



MORE is better than less.

Dear Friends:

Digital marketing and advertising technology development continues to speed forward into the coming year. Blockchain is now joining the fast-moving train, with its promise to address some of the major challenges in the buying and selling process. In this issue's feature article, we explain what this technology is, what its benefits can be for the media industry, and what we can expect in the near future.

On January 12, 2019, we honor our terrific staff members at the Szabo Employee Appreciation Party here in Atlanta, Georgia. We hope to see many of our friends and clients at the Media Financial Management (MFM) 2019 CFO Summit on March 7-8, 2019, in Ft. Lauderdale, Florida.

All of us at Szabo Associates wish you a very Happy New Year and a prosperous 2019.

Best wishes,

Robin Szabo, President
Szabo Associates, Inc.

Blockchain . . . Worthy of the Hype?

Revolutionary, disruptive, mysterious, intimidating. Blockchain technology is all of these things, at least to many for now, but are those reasons enough to ignore its promise? Absolutely not!

Blockchain has the potential to profoundly change industries as diverse as automakers and government agencies, but perhaps none more so than marketing. Digital advertising, another disruptor whose promise the media industry continues to explore, crashed the media scene along with an entourage of serious challenges. Issues such as transparency, measurement, fraud, safety, and privacy have continued to undermine the potential efficiency and efficacy of digital advertising. Blockchain promises to evict these unwelcome guests and change the party forever.

What It Is.

Blockchain first entered the lingo by Satoshi Nakamoto in 2008 as a fundamental component of Bitcoin architecture. Over the past 10 years, interest in blockchain has made its way from a small community of cypherpunks to universities and Fortune 500 companies. 2017 was the year that bitcoin and blockchain entered the mainstream, with the launch of the first futures market for digital currency and \$3.7 billion in venture funding for blockchain startups. So what exactly are we talking about?

In its comprehensive white paper, "Blockchain for Video Advertising," released in June 2018, the Interactive Advertising Bureau (IAB) explains the technology. Blockchain, says the IAB, is the generic term for a ledger, or a database, that is stored in a distributed peer-to-peer network with no central point of control. It provides a method for two parties to exchange value securely on the

network, creates a record of the transaction that is indelible and transparent to all network parties, and allows the transaction and exchange to take place without intervention from any intermediaries such as a bank or credit card company. Permissions are required to write entries to the blockchain but, in most cases, the ledger is publicly visible. Once an entry is made, it is pushed out to the network and is immutable, meaning that it can never be changed.

"Each 'block' is a snapshot of the transactions in the ledger, in the form of a database," explains Jeremy Epstein in *The CMO Primer for the Blockchain World*. "The term 'chain' refers to linking each successive block to the prior one in a linear, chronological order. Hence, 'blockchain.'"

Cryptocurrencies. Tokens or coins are digital assets intended to convey value, says Epstein, and can represent anything from loyalty points to vouchers and IOUs to actual objects in the material world such as a deed or title. "A token or a coin is a digital representation of a right to participate in a network," he states. "It cannot be duplicated, forged, or created out of thin air by a central authority because it's running on a blockchain and its rules are backed by immutable code."

The first and most widely used token is the Bitcoin. The Bitcoin blockchain keeps an accounting of all transactions that utilize the token. Its underlying protocol is a giant spreadsheet whose purpose is to store and exchange value in the form of bitcoin cryptocurrency. Another, Ethereum, uses its cryptocurrency "Ether." While the cryptocurrency Bitcoin still remains the leader of the pack in terms of

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market capitalization, user base, and popularity, there are many others, according to Prableen Bajpai in his October *Investopedia* article. Among the more than 1,600 (you read that right!) “altcoins” (alternative cryptocurrencies to Bitcoin), Ethereum and Ripple are gaining in popularity for use in enterprise solutions.

Smart Contracts. Any contract is basically composed of a series of “if... then” statements. “If you run my ad as prescribed, I will pay you \$5,000.”

A “smart contract,” says Epstein, takes those statements and turns them into software code, which is then immutably written into a blockchain. The contract becomes self-governing and self-executing, so individuals cannot change terms or renege.

According to the IAB white paper, Ethereum boasts the ability to create and deploy smart contracts between multiple parties. The contracts link together the parties in the blockchain, and actions can be accounted for individually in micropayments executed in real time. Ethereum is designed to handle a wide range of applications and is the starting point for many applications currently in development for use in the digital advertising supply chain.

Types of Blockchains.

Because blockchains offer value for a variety of industries and businesses of all sizes, different applications exist to best serve particular needs. These applications operate on either public, permission-based, or private blockchains.

As explained by the IAB, public blockchains are accessible to, and readable by, anyone. The Bitcoin blockchain, as an example, has an unlimited number of “nodes,” or peers, and each node stores a complete copy of the chain.

Permission-based blockchains are owned and maintained by a fixed number of pre-determined entities, each of which participates equally in the chain. As an example, the IAB describes AdLedger as “a nonprofit consortium composed of leading advertising and media companies around the world, aligned in their efforts to drive true transparency and data security into the ad tech supply chain through blockchain technology.”

Private blockchains are owned and

operated by a single entity with a central point of control, and are not distributed across a peer-to-peer network. For banks, private blockchains provide an immutable audit trail of transactions, allowing controllers and auditors to audit everything as “read only.”

The Benefits.

Smart contracts and micropayments provide the means to address the aforementioned problems that undermine digital advertising and to greatly simplify the digital media supply chain.

According to the IAB, the many and impressive benefits of blockchain include trust, transparency, safety and security, fraud reduction, and efficiency.

Trust. Interactions are trustworthy because parties cannot mask their identities, and no undisclosed intermediaries exist. Cryptography software plays an important role, proving identity and ownership in the blockchain.

Every authorized person or entity that transacts must own a pair of cryptographic “keys.” One is a public key that can be used by other parties to send encrypted messages or exchange coins/tokens to the key holder. The other key is private, used by the receiving party to decrypt the message or to receive the tokens.

Once the exchange is made, the transaction is time-stamped. In a process called “hashing,” the data is encoded and placed at a specific address on the blockchain. Adding this “block” to the chain requires substantial computing power, or “work,” performed by pools of computers known as “miners” run by individuals or large corporations. They write the record to the blockchain, and it is copied to every node (member) on the peer-to-peer network. The miners are rewarded for their work with bitcoin or another cryptocurrency.

Transparency. At the center of blockchain is the distributed “ledger,” or database, that keeps full copies at multiple locations. Every time a transaction takes place, it is copied to and verified by all network participants. The record of transactions is always available to every participant.

Decentralization. No central system, record, or controlling third party is needed.

Safety and security. Because of its distributed architecture, there is a reduced chance of a single point of failure for malicious hackers to target. Once an entry is made, it is nearly impossible to change because each block references the preceding block

and the entire chain is copied on every node in the network. The IAB notes, however, that there have been instances of hacking related to cryptocurrency. “If there is one truism in the history of software and technology development,” it states, “it is that all systems have the potential to be hacked.”

Fraud reduction. Every intermediary to a transaction is known, disclosed, and approved by all parties. Since all participants must verify any transactions that are made, problems such as bot fraud are significantly reduced. According to analysis from the firm Adloox, about one-fifth of digital ad spending—approximately \$16 billion in 2017—may be lost to ad fraud if marketers do not take more proactive steps to prevent its spread.

Efficiency. Efficiency and cost reduction are natural outcomes of successful blockchain implementations. The reduction of middlemen, streamlined workflow, and quicker post-transaction reconciliation can make the supply chain more efficient. Additionally, the quality of service and the relationships between partners can improve.

Efforts to fix the broken media supply chain through blockchain technology may pay off substantially by tracking dollars on ad campaigns across all media channels. For example, IBMiX has partnered with software provider Mediaocean to launch a blockchain platform to do just that. The platform will address the problem of supply chain opacity by identifying how much money is actually going to “working media.”

More Money. Media credit and collections departments may also look forward to fewer headaches over aging accounts. In the media industry, as we well know, late payments and no payments can seriously impact the bottom line. In the blockchain world, “the trade is the settlement.” Ownership of the “private key” demonstrates access to funds.

Customers Rule.

While blockchain technology can go far to create efficiencies, increase transparency, reduce the incidence of fraud, and eliminate the need for profit-eating middlemen, can it also solve the problems of ineffective ad targeting and customer dissatisfaction?

The pervasive use of mobile devices and social media continues to put pressure on advertisers to deliver

the best possible experience in order to draw and keep customers. At the same time, customers—and governments—are demanding greater privacy of individual identities and data. So how do companies effectively find, target, and keep their best customers?

Blockchains create a shared data layer that is open for viewing, taking “Big Data” to a new level. “A blockchain-based identity system,” says Epstein, “could simplify the process of creating, maintaining, and leveraging a unified view of the customer, enhancing your ability to provide a more cohesive experience.” The problem is, in a blockchain-based identity system, the customer owns the data. The solution is, for the right incentive, he may be willing to share it.

With the right incentives, customers may attest to their ownership of an account, especially given the security and verifiability of blockchain. These certifications, cryptographically linked, can provide an immutable record about the nature of the customer relationship. So what are the necessary incentives?

Belief. It has become increasingly important for consumers not only to like a product or service but also to strongly identify with a brand and its mission in order to become a loyal customer. Messaging that evokes emotion and passion drives engagement.

It is one thing to say what you believe and another to prove it. Blockchain allows you to prove it. For example, if a customer expects humanely-sourced family-farmed meat, the company can prove where it buys its products. According to Epstein, Walmart is already using blockchain to track pork provenance in China, improving safety, reducing risk, and building trust with customers.

Community. Because certain networks require ownership of its token to participate, members become part of its community, sharing its benefits and promoting its value. As the network grows, the value of the currency increases and stimulates innovation. “In a blockchain world,” says Epstein, “a strong community is non-negotiable.”

Economic benefits. Since the customer owns his own data, there may be the option of paying that customer directly for viewing an ad, perhaps just a fraction of a cent. Fortunately, one of blockchain’s strengths is making and tracking micropayments.

The payment could also work in reverse. For example, Brave is a free and open-source web browser that blocks ads and web trackers. It offers the capability for site visitors to directly make micropayments to a publisher via cryptocurrency for the publisher’s content. Users who would never pay for a full subscription to a publication may enthusiastically pay a fraction of a penny

to read one article.

Brave has also developed the Basic Attention Token (BAT), through which an advertiser will pay a user for her attention. Since a large percentage of ad dollars are presently going to Facebook and Google, this function, if successful, could be a game-changer for many. The digital currency exchange Coinbase added the BAT to its professional trading platform on November 2nd. Once BAT deposits reach sufficient liquidity, the cryptocurrency will be available for trade.

Happening Now.

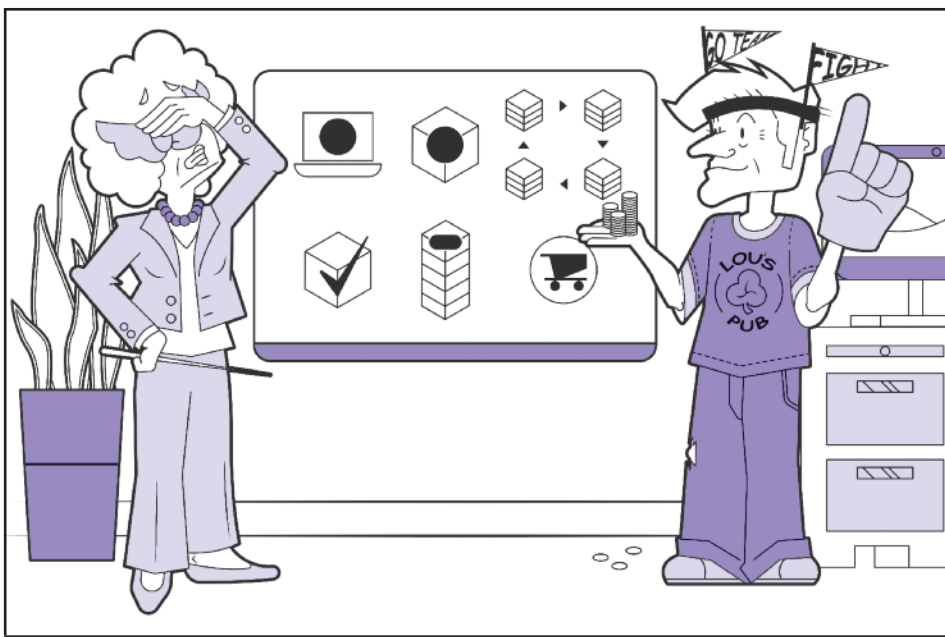
Blockchain technology is already being utilized in the digital advertising space. In addition to IBMiX and Mediaocean, project initiatives such as AdChain, Adex, Amino, NYIAX, Faktor, and Rebel AI are well underway, with initial deployments as proof-of-concepts or pilots. Many expect complete adoption in 2019.

Companies are also making tracks into the blockchain world. Toyota put the pedal to the blockchain metal in a pilot of a blockchain-optimized programmatic campaign created in partnership with agency Saatchi & Saatchi and blockchain advertising analytics firm Lucidity. According to a company news release and reported by Erica Sweeney in *Marketing Dive*, Toyota experienced a 21% lift in performance.

Toyota’s effort is reportedly the auto industry’s first blockchain-powered campaign. In other industries, brands including Burger King, deBeers and others have also incorporated blockchain to power loyalty programs and accept cryptocurrencies.

Coming Soon.

Blockchain technology is forecast to create a business value of \$2 trillion by 2030, according to data released in August by the market and analysis firm IHS Markit and reported by Laurie Sullivan for *Media Post*. “Business value,” explained Don Tait, the firm’s senior blockchain analyst, “refers to the cost savings and efficiencies that companies could gain by incorporating blockchain into corporate business strategies.” Estimates put the “probable” forecasted value of blockchain for the advertising and media industry at \$122 billion by 2030. Tait also offered the caveat that the assumption behind these forecasts requires adoption within the next two years, as well as high adoption rates by advertisers, publishers, and users.



When I asked if there were any questions, I didn't expect, "Does Lou's Pub on 8th Street accept Bitcoin or Ether?"!

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Collective Wisdom® is a publication of Media Collection Professionals, 3355 Lenox Rd. NE, Suite 945, Atlanta, Georgia 30326
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It is important for all of us in the media industry to understand that blockchain technology’s promise to bring integrity and efficiency back to ad buying and selling will take time to realize. According to Seb Joseph in his August article for *Digiday*, “Blockchain falls somewhere between a game changer and a gimmick in the eyes of some ad industry observers now.”

Among the challenges Joseph reports is the technology’s ability to process transactions at a speed comparable to ad exchanges. Proponents of blockchain boast about blockchain’s ability to process thousands of transactions per second; however, the exchanges can process millions. And while there are numerous blockchain startups developing applications, many are still in the testing stage.

Another challenge is developing consistent and agreed-upon nomenclature and classifications in order to achieve scale. Guidelines and standards must be established that protect

data and enable responsibility by the parties using the technology. While “Wild West” used to apply to the internet, it now applies to blockchain and cryptocurrencies, with no governance or case law history.

The cost/benefit ratio is also under debate. As blockchains expand to include more members and process more transactions, the cost of managing them expands also. Large advertisers that spend huge amounts of money on advertising can more easily justify the expense, with the initial outlay on the technology offset by the savings on media costs.

All this said, blockchain is here to stay. “Big data” will move from proprietary silos to blockchain-enabled shared data layers. As explained by Epstein, “In the first epoch of big data, power resided with those who owned the data. In the blockchain epoch of big data, power will reside with those who can access the most data and who can gain the most insights most rapidly . . . Interpreting the data becomes the [competitive] advantage.”

The companies with the analytic capabilities to gather all this data and explain

what it all means and what should be done with it, using a scalable process, will gain a competitive advantage. As Epstein relates, “Simply put, it is the question of who can put the best AI/machine learning solution on top of open, shared, blockchain-based data layers.”

“In order for blockchain to achieve massive scale and truly transform the digital advertising supply chain,” states the IAB in its white paper, “individual consumers will also need to become involved.” Identity management is central to the blockchain protocol, so consumers will play an indispensable role in managing their digital identities and managing the value exchange associated with their attention.

The promise of blockchain cannot be ignored. The end game is not only to solve the numerous problems that now plague the digital advertising supply chain, but also to provide enhanced experiences for the customer and higher profits for advertisers and media. All of us in the media industry should participate in the conversation and stay abreast of fast-developing innovations in this exciting new technology. ♦