as there is no more weight given to any particular node as a point of truth over other nodes.

It also means that everyone has access to all the records stored on the blockchain. Anyone can review the blockchain to check a point of truth. This forms a key tenet of the reason that blockchain was originally created; it allows individuals to trust one another without needing a centralised authority as evidence. Ultimately it aims to provide an answer to the questions: 'are you who you say you are?' and 'are you allowed to do what you are trying to do?'.

This is hard to understand!

If blockchain is conceptually difficult to understand, its application to the real world can be just as difficult to visualise. However, maybe the following will help:

— Imagine a row of safes, with each safe being made of clear glass with a combination lock and a unique number stamped on the front.

— At the top of each safe, there is a small slot, through which £1 coins can fit.
— Under each safe is a scale that displays the weight of the safe. As the weight of a £1 coin is consistent, the scales display the weight as an amount of money (for example, if you have 3 £1 coins in your safe, your scale displays '3').
— Each individual has their own safe and only that individual knows the combination to his or her safe.
— Jane has a business selling birthday cards for £2.
— Ben wants to buy a birthday card.
— Ben and Jane both have £100 in their safes – so their scales both display 100.
— Ben opens his safe with his combination lock and removes £2. His scales now display 98.
— Ben then visits Jane's safe (identified by the unique number that Jane gives Ben) and places the £2 through the slot in Jane's safe. Jane gets a notification that her scales have moved to display £102 and therefore she hands over the birthday card Ben has purchased. The transaction is complete.
— Importantly this is all done publicly – anyone can watch Ben's money decrease, how much money he has left and that Jane's money has increased.

This is a simple example of how blockchain works – a decentralised ledger showing transactions. In this example, the ledger would record not Ben and Jane's names of course, but the unique identifiers on their safes and the increase/decrease in the balance of each safe. Only Ben can access Ben's safe as, although everyone can see the safe, its unique identifier, its contents and its balance, only Ben knows the combination to open it (in blockchain this is known as your 'private key').

Why does advertising **need** blockchain?

The uses to which blockchain can be put are virtually limitless. It should therefore come as no surprise that blockchain technology is infiltrating the advertising sphere. In June 2018, global brewing giant Anheuser-Busch InBev ('AB InBev') and adtech company Kiip announced the launch of one of the first-ever blockchain mobile ad campaigns. The campaign, which uses blockchain to track and evaluate ads for household names such as Bud Light and Stella Artois, is expected to create savings in media spending of up to 30%. Said Lucas Herscovici, AB InBev's global marketing VP of consumer connections, insights and innovation: 'we saw blockchain-enablement as a more credible way to track and evaluate this innovative new way of serving content … our investments will likely increase as the transparency and consistency of measurement continue to improve across platforms and publishers.'

AB InBev may be a first mover, but it will certainly not be the last. Blockchain is poised to revolutionise the advertising industry in a number of ways, most notably by curbing value leakage through middlemen, by improving transparency and reducing fraud, and by providing consumers with greater control over their personal data.

Value leakage through middlemen

In programmatic advertising, the journey from advertiser to consumer can be a long and winding road of middlemen - industry players such as ad networks, trading desks, demand-side platforms, and media agencies that together cost advertisers more in fees than they spend producing the ads themselves. In fact, it is estimated that 55% of advertiser expenses go to middlemen, and most of the time, advertisers aren't even aware of how much leakage they're experiencing. When battery company Duracell found out how much of its advertising budget was being spent on hidden fees, the company was so shocked that it built its own audit system to keep track of spending and monitor placements.

Blockchain technology will enable companies to reliably track their ad spending, and in so doing, to identify and eliminate inefficiencies along the supply chain. One way in which blockchain is poised to eliminate value leakage is through 'smart contracts' that automatically initiate payments (and other contractual terms) in response to specific triggers, such as ads being provided to publishers. This automation will reduce the need for negotiators and other intermediaries, and is already

being developed by companies such as Kochava, which introduced XCHNG earlier this year. XCHNG abstracts and simplifies digital media buys; according to CEO Charles Manning, these transactions are 'traceable, trackable and there is no intermediary.'

For more on smart contracts, see **Smart Contracts: cutting out the middlemen**.

Transparency and fraud

More often than not, companies engaged in digital advertising are victims of publisher fraud. Publishers sell fake impressions, use bots to artificially elevate ad traffic, and engage in 'domain spoofing,' whereby they present their domains as larger than they actually are. One study estimates that more than USD $16bn of global advertising revenue was wasted on fraudulent traffic in 2017.

Blockchain offers companies the opportunity to reduce fraud and increase transparency by quickly auditing transactions and monitoring ad traffic. Blockchain ledgers are public and immutable, and can therefore be used to track and verify the exact number of impressions generated by each advertising source. Some companies are also beginning to employ proof-of-view technology to improve publisher transparency. In the case of Verasity, a blockchain-based, video-on-demand platform, the technology only records views from signed-in users with unique IDs, invalidates views from users streaming multiple videos, and refuses to allow view sessions to be minimised (among other features).

For more information on transparency and fraud, please see **Brand Safety, Viewability and Ad Fraud**.

Personal data

Finally, blockchain can be used to help consumers safely and securely take control of and monetise their own personal data. Currently, Facebook and Google maintain an advertising duopoly – the pair accounted for 58.9% of digital advertising spending in 2017 and together control vast amounts of consumer data. These companies exercise a high degree of control over this data, and consumers have very little agency when it comes to how their personal information is used.

Blockchain technology is set to provide users with the means to not only encrypt and secure their data (which can prevent unwanted hackers from stealing their personal information), but to sell or provide access to their data in a digital marketplace. As stated by Mat Tavizano, CEO of blockchain-based marketplace Wibson, 'Consumers don't want to replace Google and Facebook with a new, even more powerful data broker. They want to be in control. They want to understand how their personal data is used and participate in the value it generates.'
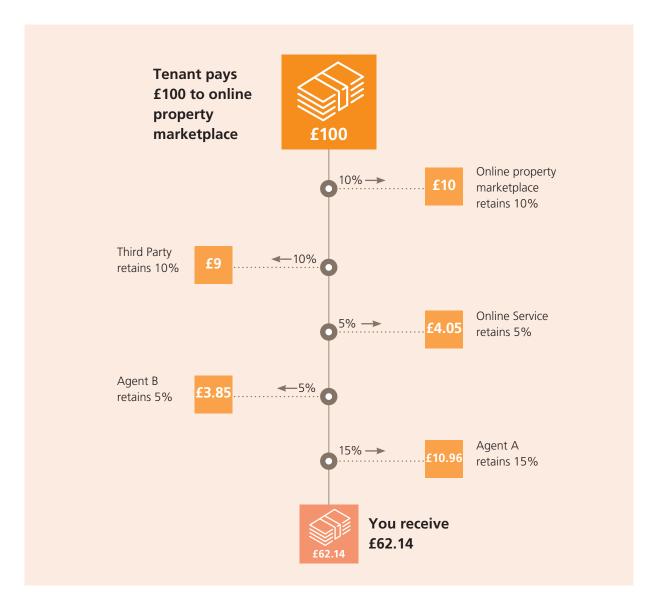
Some advertising companies, such as Kind Ads, will include tokenised rewards pools to incentivise the sharing of personal consumer data. Others, like German start-up repay.me, will share revenues derived from personal data with its community. Still other companies, such as Shocard and Onename, will help users prove their identity to online organisations with an ID that is certified and then secured on a blockchain.

For more on blockchain and personal data, see **Personal Data on the Blockchain**.

Smart Contracts:
cutting out the middlemen

Imagine you are going on holiday for a couple of weeks and you wish to rent out your house while you're away. Traditionally, you would probably pay for a holiday-let agency or – for those of us who are more digitally savy – an online property marketplace, to advertise your letting, arrange for a suitable tenant and to transfer your payment. Although providing a valuable service (by in effect outsourcing the management, letting of and payment for your house), the use of these 'middlemen' is commercially inefficient as it results in value-leakage i.e. you have to pay them to be an intermediary

between you and your tenant). Imagine this scenario taken to an extreme degree; you appoint an agent (Agent A) to let your property. That agent then appoints another agent (Agent B) to place your letting online and the online letting service (Online Service) then appoints a third party (Third Party) to also make that listing available on the online property marketplace.

Now think about the money flowing through that same scenario:

Tenant pays £100 to online property marketplace

£100

10% → | **£10** | Online property marketplace retains 10%

Third Party retains 10% | **£9** | ← 10%

5% → | **£4.05** | Online Service retains 5%

Agent B retains 5% | **£3.85** | ← 5%

15% → | **£10.96** | Agent A retains 15%

£62.14 **You receive £62.14**

This is exactly what happens with advertising. For £100 spent on media space, only an average of 40% is actually paid to the media owner. 60% of that value is 'leaked'. From an advertiser's perspective, this has the same effect of saying that you are buying media space that is worth only £40 for a premium of £100. Imagine the impact on your return on investment if you could instead just pay the £40.

So is there a way to cut out the middlemen to ensure you can retain as much of that bread as possible? Well, the development of blockchain technology offers a promising alternative to traditional methods in the form of so-called 'smart contracts'. A smart contract is a digital agreement (written directly into software code) that sets out protocols to assist in the execution of each parties' obligations. The most primitive and commonly cited example of a smart contract is that between a consumer and a vending machine. When a consumer enters the code corresponding to the chocolate bar of their choice through the keypad and inserts the amount of money owed, the vending machine automatically completes the transaction by releasing the chocolate bar. (Fingers crossed it doesn't get stuck on the way down...)

Smart contracts and the blockchain technology offer many benefits in the digital advertising space. For example, a well-drafted – and well-coded – smart contract could allow a digital advertising platform to automatically be paid as soon as an 'impression viewed' is recorded against the businesses' advert. Whether a consumer views the advert, whether this triggers an 'impression viewed', the details of when and how the payment is made and any other information that parties wish to collect, can be recorded on the blockchain and be available for anyone on the network to see.

A smart contract can only be as 'smart' as its code. Certain challenges arise when considering how automated processes might need to be halted or amended in certain circumstances. For example, it is common for an advertising platform to ensure that it has the power to remove content that, in its (reasonable) opinion, adversely affects its own brand. What happens under a smart contract if a controversial advert is uploaded on a digital advertising platform that adversely affects its brand? Should that party have the unilateral right to enforce removal and can that be agreed prior to entering into the smart contract?

One area where smart contracts can really help is that of transparency. Although it would be ideal for an advertiser to only make payment to the media owner of the exact cost of the media space, this is somewhat unrealistic. There are, and always will be, third parties involved in the buying and selling of advertising, many of which provide extremely valuable services. For example, the advertiser may pay an agency to manage its advertising budgets, it may also pay another third party service to monitor for brand safety issues, and it may pay a final third party service to count impressions (to avoid click and ad fraud). Each of these is a perfectly acceptable service for the advertiser to pay a percentage of media cost for. The key difference is that these would previously have been simply deducted from the net media cost as above (or added to it depending on your perspective) and often this would be less than obvious to the advertiser (usually because the total value is paid to the agency and amounts then deducted without oversight of the advertiser – see the waterfall example above). Blockchain and smart contracts allow the concept of 'spidering' contracts. This means that the value of the net media cost is made transparent to the advertiser together with the fee for each particular third party involved in the transaction. At the point the impression is served, each of these smart contracts then completes simultaneously, directly with the advertiser. This clearly shows exactly where the advertiser's money has been spent and allows very clear reconciliation and assessment of realised value.

Time to start drafting smart contracts?

Although there are a number of obvious benefits from the adoption of blockchain technology in smart contracts, these still have some way to go in order to be prevalent across the industry. There remain some very specific examples where this type of contract could be deployed quickly and effectively (and we are seeing this already in other industries, such as ensuring an end-to-end cold chain management in logistics).

However, the use of smart contracts at scale requires all elements of the supply chain to have implemented the technology underpinning smart contracting. Currently, this is not the case - only a very limited number of providers have undertaken any form of technical implementation and many are not commercially ready to adopt anything as sophisticated as smart contracting.

This will undoubtedly change over time but at the moment, smart contracting is a concept with great potential but as yet is not a reality.

Brand Safety:
what do your neighbours say about you?

It would be hard to miss the fact that there has been growing pressure on content platforms in recent years to show a more proactive social conscience about the way their platforms are used. The strongholds of free speech and personal privacy are gradually being eroded in this space by the recognition that content platforms can have the power to effect real change – or at least to prevent real harm – by exerting a level of control over the way people make use of their platforms. That's why we've seen an uptick in the number of videos YouTube is proactively removing from its site every day – including 8 million videos removed between October and December 2017 alone.

But despite YouTube's best efforts, significant amounts of offensive, violent, pornographic and extremist material remains (to be fair, it must be hard to keep up with 300 hours of video uploaded every minute). In the meantime, YouTube's advertising algorithms came under fire last year for allowing legitimate ads to appear alongside this kind of offensive content. To the horror of the likes of the BBC, Boots, Mercedes, Sandals Resorts and Waitrose (among others) their ads were placed alongside extremist videos uploaded by Islamic State and Wagdi Ghoneism (an Egyptian-Qatari Salafi Muslim who has been banned from entering the UK in case he incites acts of terrorism). Even worse than the brand damage caused by mere association, this kind of activity generates advertising revenue for the posters of content, making legitimate advertisers the unwitting benefactors of some highly objectionable individuals and organisations.

YouTube seems to have faced up to the crisis and has taken steps to increase its capacity to monitor content, improve transparency with its users and advertisers, and give advertisers more control over the type of content that ads appear against.

In the meantime, could blockchain have a role to play? Some of the core principles of blockchain technology have obvious benefits in the context of brand safety – the ability to objectively verify a transaction with certainty that it can be trusted would go a long way to returning confidence to digital advertising. Several early-stage media-buying technologies based on blockchain promise a transparent and immutable record of media spend, placement and views, and simply having a reliable record of ad placements would go some way to putting the power back in the hands of advertisers. On the other hand, having a record after the fact of any objectionable placements might be cold comfort to advertisers, and the unassailability of the record would not be any relief.

While not fully explored yet, so-called 'smart contracts' powered by blockchain might be able to go one step further. The industry is already considering the potential for these to be used to control the release of funds throughout the supply chain (see **Smart Contracts: cutting out the middlemen**). There is some speculation that they could also be used to set rules as to ad placements, so that ads simply cannot be placed with content that is anything less than fully verified for brand safety. There would of course be challenges in relying on this technology, some of which lie in identifying the criteria which would trigger the release and placement of ads. It might depend, for example, on some certification or assurance given by the likes of YouTube – in which case, advertisers would still be reliant on platforms having sufficiently rigorous monitoring systems, not to mention the right controls in place at the platform end which such smart contracts could recognise and integrate with. Also consider that what one brand considers 'safe' may not be suitable for another – will platforms be able to give enough distinction in its content certification to satisfy the nuanced requirements across its advertiser portfolio?

It is no doubt in the interests of platforms to keep improving their transparency and content controls (both for their own sakes and to make themselves more attractive by offering greater levels of control to their advertising customers) not least in light of the spate of YouTube boycotts by advertisers and media buying agencies that followed in the wake of last year's ad placement revelations. Blockchain might be able to help with the transparency issues, although advertisers will want something more: the power to prevent offensive ad placements before they happen in the first place. Whether blockchain can support this aspiration, and whether platforms can be nimble enough to respond to the technology, remains to be seen.

Viewability:
is it about time?

In advertising, attention is a commodity – a message cannot be effective if the target cannot see or engage with it.

Simple as it sounds, this is one of the key problems digital advertising is facing today. As many as half of the ads served online are not 'viewable' – perhaps they are served on inactive browser tabs, or can only be found by navigating to a part of the page that the user has not bothered to scroll to.

Of course, an ad that is not – and cannot have been – viewed is of no use to the advertiser, and because of this the industry is moving to an 'impressions viewed' pricing structure in preference to the more traditional 'impressions served' model. Some ad networks (Google, for example) ask customers to pay only for viewable impressions, which may be a small percentage of ads actually served.

Blockchain technology may have a part to play in helping ad networks demonstrate to their customers that they are only paying for ads that were actually viewable (while the industry is yet to settle on a uniform definition, the generally agreed standard is that 50% of the pixels must be in view on the screen for a minimum of 1 second, or 2 seconds for a video ad). It is just another example of how the key tenets of blockchain – automated, real time, transparent and unchangeable – can be used to build confidence in the supply chain of digital advertising. There are questions over whether the technology will be able to report on a real-time basis given the sheer volume of transactions and the amount of time and computing power it currently takes for the blockchain to update; but customers may not be so concerned with up-to-the-minute updates if they can otherwise see that they are being charged fairly.

Some new technologies use blockchain not only to record and demonstrate viewability, but also to increase and incentivise it. In 2016, Brendan Eich (creator of JavaScript and co-founder of Mozilla and Firefox) launched Brave – a blockchain-powered browser which measures user attention to impressions, and rewards both users and publishers based on levels of engagement.

So how does it work? Brave assigns an Attention Value to an ad, a calculation based on the duration for which an ad is served on an active tab, and the pixels in view during that time – a measure of the level of attention a user could possibly have paid to the ad. Brave creates a Basic Attention Token (or 'BAT'), a digital currency derived from Attention Value. User views trigger a payment flow under a smart contract (based on Ethereum blockchain, which is already in use for mobile payment systems) so that BAT is unlocked – one portion is passed to the publisher, one to the user, and a further portion is retained by Brave. The more ads you view, the more BAT is unlocked.

Brave is working through the potential use cases for BAT, but the possibilities are exciting. Users can donate BAT to content providers and publishers, and in future could use it to unlock premium content behind paywalls or higher quality content (and to share content with friends), receive more highly targeted ads, or as currency to purchase digital goods. Use cases will become clearer as the Brave system grows and matures, and as more publishers and users engage with it.

Ad Fraud:
combatting the bots

Advertisers expect that all online content is viewed by human audiences – genuine consumers who have the potential to buy their products or services. That isn't always the case. The digital advertising industry is plagued by an increasing amount of fraudulently generated non-human traffic. The big issue is that each impression, click or interaction that is generated by this non-human traffic is still paid for by advertisers. This is no small issue – current estimates suggest that each year over $7 billion of digital advertising spend is wasted on non-human traffic.

Of course, with these numbers involved, the industry is always on the lookout for a new approach that could possibly provide the solution. Currently, blockchain is being trumpeted as the technological innovation to do just this.

Solutions such as ClearCoin offer what they refer to as 'proof-of-history' ledgers, allowing each impression to be tracked back to the individual user (anonymously of course) as each impression will be processed through the blockchain as a transaction.

Large, established brands and technology providers are also exploring opportunities in this space. Early in 2018, Unilever and IBM revealed a strategic partnership aimed at creating blockchain-powered solutions to address ad fraud. Public details of the output of this collaboration are scarce but given Unilever's other forays into the use of blockchain in its supply chain, it would not be surprising to see the FMCG giant being a forerunner in deploying these solutions.

The question still remains: can blockchain actually solve the issue of ad fraud? If this technology can manage to remove this wasted expenditure in the advertising supply chain, it could revolutionise the industry. However, currently these solutions are still at the conceptual stage. Yes, there is undoubtedly much promise, but the ability to deliver this is yet to be proven.

What is certain, however, is that pressure on networks and publishers is only going to increase as clients seek to increase efficiency of ad spend and maximise ROI. The desire to stamp out ad fraud is certainly there and the reward for doing so will be very large indeed.

With other alternative approaches also being developed in parallel (using alternative technological methods such as machine learning), the battle against ad fraud very much remains to be won, with the victors, whether blockchain-based or otherwise, being far from clear.

Personal Data
on the Blockchain

Supply chains have to rely on various intermediaries throughout the process and, in this regard, the *advertising* supply chain is no different. The way the advertising supply chain *is* different, is that, despite having an annual net worth of hundreds of billions of pounds, it excludes the most valuable part of any supply chain: the individual.

Organisations can make a huge profit from using, and in many cases selling, information collected from an individual's YouTube/Facebook/Pinterest browsing habits, without that individual's say in what happens to its data. The purpose of advertising is to grab the attention of individuals and, ultimately, drive sales. However, despite companies' ongoing efforts to provide tailored, and hence more interesting and useful, advertising, such targeted ads are commonly based on inaccurate assumptions about an individual's preferences.

One reason for this problem is that, at the moment, individuals don't 'own' their data. If an individual uploads a photo to Facebook, it is owned by Facebook. If an Instagram post goes viral, the individual doesn't expect to see any direct tangible benefits (aside from an increased number of followers).

With individuals having, to date, very little to no direct influence over what of their personal data is used in the advertising space and how it is used, combined with the fact that advertisers do not have access to either the individuals or the insights needed to effectively manage their ad campaigns, advertisers continue to expend marketing budgets less effectively than they'd like and individuals are increasingly frustrated by the deluge of unwanted advertising they receive and the lack of any benefit to them.

There seems then a lot to be gained, by both individuals and advertisers, from directly involving individuals in the supply chain. To this end, blockchain could be part of the solution for the advertising industry.

As discussed earlier, data in the blockchain ecosystem is decentralised – this means that data is 'owned' by the individual user in their own 'wallet' rather than by any third party platforms. Rather than an individual's data being held and sold by third party middlemen,

blockchain allows the individual to retain total control over who they share their data with – keeping it entirely private unless they decide otherwise. Retaining total control means that, in addition and perhaps more importantly, the user can charge for the pleasure (or pain!) of sharing their data.

There are an increasing number of players in the market that are utilising blockchain technology in this way, enabling individuals to link their social media accounts and input other personal data into a secure data wallet and choose with whom they share such data, in exchange for desirable rewards. An example being Truth Data Cloud, whose proposition expressly includes the, *'provision of a secure marketplace for consumers to trade their buying intention data.'*

The use of blockchain in this way also benefits advertisers who, before now, have sat outside the 'walled gardens' of big advertising platforms, with somewhat limited access to data and analytics. Blockchain gives advertisers real-time data insights about individuals and allows these advertisers to obtain these insights directly from individuals, rather than having to rely on the level of access the large advertising platforms are willing to allow. This helps advertisers identify whether or not ads are reaching their targeted audience and, by giving individuals control over their data, gives advertisers the opportunity to incentivise data sharing and refocus their budgets.

By reinventing the wheel in this way, blockchain technology provides advertisers with the opportunity to solve the need for anonymity and trust whilst being able to deliver accurate, real-time information about individuals' consumption habits and the ads they receive, and consequently can deliver more relevant ads to consumers. Importantly, all this will be in the context of empowered consumers retaining control of their data.

Our view: is blockchain advertising's hero?

So the big question from all of this: will blockchain actually solve all of the issues with the advertising sector?

The answer: 'not yet'. There remains much to be done to integrate blockchain technology into the various aspects of the advertising tech stack. This will be completed piecemeal as proponents look to implement their own piece of blockchain technology to support their own services. Even once this work is done, to be effective these blockchain technologies will need to be adopted by all layers of the tech stack. This has proven notoriously difficult with previous initiatives and often has ended up with pockets of the industry using a particular approach/technology whereas others are using a competing approach, driving further fragmentation of the market.

That said, industry bodies such as the IAB have established working groups to investigate how blockchain can be effectively used in the advertising sector and to drive adoption where it can be used. A standardised approach proposed by an industry body has far more likelihood of success, even if simply to agree a market-standard specification for how these technologies should be built and interface with one another.

There remains a strong demand from clients in the sector to fix the issues highlighted in this report and the solutions offered by blockchain technology can be compelling. Certainly, widespread deployment of blockchain-based service offerings will help towards combatting many of these issues, such as ad fraud, value leakage and brand safety.

More importantly, blockchain has the potential to restore trust to the advertising sector. Recent stories such as the Cambridge Analytica scandal have led to a lack of trust in the advertising sector as individuals become more informed as to exactly how their data is being collected and used. By providing anonymity and greater accountability, blockchain can help the industry transition away from these issues, provided these solutions are designed and implemented with privacy in mind.

A final challenge in the programmatic world is that of speed. Adtech and martech solutions operate at the micro- and nano-second timescale. Current blockchain technologies cannot achieve these speeds and would result in advertising purchases and delivery being undesirably delayed were they to be implemented at the vast scales required. This is being worked on but we are currently some way off.

A final word

As a few words to finish, blockchain is not the holy grail that some in advertising would have you believe. The technology itself has promise and could, if deployed correctly, help to address some of the biggest challenges facing advertising today.

Does this mean it will do so? In short, no. Some blockchain technologies will undoubtedly come to the forefront and be deployed by clients to help manage risk (particularly in relation to brand safety). Equally, other technologies will fall by the wayside due to a lack of widespread adoption and critical mass. But importantly, blockchain has had one fundamental impact on the industry – it has made sure that those in advertising have focussed on the key challenges faced by the sector.

And more focus on these areas can only be a good thing for the future of advertising and the most important people in advertising, consumers.