

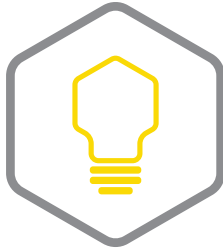
BLOCKCHAIN AND THE CMO

The Next Era of Marketing

Jeremy Epstein
Never Stop Marketing

September 2017





Realizing the new promise of the digital economy

In 1994, Don Tapscott coined the phrase, “the digital economy,” with his book of that title. It discussed how the Web and the Internet of information would bring important changes in business and society. Today the Internet of value creates profound new possibilities.

In 2017, Don and Alex Tapscott launched the Blockchain Research Institute to help realize the new promise of the digital economy. We research the strategic implications of blockchain technology and produce practical insights to contribute global blockchain knowledge and help our members navigate this revolution.

Our findings, conclusions, and recommendations are initially proprietary to our members and ultimately released to the public in support of our mission. To find out more, please visit www.blockchainresearchinstitute.org.



Blockchain Research Institute, 2018

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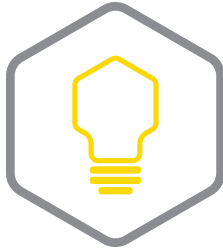
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Foreword

Marketing was the first corporate function blown to bits by the technological shift from the industrial to the digital economy. The four P's of marketing—product, place, price, and promotion—were useful tools when producers could push their messages through the broadcast model of media. With the Internet of information, consumers could share their own views with each other. Marketers learned to engage customers in all aspects of marketing and branding, from design and packaging to advertising, sales, and delivery.

Everything is about to change—again. The Internet of value is heralding even more momentous disruptions to marketing and the role of the CMO. To be sure, blockchain enables companies to displace middlemen and cut costs, but the biggest opportunities are strategic.

When it comes to unlocking new value for marketers and customers on the blockchain, Jeremy Epstein is the go-to subject matter expert, one of the very few professional marketers to focus on the marketing of decentralized projects.

In this paper, Jeremy goes all-in on the subject. He shows CMOs how to (re)build public trust in their business through distributed ledger technology. He also describes what sounds like the turbo-charged marketing ROI: with blockchain, CMOs will be able to determine which returns came from which marketing investment with greater precision and reliability. Smart contracts make for smart pricing, cryptotokens become the new brand badge, and paying for attention becomes the new advertising model. Clearly, any company with a marketing budget should care!



DON TAPSCOTT

*Co-Founder and Executive Chairman
Blockchain Research Institute*



Idea in brief

- » Like other transformative technologies—radio, television, the Internet, social media, and mobile—blockchain represents an opportunity and a threat for marketers and marketing. The next era of marketing will involve a marketplace that runs on blockchains.
- » To engage the market, businesses will require a new set of tools that will either complement or replace existing technologies. Similar to the introduction of the commercial Internet, blockchains will change the practice of marketing in the following areas—branding and earning customer loyalty, advertising, pricing, using consumer data, managing talent, strategic leadership and more.
- » As the Internet gave rise to Amazon, Google, Facebook, and other organizations without legacy constraints, blockchains will give rise to a new set of competitors with entirely different business models. Customer expectations will shift as these new set of businesses become more prevalent, putting further pressure on established players.
- » This research addresses core questions that CMOs should ask themselves:
 - › How does blockchain as a trust machine change advertising, data analytics, branding, and the customer experience?
 - › How does it offer organizations an opportunity to differentiate and gain competitive advantage?
 - › What are some of the opportunities and initial blockchain use cases for marketing to drive greater return on investment or return on marketing spend?
 - › How will blockchain adoption affect the role of marketers and the function of brands and marketing within organizations?
 - › What actions should marketers take today and who should lead the charge to ready the organization?

As the Internet gave rise to Amazon, Google, Facebook, and other organizations without legacy constraints, blockchains will give rise to a new set of competitors with entirely different business models.



Re-establishing trust in brands

Over the last 15 years, public trust in business and other institutions has wavered and declined. The market has witnessed the fall of the celebrity CEO, the rise of trust in peers over authorities, and a crisis of leadership in both business and government.¹ In Edelman's annual survey of trust, respondents found earned media more credible than advertising and suggested that business partner with government to regain the public's trust. In 2017, Edelman reported a real downturn: "Trust is in crisis around the world." The public's trust in all institutions—business, government, non-governmental organizations, and the media—has declined across the board.²

Concurrent with this multi-year decline of trust in established institutions comes an uptick in confidence in trustless technological systems, most notably, blockchains. Research has shown that "building trust in new business innovations requires that companies demonstrate clear personal and societal benefits, behave with integrity, and engage with customers and stakeholders throughout the process."³ By replacing confidence in people and human-designed processes with confidence in math, logic, and software code, forward-looking brands and individuals are presented with a unique opportunity.

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Trust continues to erode, and business is on notice

The erosion of trust in institutions—public, private, and non-governmental alike—has worsened over the last few years. The latest *Edelman Trust Barometer* highlights how widespread the lack of trust is. Only 43 percent of people in 28 major countries trust their governments.⁴ The "fake news" phenomenon is also well documented, with only two in ten Americans having "a lot" of trust in news organizations, according to the Pew Research Center, continuing a trend that began at the beginning of this decade.⁵

For business, the news on gaining the public's trust is not much better. There is a growing perception that business does not do enough to address the needs of society in its day-to-day activities, act in a way that demonstrates concern with the local community, reinvest profits in the home country, or create enough jobs. The amount spent on brand activation efforts was nearly \$600 billion in 2016 alone, whereas the projected amount spent on cybersecurity will not top \$100 billion until 2020.⁶ In other words, marketers spend a lot of money to collect personal information about customers but not a lot to protect it.

When combined with a preexisting set of beliefs about the lack of transparency in business practices, a strong perception of general unethical business practices, and a lack of concern for the environment and the host society (in the form of tax avoidance and minimization), the environment for marketers who are charged with building trust among the public is getting increasingly challenging.⁷



Over the past eight years, more and more people have begun to realize the immense potential and demonstrated capabilities of blockchain technology.

"Blockchain networks rely on a decentralized infrastructure that can't be controlled by any one person or group. Unlike political regulation, blockchain governance is not emergent from the community."

 PATRICK MURCK
Harvard Business Review

Blockchains head into the mainstream

Over the past eight years, more and more people have begun to realize the immense potential and demonstrated capabilities of blockchain technology. Best known as the layer that underpins the bitcoin cryptocurrency, blockchains are a distributed ledger that enable a peer-to-peer, immutable, highly secure method of transacting assets of value without central intermediaries. Various types of cryptography are used to guarantee the veracity of a transaction. In the words of *The Economist*, blockchains are a "trust machine."⁸

Since its introduction in January 2009, bitcoin has grown from a negligible value (in terms of USD) to over \$4,300 as of this writing. The increased demand for the digital assets and the increased price reflects growing global trust and confidence in bitcoin as a safe asset. Estimates suggest that San Francisco-based Coinbase, the leading exchange for bitcoin, added one million new accounts to its platform in June 2017 alone.⁹

Confidence in blockchain-based assets goes beyond the Bitcoin blockchain. The technology received over \$380 million in funding in *initial coin offerings* (ICOs) or the more SEC-friendly *token generating events* (TGE) in the first five months of 2017, and hundreds of millions more since then.¹⁰ The explosion in the start-up-led innovation of blockchains rivals the early days of growth experienced with the commercial Internet.

Start-ups aren't the only firms experimenting with blockchain technology. Many large, global brands such as JP Morgan Chase, AIG, and Walmart are already making investments and rolling out implementations, providing additional momentum that will drive mainstream adoption of blockchains as trust machines.

Why blockchains are considered trust machines

The revolutionary power of blockchains stems from the fact that they are controlled by no one and simultaneously controlled by everyone. As Patrick Murck wrote in the *Harvard Business Review*,

*Blockchain networks rely on a decentralized infrastructure that can't be controlled by any one person or group. Unlike political regulation, blockchain governance is not emergent from the community. Rather, it is ex ante, encoded in the protocols and processes as an integral part of the original network architecture. To be a part of a community supporting a blockchain is to accept the rules of the network as they were originally established.*¹¹

In other words, the behavioral guidelines for a blockchain are encoded in the software itself and cannot be altered unless a majority of the community agrees to the modification. As such, the blockchain resists decisions, whether impulsive or well reasoned, of



a small or powerful minority such as central bankers, legislators, or executives.

With blockchains and the protocols-or rules-that govern them, community members have greater confidence-and hence, trust- in the system because they know that a majority decision is required to make a change. This stands in stark contrast to how existing institutions make and implement policy changes.

At their core, blockchains are a distributed ledger of information, much like a spreadsheet, to which everyone has access. There are clear rules for how information can be appended to the ledger, but the decentralized and cryptographic elements of the network, make the deletion or modification of previous entries exceedingly difficult, building even further confidence and trust in the technology.

In addition, because blockchains are open, anyone at any time can view and inspect them. The transparency and verifiability of transactions also serve to enhance confidence and trust. To understand how blockchains will impact marketing, let's explore a few foundational concepts.

Tokens or coins

Tokens or coins are digital assets intended to convey value akin to offline currency, and can represent anything from loyalty points to vouchers and IOUs to actual objects in the physical world such as a deed or title. A token or a coin is a digital representation of a right to participate in a network. It cannot be duplicated, forged, or created out of thin air by a central authority because it uses a blockchain and its rules are backed by immutable code. A bitcoin, for example, represents a user's right to access and participate in the Bitcoin network protocol.

Smart contract

A contract represents a series of "if... then" statements. "If you do the project, then we will pay you \$1,000." A *smart contract* takes those "if... then" statements and turns them into software code, which is then immutably written into a blockchain. The contract then becomes self-governing and self-executing, thus removing the power from individuals to change terms or renege.

"Fat Protocols" versus "Thin Protocols"

In the Web model, the protocols or rules are intentionally simple. Web related protocols are *thin*. This gives application developers a chance to add a lot of value (e.g., Facebook, Airbnb, Spotify) on top of it.

In the blockchain (a.k.a. decentralized) model, the rules can be much more robust or *fat*. For example, a protocol developer can write the

The contract then becomes self-governing and self-executing, thus removing the power from individuals to change terms or renege.



same matching algorithms that Facebook, Airbnb, or Spotify uses and make it native to the protocol. In the end, the user can get the same benefits, except the risk and control of giving power to a centralized party is replaced by decentralized software code. Joel Monegro introduced the concept in post *Fat Protocols*, represented in the two images in Figure 1.¹²

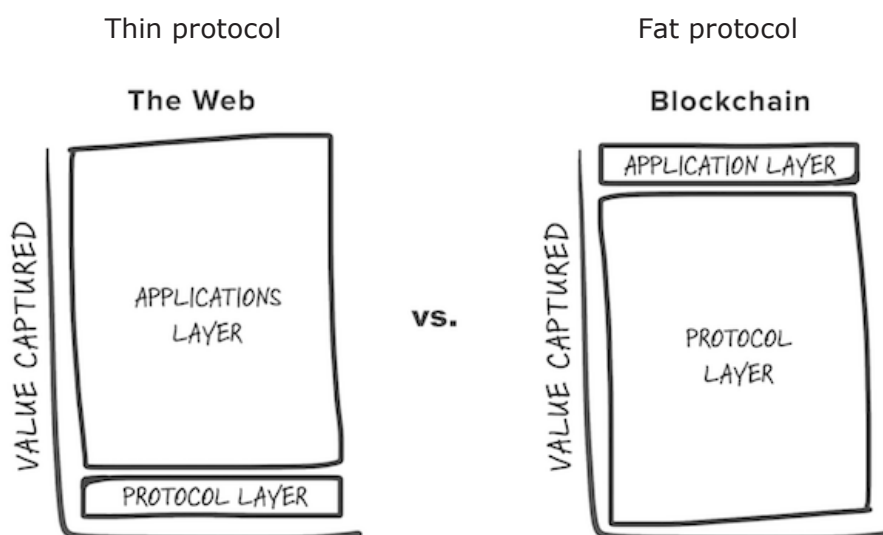
How blockchain technology will upend marketing

Major, society-wide technological advances have historically had two impacts on marketers. First, they afford new ways to engage with customers and prospects. Second, and more significantly, they change the customer's expectations of the nature of the brand relationship.

The arrival of blockchain technology as an enabler is going to affect many different marketing functions dramatically in the years to come.

The printing press (which led to newspapers), radio, TV, the Internet, social media, and mobile all afforded new ways to reach audiences and connect with each other and altered expectations. For example, the Internet raised customer expectations for speed, social media made it a two-way dialogue, and mobile made it location independent. Blockchains will ultimately do the same to raise customer expectations for trustworthiness and transparency to unimagined heights. The arrival of blockchain technology as an enabler is going to affect many different marketing functions dramatically in the years to come. This is where the exploration begins.

Figure 1: "Thin" and "fat" protocols



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Blockchain technologies afford marketers the opportunity to significantly reduce the cost of marketing execution and also expand their market of potential customers.

"Bitcoin functionality was the number one requested improvement to Airbnb, even topping a loyalty scheme."

 **BRIAN CHESKY**
CEO
Airbnb

Total addressable market: More customers at lower costs

Blockchain technologies afford marketers with the opportunity to significantly reduce the cost of marketing execution and expand the market of potential customers. The CMO of the future will be able to deliver a higher return on marketing investment against the same or lower total spend. Many back office and supporting functions that marketers now use to get the job done will be lower. We should see reductions in the areas of cost of sales and customer acquisition or retention, vendor relationships, and competitive pricing scenarios.

Blockchains reduce costs and lower risks for additional customers

In a blockchain economy, every customer or vendor can immediately prove trustworthiness by demonstrating ownership of the private key that can access funds on the ledgers. Whereas in a traditional banking world, some people are too expensive to serve because their trustworthiness cannot be cost-effectively ascertained, in a blockchain world, those same people (say, in a developing economy) can now become customers. For many CMOs, blockchains will mean an increase in the size of the *total addressable market*, a reduction in the costs associated with acquiring and retaining those customers, and an overall improvement in the return on marketing investment.

While fees for transactions will not go away entirely, peer-to-peer transactions verified by a network consensus model will ultimately be lower than centralized third parties. As digital currencies become mainstream, an increasing number of organizations will accept them as payment. Already more than 46,000 merchants worldwide accept bitcoin via Coinbase alone. Earlier this year, the CEO of Airbnb, Brian Chesky, said he was "surprised that bitcoin functionality was the number one requested improvement to Airbnb, even topping a loyalty scheme."¹³ Two New York City private schools are now accepting bitcoin, litecoin, and ether as payment.¹⁴ Overstock.com now accepts 40 different cryptocurrencies, a move which significantly expands the number of customers it can cost-effectively serve.

The adoption of more and more digital currencies internationally will occur, lowering the barrier to sales and enabling more rapid expansion to new markets. South Korea is preparing to legalize bitcoin.¹⁵ Japan has removed the consumption tax on bitcoin leading some to estimate that 300,000 stores will accept bitcoin by the end of 2017.¹⁶

By way of comparison, consider the low transaction fees of a blockchain-based cryptocurrency with a traditional business that processes credit cards. A typical credit card transaction fee averages anywhere from 1.5 percent to three percent, an amount that does not include other fees such as monthly minimums. Companies currently pay these fees because they cannot be 100 percent confident in the trustworthiness of every customer or supplier.



Essentially, transaction fees are a form of “trust tax” companies must pay to for protection.¹⁷

Yet, even with an intermediary such as a credit card company, one report estimated that in 2016, credit card losses topped \$24.71 billion.¹⁸ Merchants were responsible for 28 percent of those losses stemming from card-not-present issues when customers buy online or pick up in a store.¹⁹ Retailers spend \$6.47 billion annually on credit and debit card fraud prevention. Bank transfers are equally onerous and can take anywhere from two to five days in the United States or even two to three times longer for international transfers. Fees for both types of transfers are both greater in number and higher in total amount. All of these fees and time requirements are hindrances on the number and type of customers to whom a company can market.

Meanwhile, a project called OpenBazaar is essentially a decentralized eBay/Amazon.²⁰ By eliminating the middleman entirely, OpenBazaar offers a commission-free environment for sellers and a shopping experience that has better security and privacy (and potentially lower fees). As a result, the platform is a great way to build a direct relationship with customers at lower costs. Additionally, since it is decentralized, any information about a transaction is known only to the buyer and the seller, unlike eBay or Amazon.

In business-to-business markets, marketers have plenty of challenges and back office costs. According to the *Atradius Payment Practices Barometer*, only 50 percent of businesses check buyer credit worthiness, request secure forms of payment, or both, and 81.5 percent of companies report employing credit management policies to mitigate trade risks.²¹ This figure does not account for all of the value lost from payments not arriving on time, with average payment terms for the Americas of 28 days and the average *days sales outstanding* of 48 days, according to some estimates. If a company does not have a relatively high degree of confidence that a customer will pay, then the CMO must exclude the customer from the marketing efforts.

Beyond B2B and B2C is a humanitarian element to address with motives that are more magnanimous. Two billion people in the world do not have access to the traditional banking system, in part because they lack the required credentials to prove their trustworthiness. Extending capital to this neglected segment of the global population will create an entirely new market in the process.

The benefits of moving to the trust machine, predicated upon blockchain-based transactions are clear: increased confidence in customer trustworthiness and the potential for reduced fees and lower total costs. When all is said and done, prices may be lower for customers, sellers may keep more of the revenue, or both. As a marketing leader looking to differentiate, the decision to accept blockchain-based cryptocurrencies could provide a competitive differentiator for some companies.

The benefits of moving to the trust machine, predicated upon blockchain-based transactions are clear: increased confidence in customer trustworthiness and the potential for reduced fees and lower total costs.



Smart contracts: The disruption of pricing and the elimination of friction

A contract represents a series of “if... then” statements. “If you do the project, then we will pay you \$1,000.” A *smart contract* takes those “if... then” statements or conditions and turns them into software code, which is then immutably written into a blockchain. The contract then becomes self-governing and self-executing, thus removing the power from individuals to change terms or renege. It’s one of the most exciting components of blockchain technology. If we think about a set of business processes or a legal agreement, we can see that it is really nothing more than a set of if/then statements. That same logic is the basis for computer code. A smart contract takes the if/then of a legal requirement and embeds it immutably into the blockchain, signed by two (or more) parties.

Smart contracts for smart pricing

Let’s now extend the concept of smart contracts to pricing and price guarantees. We could set up a smart contract that specified, “If competitor A’s price for a given product falls below our price for same product, then we will do X” where X could be:

1. Automatically lower our price by X amount on our website,
2. Automatically credit the difference in price back to any customer who has made a purchase of the same product from us in the past 30 days,
3. Automatically give a customer a non-transferable token representing a coupon valid for a discount in the next 30 days, or
4. A change in pricing models from one based on subscription to a usage or metered model that takes advantage of the inherent capabilities of cryptocurrencies to cost-effectively handle micropayments out to the 8th decimal place (or beyond).

The empowered and informed customer of the connected, social media age is savvy and fully aware of how to price comparison shop. The level of empowerment and awareness that customer will have is only going to increase because blockchains lend themselves to transparency. The code that underpins a smart contract is open to inspection by anyone. So, the conditions and terms of a deal between firms can be examined and used as a basis for comparison. There are no “backroom deals” on a public blockchain.

A smart-contract offers a “price protection guarantee” that is self-executing and guaranteed by the blockchain would have a number of benefits. It would create an improved customer experience and lead to more sales from customers who might otherwise worry about not

A smart contract offers a “price protection guarantee” that is self-executing and guaranteed by the blockchain would have a number of benefits. It would create an improved customer experience and lead to more sales from customers who might otherwise worry about not getting the best price.



We will see a new wave of business models based on smart contracts that lower transaction costs, prices, and margins and enable all-new providers to enter a market.

getting the best price. In addition, it would alleviate concern from customers that, if they did discover a better price, the onus would be on them to contact the brand to fix it.

Furthermore, blockchains (and the smart contracts they enable) lower the barrier to entry of individuals to compete with traditional firms. We see barriers lowering in the energy market in Germany, where Innogy Innovation Hub is creating a peer-to-peer marketplace for electric vehicle charging stations. Through blockchain technology and smart contracts that meter the amount of electricity provided, the owner of a charging station can now receive compensation in cryptocurrency for the electricity provided to another car owner. The capability to handle micropayments from existing assets changes the dynamics of the market and puts individuals (and the price points they can offer) in competition with established firms. Much as Airbnb or Uber disrupted hotels and taxis, we will see an entirely new wave of business models based on smart contracts that lower transaction costs, prices, and margins and enable a new set of providers to enter a market.

Smart contracts reduce cost of marketing operations

A simple search engine optimization (SEO) example that we could implement today at SmartContracts.com may help illustrate the potential.²² What if we wanted to improve our organic SEO rankings? Today, we might hire a vendor and negotiate a price and a timeframe. When the contract expires, the vendor and we agree on what has happened and then we are billed. We approve the invoice, send it over to accounts payable, and thirty days later, our vendor gets paid. Or else one of us sues the other for breach or non-performance.

What if we set up a smart contract instead? It might read as follows: "Two months from now, if Google returns <http://SomeSpecifiedURL.com> for keywords A, B, and C in the top ten results, pay this Bitcoin address 1 BTC. If it does not return the following URL, then pay this Bitcoin address .5 BTC." After we set it up, both we and our vendor cryptographically sign the contract, and it is immutably written into the blockchain. On the specified date, the smart contract itself queries Google (via what is known as an *oracle*) to determine if the result has been achieved. If it has, the payment is automatically released in the appropriate amount, the transaction is verified by the network, and the change in state is recorded in the distributed ledger (Figure 2, next page).

What if we set up a smart contract to improve our organic SEO rankings, negotiate ad prices, or lower costs of vendor relationships?

Another use for smart contracts might be in the price negotiation itself. Instead of spending time comparing quotes, we could use a smart contract that states, "For this [well-defined] service, we are willing to pay 15 percent above the average cost for similar services." A smart contract could then query similar services (say SEO), calculate the amount, and make the offer based on math, not perception.

The SEO performance and negotiation illustration may be a simple example, but we can begin to see the power of how we can



The key point is that smart contracts will remove a great deal of friction from many marketing processes, simplifying commerce, and facilitating sales at all levels of the organization.

automate marketing operations and lower costs of managing vendor relationships. What is important to know is that we will have the ability to pay for performance as marketing executives. At the same time, when we recognize that we can codify the legal and business rules that surround our business agreements in software, we will have the opportunity to flexibly and dynamically create new types of revenue opportunities within our target customer audience, and do so with greater agility.

Vendors also have the incentive to begin using smart contracts. Moving to smart contract-based projects will reduce processing costs and payment cycles. With lower costs associated with managing a project and faster payment times, some agencies and vendors will offer discounts to clients who agree to use smart contracts.

We are definitely in the early days of smart contracts, and participants will still need mechanisms for dispute resolution. However, the key point is that smart contracts will remove a great deal of friction from many marketing processes, simplifying commerce, and facilitating sales at all levels of the organization.

Figure 2: Smart contract execution

SMART TERM 1

IF the API location

HAS a value

FOR the

BY expiration date

THEN Smart Term 1 is **COMPLETED**

AND is recorded as completed in the blockchain, making a secure record of verified performance

RELEASING the escrow **TO**

OTHERWISE Smart Term 1 is **FAILED**

AND is recorded as failed in the blockchain, making a secure record of verified performance

RELEASING the escrow **TO**

Add Smart Term



Pay for attention: Customer acquisition costs on a per-person basis

In a blockchain economy, we will have the opportunity to know the exact cost of attention and subsequent acquisition of an individual customer, eventually at scale. As we move to blockchain-based identity systems (discussed later), we will witness the arrival of a *pay-for-attention* model.

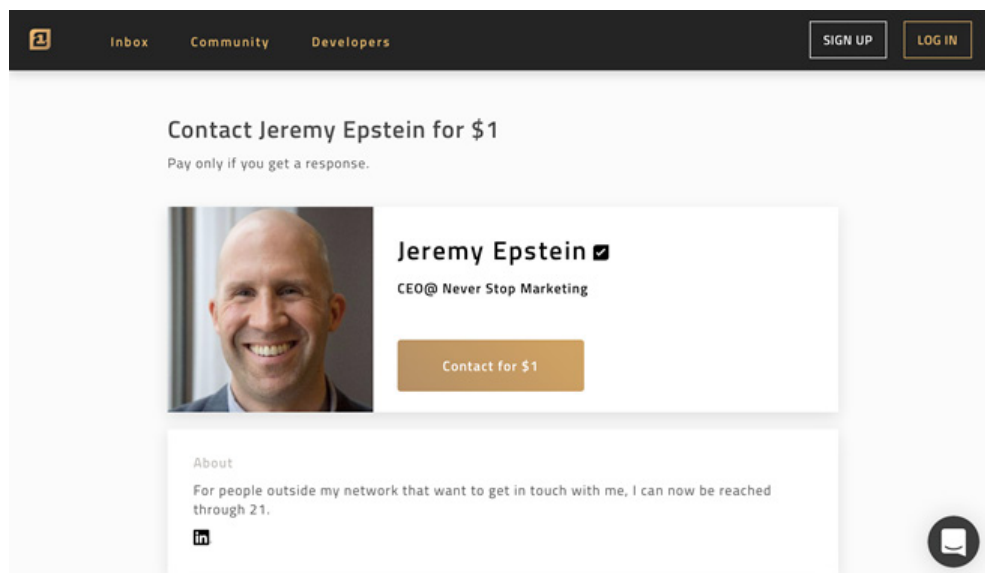
When we assign an exact amount to the cost of attention for each individual, we will have a more granular understanding of how to value each customer relationship.

Today, marketers pay for customer attention, it is just that the currency accrues to Google or Facebook. Tomorrow, we might pay the prospect directly via a service like 21.co or BitBounce (Figure 3 below and Figure 4, next page.)²³ Eventually, large enterprise-grade tools should emerge that allow us to manage these efforts at scale, but the concept will be the same. Each person will set a price for his or her guaranteed attention. It will be a marketplace and we can choose to pay it or not. If we do pay it, we will get a response that we can verify came from that individual.

It is not that either of these solutions is precisely what the future looks like. Both are a glimpse of a future in which customers are taking control of their data and access to their attention. With blockchain-based cryptocurrencies that can handle microtransactions, it is now already feasible to have this type of system.

When we assign an exact amount to the cost of attention for each individual, marketers will have a far more granular understanding of how to value the relationship with each customer and determine if expanding the market to include that individual customer is worth the marginal cost.

Figure 3: 21.co contact



Bottom line for growth

- » Blockchain-based cryptocurrencies expand market size by allowing us to serve people whose trustworthiness could not be cost-effectively verified previously.
- » Opportunities to increase customer acquisition and retention by offering payment options via cryptocurrencies as Overstock is doing
- » Improve reliability of market research by leveraging new mechanisms that guarantee attention of target audience members
- » Lower marketing spend by connecting performance to smart contracts and free up associated time and processing costs in managing vendor relationships
- » Improved ability to quickly respond on price to meet market demands and gain market share.

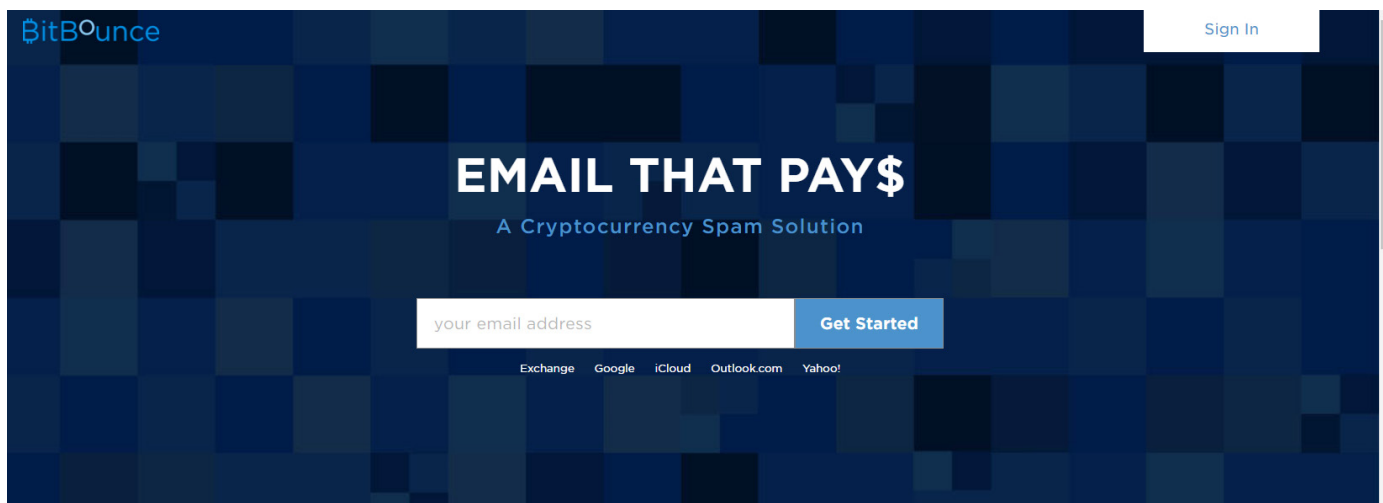
Most CMOs would agree that a brand is about trust. Trust in traditional brands is under a lot of pressure today.

Branding: Don't take our word for it, we can prove our trustworthiness

When someone writes a blog post called *30 Branding Definitions*, we can understand why non-marketers look at marketers with eyes askance. Those of us in the profession do not always agree on what we are doing.

Regardless of the words ascribed to the idea, most CMOs would agree that a brand is about trust. Trust in traditional brands is under a lot of pressure. According to *Edelman's Trust Barometer*,

Figure 4: BitBounce site



"We're seeing retail become more of a bully pulpit....How are consumers showing their disappointment? Some are demonstrating, others are spending a fair amount of time complaining. Many are voting with their wallets."

 MARK COHEN
Director of Retail Studies
Columbia Business School

businesses are on the brink of distrust. CEOs fare much worse: they are at an all-time low for credibility.

Retail brands may be the bellwether of a trend that will impact every company. After the election of 2016, consumers expressed their disapproval and lack of trust in a number of well-known brands because the expectations they had did not align with the behaviors of those companies. In the *Washington Post*, Mark Cohen (director of retail studies at Columbia Business School) said, "We're seeing retail become more of a bully pulpit....How are consumers showing their disappointment? Some are demonstrating, others are spending a fair amount of time complaining. Many are voting with their wallets."²⁴

In a different article, "Donald Is Dragging Brands into Politics", *Fortune* wrote that "corporations prefer to be seen as apolitical creatures," but those days appear to be waning. Empowered customers are increasingly unwilling to give corporations a free pass on societal issues, expect them to have values, and will patronize those with the values that best align with their own.²⁵

The power of proof over claims

The promise of blockchain is the eventual verifiability of every action of a company. The customer of tomorrow will grow to expect this level of transparency. This trend may go beyond retail and into CPG (consumer packaged goods), where downstream suppliers could feel pressure as well. Richard Stacy sums it up quite nicely when he writes, "The significance of blockchain is that, at its heart, it is all about the shift of trust from institutions into transparent processes—and this is what the whole social digital revolution is about."²⁶

Blockchain technology affords brand marketers a tremendous opportunity to thrive in this environment of heightened customer expectations. CMOs can rebuild trust with customers of all types by moving the relationship from blanket statements to verifiable proof. For example, when we go into a store to buy a bag of coffee, we have no way of knowing if the label that says "organic, free-trade, bought from a family owned farm" is actually a true statement or not. With blockchain, we will be able to verify the provenance of the coffee beans.

In a blockchain-based world, the verifiable supply chain becomes a key part of the value proposition. Walmart is already using blockchain to track pork provenance in China, improving safety, reducing risk, and building trust with customers. Taking this to the next level, blockchain technology could help prove:

- » The percentage of employees or vendors that are women, minorities, or veterans
- » The amount of money an enterprise donates to charity
- » Customer satisfaction scores



The good news is that blockchains provide us with the ability to prove the veracity of our claims and build trust with our audience.

- » Defect rates
- » On-time and on-budget delivery rates
- » Retention rates

A verifiable supply chain might have helped Nordstrom prove that Ivanka's shoes were no longer selling, avoiding potential negative PR. As author Jack Trout once wrote, "Claims of difference without proof are really just claims."²⁷ The good news is that blockchains provide us with the ability to prove the veracity of our claims and build trust with our audience.

C-suite executives often question the accuracy of marketing reports. We should expect to see a number of new offerings that allow us to start proving the fidelity of our data, both internally and externally, as a means of demonstrating trustworthiness with customers and partners. Beyond that, we will see implementations that allow us to have greater confidence in the accuracy and integrity of the data we see daily.

One start-up to watch is Tierion.²⁸ The company has developed the open *chainpoint* platform and aims to provide the "dial tone for trust" by offering the ability to anchor data to the blockchain, proving the integrity and timestamp of any data, file, or process. Tierion has partnered with Microsoft and Philips and can be integrated with nearly 500 different services like Salesforce and MailChimp. Tierion expects to give marketers a global platform for timestamping and verifying the integrity of marketing data. Tierion's functions are intriguing for many reasons. The company promises to:

- » Prove the integrity and timeliness of lead records
- » Hold affiliate marketers accountable by ensuring they report data at a specific time
- » Improve compliance and acquisition rates within regulated businesses
- » Track data provenance (ensuring data integrity as it goes through "spreadsheet washing" before it gets to us)
- » Issue digital receipts for shipping, tracking, or returns

We may see new revenue opportunities arise. For example, an intrepid marketer could use Tierion to prove the number of attendees in the morning session of an event to increase digital advertising rates for an afternoon session. Or just as Julian Assange of Wikileaks proved he was still alive by reading the transaction hash of the most recent block, we or our agency or partner could use Tierion or a similar offering to prove that a certain piece of data existed at a certain time.



In a blockchain world, customers won't just have to take our word for it, and we will never have to ask them to.

The cryptotoken becomes the logo, the membership card, and the ticket

Just as American Express was known by the phrase, "Membership has its privileges," decentralized protocols and cryptotokens offer the same benefit. Only in a blockchain world, the privileges are not just access, but token value appreciation (economic privileges), community (social privileges), and alignment with core beliefs (psychological and spiritual privileges). To have the privileges of the network, we must be a member.

The only way to be a member of certain networks will be to own one of the network's tokens. A purchase of a token of any one of those networks is a chance to benefit economically from the growth of the network. At the same time, it represents an opportunity to support others who share similar values, thereby allowing people to live in greater harmony. It also makes us a de facto marketer for the protocol, thus reducing customer acquisition time and costs.

Hundreds, if not thousands, of tokens have been created. As Fred Ehrsam, co-founder of Coinbase, wrote in *Value of the Token Model*, "The fundamentals of the token model are valuable and powerful.²⁹ They allow communities to govern themselves, their economics, and rally a community in powerful ways that will allow open systems to flourish in a way that was previously impossible."³⁰

Balaji Srinivasan, founder of 21.co, wrote in "Software is Reorganizing the World" that "an infinity of subcultures outside the mainstream now blossoms on the Internet — vegans, body modifiers, CrossFitters, Wiccans, DIYers, Pinnerers, and support groups of all forms. Millions of people are finding their true peers in the cloud."³¹

Putting Fred and Balaji's observations together, it is possible to imagine a blockchain-based protocol that only allows for the buying and selling of 100 percent vegan items (as verified by the blockchain), or products made by Wiccans, or certified DIYers. Inherently, those communities are incentivized to support the evolution and growth of the protocol; it is in their economic and spiritual self-interest. Vegans want more vegans. Cross-fitters want more cross-fitters. The way to do it is by having a brand of which they can be both proud and financially rewarded.

Ever since Clay Shirky published *Here Comes Everybody*, marketers have been looking to harness the power of the crowd for innovation. Brands have embraced community-driven marketing to varying degrees. Others like Ikea resisted the idea of empowering fans and ultimately lost. See *Ikea vs. Superfans: how paranoid trademark lawyers make everything suck*.³²

"The fundamentals of the token model are valuable and powerful. They allow communities to govern themselves, their economics, and rally a community in powerful ways that will allow open systems to flourish in a way that was previously impossible."

 FRED EHRSAM
Co-founder
Coinbase



When Satoshi Nakamoto released the Bitcoin white paper and put out the genesis block on 3 January 2009, he was basically serving as a brand manager for a blockchain-based system.

Token value is based on a circular economy idea where participants share a belief in the utility and core values of the underlying protocol and are willing to accept the token as payment. Bitcoin is a prime example. When Satoshi Nakamoto released the Bitcoin white paper and put out the genesis block on 3 January 2009, he was basically serving as a brand manager for a blockchain-based system.

First, he outlined the brand (protocol) vision via the white paper. In so many words, he saw “a world of payments that does not require third-party intermediaries.” Second, he outlined the market need and core value proposition of his solution. “What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.”³³ Third, he started to build a community. His first few posts were efforts to create believers, which is precisely what happened in the late Hal Finney’s post. Finney bought into Nakamoto’s vision and then argued for the value:

With 20 million coins, that gives each coin a value of about \$10 million. So the possibility of generating coins today with a few cents of compute time may be quite a good bet, with a payoff of something like 100 million to one! Even if the odds of Bitcoin succeeding to this degree are slim, are they really 100 million to one against? Something to think about.³⁴

Enthusiasm for the protocol attracts new believers. The growth of the ecosystem increases the value of the coin and stimulates innovation. Admittedly, there is a huge amount of speculation in the cryptomarket right now, but we will see more and more brands born based on:

- » A clear identification of the need and mission, usually for disrupting an incumbent
- » A strong white paper with a vision
- » An effort to engage a community of potential believers who benefit across multiple axes: emotional, psychological, and financial
- » Creation of circular economies of value around customer utility, customer experience, with a core respect for customer privacy.

Enthusiasm for the protocol attracts new believers. The growth of the ecosystem increases the value of the coin and stimulates innovation.

What we are seeing now is the true power of community to build brands in an era of hyper-connected individuals. Bitcoin has achieved its position with no “marketing” in the traditional sense. Ethereum raised just over \$17 million in its crowdsale and does not really spend much on marketing either.³⁵ The Ethereum Foundation runs the Developers Conference (aka “DevCon”), and it’s a safe bet to say that the sponsors more than cover the costs.



The list goes on. Gnosis raised \$12.5 million with a white paper and some e-mails, Bancor raised more than \$150 million with basically no marketing, and Stratis was valued at over \$1 billion right after its launch.³⁶

What got all of these going? It's what makes brands thrive in a blockchain world: Passion and emotion, or what Ben Thompson of Stratechery calls "Inspired Media":

Marketers who inspire a community to evangelize to their trusted networks are better positioned to win in the long term.

The products and politicians that win inspire passion, stirring up a level of engagement that breaks through on a scale that far exceeds an ad buy. To put it another way, above I mentioned "paid" media and "earned" media; what matters on the Internet is "inspired" media.³⁷

In a world of billions of channels and diminished trust, marketers who inspire a community to evangelize to their trusted networks are better positioned to win in the long term. With this intensified focus on passion and inspiration will come new tools and methods for measuring customer sentiment. Sentiment is one such next generation technology. Today, it focuses on sentiment around cryptocurrencies, yet its roadmap is clear: its leaders are going to create reports and insight about protocols (brands) based on token activity, price, and more.³⁸

Passion drives engagement. Blockchain-based markets supercharged by the passionate users who benefit from the underlying protocols show us a very different future for communications, messaging, and branding.

Figure 5: What every brand needs in a decentralized world



Bottom line for branding

- CMOs can rebuild and improve trust with customers by leveraging the properties of the blockchain to demonstrate verifiable proof of claims in support of product or service value propositions.
- We can further minimize risk to brand perception as external audiences learn to leverage blockchain data to inspect claims around corporate social responsibility, diversity goals, and so forth.
- Companies can build brand loyalty, lower acquisition costs, and improve through the tokenization of products or services that reward customers for participation and co-creation.

Advertising: More accountability, more clarity

John Wanamaker once quipped, "Half the money I spend on advertising is wasted; the trouble is I don't know which half."³⁹ CMOs know they are not getting enough value for their advertising dollar. For every \$1 invested in advertising, a CMO will only get \$.44 of value.⁴⁰ One Forrester analyst claims that publishers who remove middlemen can increase CPM from \$1 to \$5.⁴¹

The *Ad Maze* report in *The Wall Street Journal* is only the most recent illustration of the number of middlemen (and resulting lack of transparency) between CMOs and their intended audience. As if that is not bad enough, today's CMOs do not have enough visibility into how advertising performs. To top it all off, bots inflicted \$7.2 billion in fraud last year.⁴² Awareness is critical and advertising is a necessary component to driving consideration. The current model does not optimize effectiveness or our return on advertising investment.

Removing the barriers and obscurity

Blockchain technology is a strong contender for disruption of any industry that is full of intermediaries, has a lot of value lost along the transaction path, and lacks transparency.

It should come as no surprise then that the first and most advanced wave of blockchain-based marketing technologies are focused on how digital advertising is purchased, delivered, measured, and valued.

We should expect to see initial traction from some of these first generation blockchain-based solutions among early adopter CMOs and digital marketing leads within the next 12 to 18 months. These preliminary proof-of-concept implementations should reduce reporting time, improve reporting accuracy, reduce fraud, and reduce costs in the advertising supply chain.

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Eventually, these new business models should result in downward price pressure on traditional agencies. The field of contenders is already beginning to fill up. Expect to see more join as well.

Eventually, these new business models should result in downward price pressure on traditional agencies. The field of contenders is already beginning to fill up. Expect to see more join as well. We will also see several different strategies.⁴³ Some of the early entrants include:

- » adChain, built by MetaX, offers a protocol for establishing trusted relationships for buying and selling advertising space via its own native token.⁴⁴ The token will represent right as a shareholder in the network. Together with the other shareholders, network members will have an incentive to keep the network clean from fraudulent or low-value publishers. In return, member will benefit by getting more ad value for an investment and verifiable campaign auditing through cryptographically secure impression tracking. In late June 2017, adChain raised \$10 million in six hours in its initial coin offering.
- » Papyrus aims to create efficiency through transparency at every point in the network with an intense focus on the needs of end users.⁴⁵ With Papyrus, users will be able to control what ads they see and what data they share with advertisers. Most importantly, users will be instantly rewarded for sharing their data and responding to advertising. Advertisers and publishers will have access to reputation systems and transparent and traceable payments.
- » NYIAX (New York Interactive Advertising Exchange) claims the world's first advertising contract exchange. It's using NASDAQ's blockchain technology to combine a financial matching engine and trading concepts with advertising technology. The goal is a transparent marketplace for buying, selling, and re-trading of future premium advertising inventory as guaranteed contracts. It expects fees to lower as the number of intermediaries goes down to one.⁴⁶
- » Adshares is a decentralized, peer-to-peer market for programmatic advertising. It gives advertisers and publishers ability to trade directly without the need for centralized ad exchanges.⁴⁷
- » MadHive is a video advertising and data platform that allows brands and publishing partners to build audiences and target those audiences across multiple screens and platforms. MadHive's back-end product uses blockchain technology to allow brands and publishers to leverage the inherent trust and verifiability of a decentralized, peer-to-peer sharing network. MadHive is a founding member of *AdLedger*, the advertising industry's blockchain consortium.⁴⁸

As these solutions start to mature, CMOs will begin to have greater trust that their advertising investments are being placed as intended. Wanamaker's quote may still contain a degree of truth, but the percentages may be reduced.



Getting paid for attention

In his book, *The Attention Merchants*, Tim Wu writes, “If we think of attention as a resource, or even a kind of currency, we must allow that it is always, necessarily, being ‘spent.’ There is no saving it for later. The question is always, what shall I pay attention to?”⁴⁹

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 TIM WU
Author
The Attention Merchants

As marketers, we sometimes take for granted that the attention of others comes without any cost to ourselves. Since others pay for attention, marketers have historically just done whatever they could to get it. Advertising has been based upon this paradigm since the first penny papers of New York and Belle Époque posters of Paris.

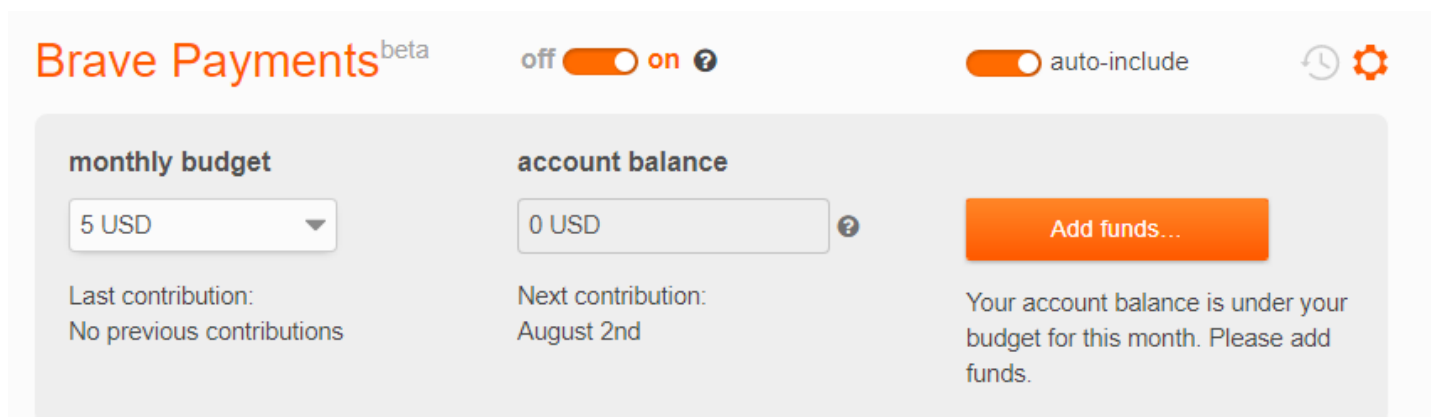
In a blockchain-based world, this paradigm could change. Arguably, it is already changing as more than 600 million devices worldwide run some form of ad-blocking software. William Gibson writes, “The future is already here—it’s just not very evenly distributed.”⁵⁰

In the future, though, if we want someone’s attention via advertising, we may end up having to pay the person for it directly. We certainly will not swipe a credit card every time someone sees our ad. However, we might pay the person a small fraction of a cent. Micropayments for attention can only work at scale with a digitally native currency.

Making and tracking these types of payments at scale is precisely one of the inherent strengths of blockchains. Brave is a payment platform that offers a glimpse of this future.

On the surface, Brave just looks like another web-browser. Built by the creator of JavaScript and the co-founder of Mozilla and Firefox, it is already a strong browser experience for end users. It natively blocks ads and prevents cookies, which makes it much faster than its competitors. However, it is in the “Payments” tab where the story starts to get unique (Figure 6).

Figure 6: Brave payments tab



The screenshot shows the Brave Payments interface. At the top, it says "Brave Payments" with a "beta" label. There are two toggle switches: one for "off" (currently "on") and another for "auto-include" (currently "on"). There are also icons for a clock and a gear. Below this, there are two main sections: "monthly budget" and "account balance". The "monthly budget" section shows a dropdown menu set to "5 USD" and text indicating "Last contribution: No previous contributions". The "account balance" section shows a text box with "0 USD" and a question mark icon, with text indicating "Next contribution: August 2nd". To the right of these sections is an orange button labeled "Add funds...". Below the button, there is a message: "Your account balance is under your budget for this month. Please add funds."



Brave offers the capability for site visitors to make direct micropayments to a publisher via cryptocurrency for its content. We may not be willing to pay \$200 a year for a subscription to *The Economist*, but we will pay a fraction of a penny to read an article. At scale, some of the most popular sites will start moving away from advertising as we know it.

The next iteration will come in the form of something like the *basic attention token* (BAT), a function built by the architect of the Brave browser.⁵¹ The token is the mechanism through which an advertiser pays for an individual's attention-based effort. With Brave and the BAT, we will pay end users directly for their attention, instead of the 73 percent of all ad dollars going to Facebook and Google.

Brave may be destined for failure and there are valid critiques from very smart people that are worthy of attention (even though we will not be paid for it just yet). Still, it is radical and different. It is also a glimpse of the future in which the CMO will live.

Bottom line for advertising

- » New blockchain-based technologies offer the opportunity for reduced costs through more efficient advertising placement and more reliable performance metrics.
- » CMOs can drive improved brand trustworthiness by ensuring that ads only appear in approved and appropriate contexts.
- » Advertising spend can demonstrate higher return on investment by more accurately connecting individual attention with purchases or other desired outcomes.

Customer experience: Expectations will continue to skyrocket

According to the *Harvard Business Review*, "Customers who had the best past experiences spend 140 percent more compared to those who had the poorest past experience." American Express tells us, "55 percent walked away from an intended purchase in the past year because of a poor customer service experience."⁵²

The arrival of social and mobile-empowered customers has increased the pressure on companies to deliver great customer experiences. No one wants to become the centerpiece of the next United Airlines ejection news cycle. At the same time, we are all subject to the Amazonification of expectations: regardless of the industry, customers now expect Amazon Prime level service.

Identity systems: Customers will own their data

The advent of blockchain-based identity systems should simplify the process of creating, maintaining, and leveraging a unified view

"55 percent walked away from an intended purchase in the past year because of a poor customer service experience."

 AMERICAN EXPRESS



of the customer, enhancing the marketer's ability to provide a more cohesive experience. The big caveat here is that customers, not businesses, will own their own data. The customer will give companies and governments access to *personally identifiable information* (PII) on a permissioned basis. CMOs will need to earn (and more importantly, continually re-earn) the right to access customer data.

We should expect to see two types of vendor offerings in the emerging blockchain-based *customer relationship management* (CRM) space. Most likely, the initial offerings will come from traditional vendors and be private blockchains, limited to implementation within one enterprise or across an ecosystem. These entirely new product offerings (which do not yet exist) should drive some efficiencies within an enterprise or a partner ecosystem, such as data standardization across business divisions, lead generation verification from partners, or improved provenance of appended data to the customer record, such as website visits or social media connections. Vendors like IBM and Microsoft are pushing further into the business side of the enterprise. It would not be surprising if Salesforce or Oracle begins to offer private blockchains as a part of its marketing cloud solutions.

Ultimately, individuals, not brands, will control access to identity and personal information through blockchain-based services and experiences.

That is most likely to be an interim state. Ultimately, individuals, not brands, will control access to identity and personal information through blockchain-based services and experiences like Civic, uPort, MetaMask, Blockstack, or Toshi.⁵³ For example, Keybase.io enables individuals to set up accounts and then provide cryptographic attestation of their ownership of various social media accounts (Figure 7).⁵⁴ OneName.com, a more decentralized version of the

Figure 7: Keybase account

keybase.io/jer979

3 devices

236F 3B3F 385B 1BE0 [edit](#)

[Jer979](#) [tweet](#)

[Jer979](#) [post](#)

[Jer979](#) [gist](#)

[prove your Reddit identity](#)

[prove your Hacker News identity](#)

[www.neverstopmarketing.com](#) [dns](#)

[prove another web identity](#)

[1C8Yk6jt9dtGqaQJPDYNNwcWkMYm9544D4](#)

[t1RQnhzWkEgznZf5ww8cYqa1bbsXhjHmpkh](#)

[PGP Encrypt](#) [Keybase Chat](#)



Customers can prove they own a given social media account without giving a brand access to any of the personal information associated with that social media account.

same concept, also offers this capability (Figure 8).⁵⁵ In both cases, control of the data remains with the customer but the attestation is public.

Each of these services will eventually provide marketers with the ability to inspect or view cryptographically secured data, thereby confirming that a given customer is the same person across multiple accounts (social or otherwise) without foregoing the customer's right to privacy. Customers can prove they own a given social media account without giving a brand access to any of the personal information associated with that social media account.

Near frictionless digital experiences

To make it a bit more real, let's look at a customer experience using MetaMask. If a customer wants to use the OasisDex.com site to trade digital currencies, a customer can go to the Oasis site through any browser (at the time of this publication) and see the screen in Figure 9 (next page.)⁵⁶

Figure 8: OneName account

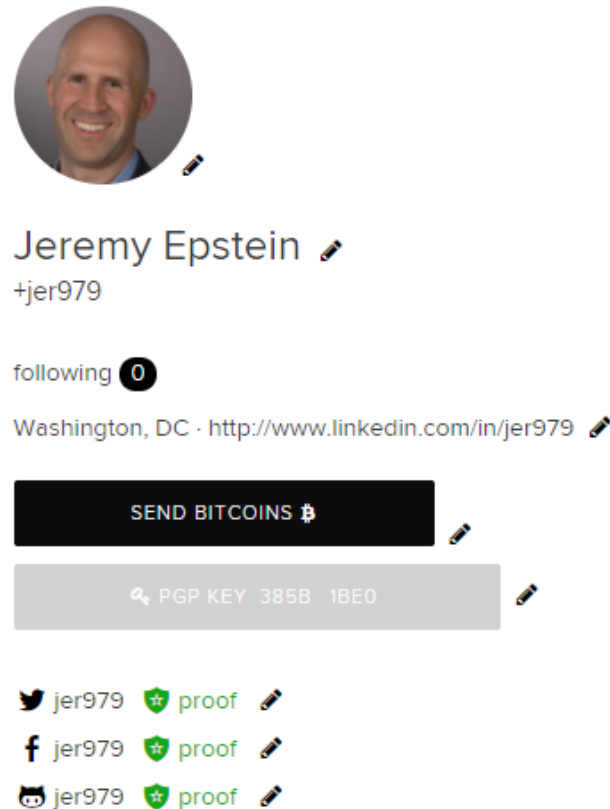
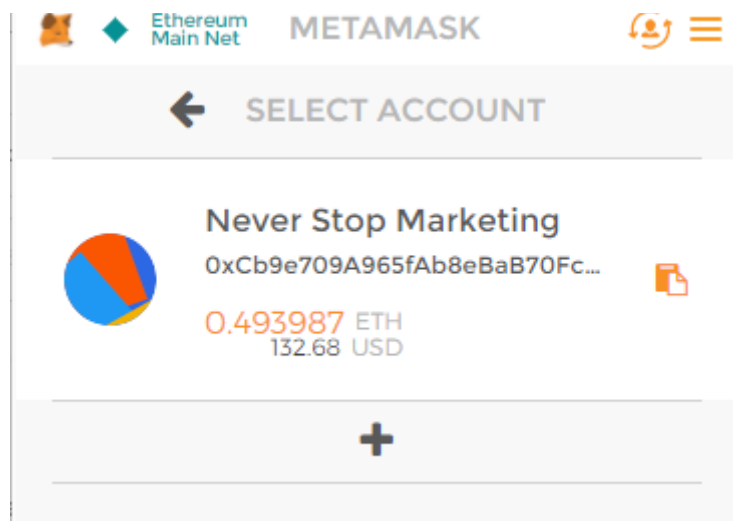


Figure 9: OasisDex site

However, if the customer had set up a MetaMask profile via a secure Chrome plug-in, the customer would be able to access any distributed application via a Chrome browser, as shown in Figures 10 and 11 (next page).

In this new model, no username and no password are required. The personal information resides with the user, affording higher privacy and lower security risk.

In this example, notice that the account number in the MetaMask extension and the account number on the top right of the screen in the OasisDex site are the same. The decentralized application, OasisDex, recognized the MetaMask extension, which serves as the author's "proof of identity." The information, however, is encrypted and located on the browser side. In this model, no username and no password are required. The personal information resides with the user, affording higher privacy and lower security risk. Simply by validating the legitimacy of the account (in this case, its mere existence, but in the future, against a variety of criteria), OasisDex allows a user to trade assets. Meanwhile, the owner of the MetaMask account has full access to her personal accounts, trade history, and

Figure 10: MetaMask profile

the ability to fund the account without sacrificing any personally identifiable information.

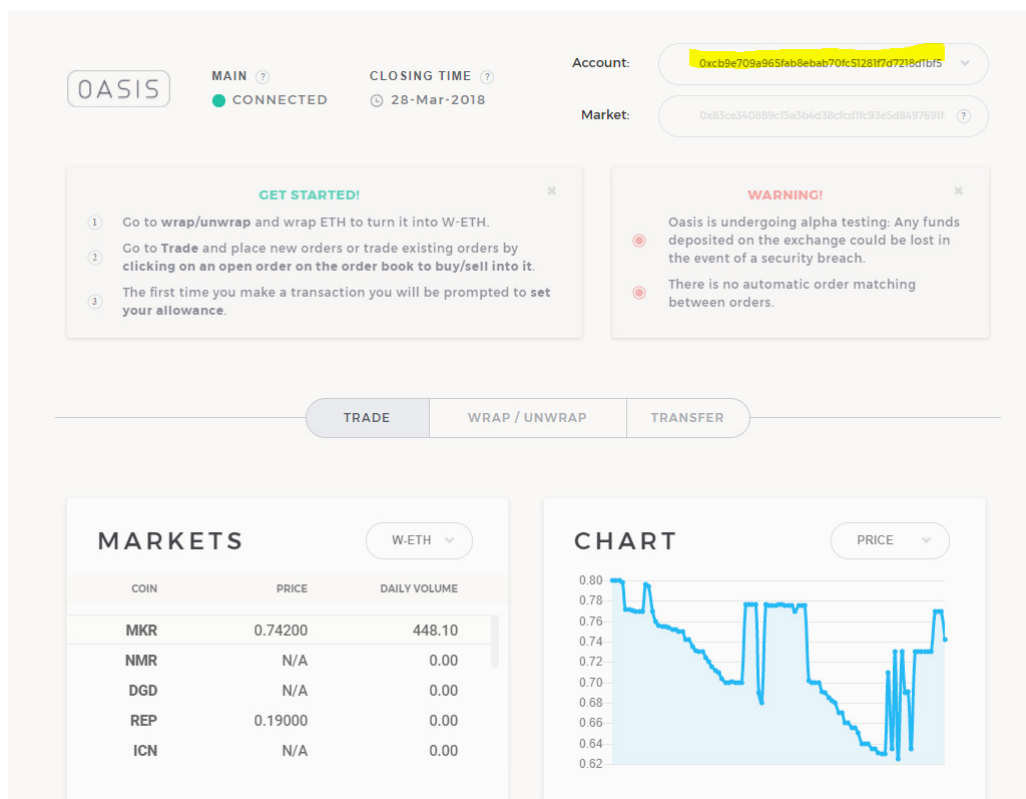
This customer experience differs dramatically from the one customers have today. Instead of keeping a series of passwords or using a tool like LastPass, a customer has a cryptographic proof of her identity and credentials.⁵⁷ She can prove she is eligible to shop on a particular US retail site as a US citizen without giving the retailer any personal information whatsoever. Additionally, because the app itself is decentralized, no one—neither business nor government—can track the customer or subpoena a vendor for customer tracking data.

As services of blockchain-based identity systems become more commonplace and user-friendly, the challenges of delivering great customer experiences based on tracking cookie-based customer behavior across websites will intensify.

As services of blockchain-based identity systems become more commonplace and user-friendly, the challenges of delivering great customer experiences based on tracking cookie-based customer behavior across websites will intensify. Consumers could start to migrate to these systems, preferring greater privacy and frictionless customer experiences. In addition, they could move to blockchain-based social networks like Mastodon or Steemit (decentralized versions of Twitter and Reddit, respectively) that preserve privacy and anonymity (and in some cases, offer participation rewards to customers).⁵⁸

There's one other component of blockchain-based systems that will impact customer experience: switching costs. Customers can

Figure 11: OasisDex connected



We will see customer expectations rise as more people interface with blockchain-native applications. The customers' ability to move from app to app to interface with their protocol of choice will put pressure on entrenched industries to lower switching costs.

move from one interface to another in a matter of seconds. Imagine moving from Citi to Chase in less than a minute—it is impossible. Yet, we can easily move from a Jaxx multi-currency wallet to a Blockchain.info wallet in under one minute.⁵⁹ All we need is our private key.

For example, we can look at two different Bitcoin wallet providers. The switching costs between them are negligible. The first, BitPay, makes it easy to connect our Bitcoin account with a Visa card, helping people integrate their cryptocurrencies with traditional fiat. The other, Jaxx, offers the same ability to manage bitcoin, but instead focuses on creating a product that makes integration with other cryptocurrencies the main feature. Depending on what a customer may want or need on a given day, she may switch back and forth with near zero effort.

Some of these scenarios seem futuristic and potentially not applicable to some industries. However, just as Uber, Airbnb, and Amazon redefined what was possible in terms of customer experience, we will see the same “bleeding over” of expectations as more people interface with blockchain-native applications. The fact that customers will easily move from app to app to interface with their protocol of choice will put pressure on entrenched industries to lower switching costs. In this blockchain-based identity future, customers might reasonably ask something that seems counterintuitive by today's standards like, “Why can't I use the Chase app to access and move money that is sitting in my Citi account?”

Better customer information if it is earned

At the same time, while these systems will not be perfect, they will increase our confidence that @Alice123 on Twitter is the same person as Alice321@gmail.com and so on, provided the customer allows us to see that. Seeing the interactions of a given profile across a brand's touchpoints (and possibly a partner's touchpoints) will give marketers greater insight into the customer journey. Every time that a customer grants permission to information that we know to be verifiable and accurate, it will increase the potential for marketers to deliver relevant, personalized experiences within a secure environment. A strategy based on consistently delivering experiences of value that encourage customers to attest and re-attest to relationships across websites and digital touchpoints will become a significant point of differentiation.

To be sure, the migration from the current environment where PII data is stored in corporate silos to an environment where data is owned entirely by customers may take some time. The key point is that, in return for items of perceived value (physical, digital, or even experiences), customers whose profiles are stored in blockchain-based identity system will attest to their ownership of an account—just as they connect to social and e-mail today. The primary differences are that the transfer of PII will come with greater security, verifiability, and conditionally. Cryptography will link these attestations (such as customer age, location, gender, and more) both



When all is said and done, the CMO of the future will have greater confidence in a customer record about the nature of the relationship across the enterprise and possibly the partner ecosystem.

to each other (and to data from enterprise systems such as purchase history or preferences).

When all is said and done, the CMO of the future will have greater confidence in a customer record about the nature of the relationship across the enterprise and possibly the partner ecosystem. The challenge for the CMO of the future when it comes to retaining and monetizing customers is the need to obsessively focus on customer experience (at the app layer) and customer utility (at the protocol layer) in order to earn and re-earn the invaluable customer data that will drive insights for future innovation.

Bottom line for customer experience

As blockchain-based identity systems become more common,

- » Customers will expect switching costs go to zero,
- » Friction-free digital experiences will increase, and
- » Customer data will migrate from brands to individuals, unless permission to utilize PII is earned and re-earned.

Loyalty: Rewards become simpler, flexible, and innovative

According to a report by Maritz Loyalty Marketing, most customers abandon loyalty rewards programs because of frustrations with the time required to obtain meaningful rewards.⁶⁰ Seventy percent of the consumers polled cited the length of time it takes to accrue points.

Freeing loyalty rewards

The capabilities of blockchains and digital token programmability will aid in removing friction from the settlement of loyalty points across multiple programs and companies. This will open new areas for innovation, particularly at the regional and local level.

Loyalty programs of the future will empower regional marketers to create new programs that unlock revenue potential, while staying consistent with the brand because the brand rules and regulations will be hard-coded into the loyalty points themselves. Simultaneously, tracking and trading loyalty points will also evolve in simplicity and possibly move from a balance sheet liability to a trackable marketing asset. Two loyalty areas that will likely benefit from blockchain technology include:

- » *Loyalty program interoperability:* The easier it is to exchange loyalty points with partners for redemption of their products, services, and perquisites, the more value our points will have for our customers. Airlines and credit cards obviously do this already, though there is a lot of friction in the process. The



Finally, in a blockchain-enabled world, ownership of perks can be easily tracked, transferred, and fine-sliced into bits for micro-redemptions, providing greater options for customer satisfaction in an expanded rewards eco-system without increasing costs.

bigger the ecosystem, the more valuable our core product. Blockchains will make this easier.

- » *Loyalty point transferability and management:* In a blockchain world, the tracking of loyalty points will become simplified, as each point can be represented as an asset on a blockchain. Since each asset is now digital and trackable, program owners will have the option to program or “hard code” business rules for customer utilization. Asset programmability will also provide companies with a way to incentivize loyal customers to cost effectively acquire new customers and do so with both brand and legal governance controls built in.

Finally, in a blockchain-enabled world, ownership of perquisites can be easily tracked, transferred, and fine-sliced into bits for micro-redemptions, providing greater options for customer satisfaction in an expanded rewards ecosystem without increasing costs.

The loyalty blockchain race has already begun. Several vendors are in the space, and pilots are underway. By the end of 2017, the first case studies will emerge among the early adopters. The primary benefits highlighted will most likely center around improved program liability management on the cost side and the first efforts at innovating around flexibility of offering and redeeming points for different types of customer relationships.

We may also see a “blockchain-ification” of loyalty points, where companies become transparent about the number of points available in the program. Part of the value of loyalty programs comes from the exclusivity it conveys. If “membership has its privileges,” and everyone is a member, what is the privilege really worth? Ask anyone with Premier Status on United Airlines, and he or she will tell us that it feels as if almost everyone has it. We could see the emergence of blockchain-driven points programs that show precisely how many spots are available in each program. Knowing that may increase the value of the program and incentivize customer behavior. Some of the first entrants in the field include:

- » Loyyal, a universal loyalty platform, can be applied to existing redemption networks, creating opportunities from interoperability.⁶¹ Brands can also choose which other brands they want to include in their own reward app on the blockchain. Norwegian AISpot is one company that has selected Loyyal for its travel platform.⁶² It also has a pilot program with Dubai for tourists.
- » Blockpoint lets companies build their own distributed loyalty platform, lottery games, and gift card functionality.⁶³
- » IBM and China UnionPay are developing a platform for trading loyalty points, demoed in a proof of concept in September 2016.⁶⁴
- » Tamtam Travels offers members discounts and benefits on a range of travel products and services.⁶⁵



Loyalty built-on ownership

There are multiple ways that blockchain could affect loyalty. They are centered on open-source network protocols that replace many of the features now unique to siloed applications.

There are multiple ways that loyalty could be impacted in a blockchain world. Both are centered around the fact that the open-source network protocols replace many of the features which are now unique to siloed applications.

To use a protocol in a blockchain-based world requires a *token* or a *coin*. In most (but not all) protocols, the number of tokens either is fixed or has a predictable inflation rate. As demand for the tokens goes up (based on the utility of the token), the value to the market increases as well. In a blockchain world, a token holder has an immediate incentive to use the token frequently, which increases utility for others in the network. In addition, attracting others to the network is in the token holder's interest because it further increases the utility and value of the token held. Loyalty then becomes not something that is *built-on* to a product, but rather something that is *built in* to the product or protocol.

Kik is using this very phenomenon by inverting its business model to a decentralized protocol.⁶⁶ By issuing its own cryptocurrency, called Kin, Kik hopes to create a circular economy of utility with loyalty built in that creates a competitive threat to Facebook's messaging dominance.⁶⁷ Blockchain-enabled loyalty creates viral loops through the economic principles inherent in the fixed "slots" in any blockchain.

Owning a token will be tantamount to a new brand logo.⁶⁸ Musician Tatiana Moroz was the first person to issue her own coin, TatianaCoin, specifically for allowing her fans to buy and use her music, but also demonstrate their support for her.⁶⁹

Bottom line for customer loyalty

- » Marketers will have increased opportunities for creativity within loyalty programs while maintaining brand integrity to drive revenue.
- » Although switching costs go to zero, opportunities for emotional and financial investment in a brand by customers will increase because of tokenization.
- » Loyalty program management costs will be lower.

Blockchains will give marketers greater confidence in the integrity of the data they access.

Analytics: When data become a commodity, insights become assets

Blockchains will give marketers greater confidence in the integrity of the data they access. Immutable entries, consensus-driven timestamping, audit trails, and certainty about the origin of data (e.g., a sensor or a kiosk) will improve as blockchain technology becomes more mainstream.



In a blockchain world, all competitors are looking at the same ledger, the same data. The industry essentially becomes a glass house.

Anyone can provide an interface to the ledger. Yet, few companies are providing a set of analytic capabilities to gather, analyze, and explain all the data at scale so that companies can act on it. This is the "data industrialization opportunity."

Beyond data integrity (which is a huge component), the shared data layer that blockchains provide will introduce entirely new possibilities for artificial intelligence-driven capabilities and insights.⁷⁰ In this scenario, as marketers get more data from blockchains, they will have the opportunity to create improved modelling capabilities, which will lead to entirely new predictive models. The inherent immutability leads to greater confidence about training and testing data and the models they produce, all leading to greater confidence in the accuracy of the prediction algorithms.

From data silos to black boxes and glass houses

We will see an expansion of the concept of big data, as we move from proprietary data silos to blockchain-enabled shared data layers. 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 gain the most insights most rapidly. This is why public blockchains (because more data will be available there) will most likely surpass private blockchains in terms of value creation. When data moves out of proprietary systems onto open blockchains, having the data itself is no longer a competitive advantage. Interpreting the data becomes the advantage.

In a blockchain world, all competitors are looking at the same ledger (imagine everyone has the same Google Sheet or Excel file). It is essentially a glass house. Anyone can provide an interface to the ledger. That is relatively easy. That's what we see here for Ethereum or Zcash.⁷¹ Many companies will provide applications that enable a customer to interact with a protocol. This is what Jaxx or BitPay do for Bitcoin.⁷²

Yet, few companies provide a set of analytic capabilities that gather all of this data and explain what it all means or what should be done about it. Fewer still have figured out the scalable process for doing this. This is the opportunity. Some have called it the "data industrialization opportunity."⁷³ 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.

Combining all these elements will provide a degree of competitive advantage within this space. If a Bitcoin wallet, for example, instead of being "dumb" (as it is now) is actually "smart"—in the sense that it can advise or help customers make sense of the world (based on all the data available on the blockchain)—that one will be the market leader.

It will also lead to improved customer retention. Customer lock-in should never be "let's make it really difficult for people to leave"; it is better imagined as "how can we mine, extract, and deliver insights and value from the shared data layer so that people don't want to leave." The world's top 50 physical mining companies are worth about \$700 billion dollars.⁷⁴ CMOs can expect to see blockchain-based data mining companies that will take us into trillions of dollars of market capitalization (granted, this may be many years off).



Ultimately, two significant transformations driven by blockchains will impact how data will be conceptualized in the future. First, transaction data will be viewable by anyone. Anyone can access the data about the transactions that occur on a given blockchain. The data may or may not be entirely viewable in its raw form to protect privacy, but the authenticity and integrity of the data can be verified using concepts such as homomorphic encryption and zk-SNARKs.⁷⁵

Second, organizations will no longer own customer data or keep it in corporate databases. Personal data will belong to, and remain with, each individual. The data may be represented as tokens or coins on an identity blockchain. The customer of the future will grant access to others as necessary. This is what Don and Alex Tapscott have referred to as an “identity black box.”⁷⁶

Lower costs of storing, accessing, and protecting customer data

Furthering the availability of data to CMOs is that blockchain-based technology will reduce the cost of storing data. This will also help marketers in creating improved predictive models to identify new revenue opportunities.

Furthering the availability of data to CMOs is that blockchain-based technology will reduce the cost of storing data. This will also help marketers in creating improved predictive models to identify new revenue opportunities. Cost savings in data storage will come from the disintermediation of centralized storage providers. This savings should also create downward pricing pressure on the CMO’s software-as-a-service (SaaS) suppliers as they move to decentralized storage providers.

We can expect to see decentralized solutions like Storj, Sia, MaidSafe, and FileCoin start to gain some initial traction in the enterprise storage space.⁷⁷ Storj already has one enterprise customer in pilot phase and the estimates are that, so far, it will be able to reduce costs of storing data by 90 percent when compared to Amazon Web Services (AWS).⁷⁸ CMOs with large enterprise data costs (either direct or indirect) could save significant funds.

For example, the cost of hosting the data for an entire website could be reduced by 50 to 90 percent. As for blockchain-driven AI, CMOs can expect to see a three-phase rollout. First, within the existing enterprise. Then, within the ecosystem. Finally, totally open systems. The entire industry might be termed, “blockchains for big data” (Trent McConaghy’s words).

Enterprise offerings will emerge from companies like BigchainDB, Chain.com, PeerNova, and DisLedger as they expand from the financial services vertical and many others are already beginning to offer industry specific solutions.⁷⁹ Large established enterprise players will compete as well. IBM has announced a “Watson for Blockchain” solution, Google will use DeepMind, and Microsoft is offering blockchain-as-a-service on Azure.⁸⁰

The rise of marketing artificial intelligence

CMOs of the future will benefit from a cursory understanding of how AI works on top of blockchain-based data, even if they are



CMOs of the future will benefit from a cursory understanding of how AI works on top of blockchain-based data, even if they are unprepared at the moment.

unprepared now. According to the MIT Sloan Management Review in *Romantic and Rational Approaches to Artificial Intelligence*, "Machine learning is rarely part of a business curriculum core."⁸¹

Understanding the capabilities of AI and machine learning is important, as is how to interpret the data, but that is not the most important skill for the CMO of the future. The most important skill is knowing how to ask great questions.

Kevin Kelly, one of the most impressive thinkers on technology in the world, wrote a fantastic book, *The Inevitable: Understanding the 12 Technological Forces That Will Shape Our Future*. He makes many excellent points, but let's focus on one in particular, the importance of questions:

*A good question is the seed of innovation in science, technology, art, politics, and business. A good question is a probe, a what-if scenario. A good question skirts on the edge of what is known and not known, neither silly nor obvious. A good question cannot be predicted. A good question will be the sign of an educated mind. A good question is one that generates many other good questions. A good question may be the last job a machine will learn to do. A good question is what humans are for.*⁸²

Machines may be able to give us the answers, but they don't know which questions to ask. CMOs of the future will have first-rate questioning skills. We can expect to see a slew of offerings from both start-ups and existing technology vendors that will offer artificial intelligence solutions to derive marketing insights from the open data available on blockchains.

Machines may be able to give us the answers, but they don't know which questions to ask. CMOs of the future will have first-rate questioning skills.

Though not marketing specific, one powerful example is Numeraire, which is creating a collaborative hedge fund using common data sets. Members of the network compete to create the best algorithm for generating returns. They stake their efforts using Numeraire tokens and then share proportionally in rewards. The hypothesis of the firm is that removing the obstacles to access to the data and giving each of the network participants a monetary incentive aligned to overall performance of the network will yield improved results.⁸³ A similar, crowdsourced and token-incentivized form of marketing AI is something that seems likely.

Bottom line for big data

Blockchain technology enables us to

- » Generate revenue through improved data mining and artificial intelligence from larger data sets
- » Build trust with customers by restoring customer data privacy
- » Reduce costs through cheaper, decentralized storage solutions.




Leadership: New opportunities to deliver a return on marketing investment

The CMO role is under severe pressure—again. According to a *Harvard Business Review* article, 80 percent of CEOs don't trust or are unimpressed with their chief marketing officers. A very disheartening statistic, particularly when CMOs are compared with their CIO and CFO peers, where only 10 percent of CEOs feel the same way.⁸⁴ With the disruptive change that blockchains (not to mention AI, 3D printing, and other technologies) will exert on traditional businesses and the concurrent expectation that the CMO is on point to fix it, this pressure will not change any time soon. That is the bad news.

At the same time, there is plenty of good news. The arrival of blockchains represents a sea change in how we will do business. With this change come immense opportunities. Some CMOs have already pivoted towards a blockchain-based mentality. According to Jeremy Skule, CMO of Nasdaq, "technologies such as blockchain and machine intelligence have the capability to re-establish trust by improving market performance, empowering clients, and creating a more resilient experience."⁸⁵ Rishi Dave, the CMO of Dun and Bradstreet, agrees:

*The customer wants to feel the data they've provided has given insights that make their experience with that company more worthwhile, and coordination will be key. If your company is not already practicing this one view approach, it's imperative you get that foundation in place now, before decentralization becomes commonplace.*⁸⁶

"Technologies such as blockchain and machine intelligence have the capability to re-establish trust by improving market performance, empowering clients, and creating a more resilient experience."

 JEREMY SKULE
CMO
Nasdaq

Blockchain-enabled technologies provide CMOs with a big chance to revolutionize their role and positively affect the future direction of their companies as well. With blockchains, a CMO can improve the return on advertising spend, increase trust with customers, deliver better customer experiences, improve loyalty, and drive better decision making through improved analytics that yield better insights. In addition, CMOs who seize the blockchain opportunity can find and unleash under-utilized marketing talent within the organization, unload underperforming deadweight, harness the power of community outside the organization, and potentially drive significant growth by leveraging cryptotoken-based network effects, among numerous other opportunities.

While we have discussed many of the functions of marketing, one of the primary responsibilities of CMOs is finding and building great teams. This is not always as easy as it sounds. A CareerBuilder study found that 69 percent of employers reported that a bad hiring decision had placed a strain on their company. Twenty-four percent of companies reported that a bad hiring decision had cost well over \$50,000. Forty-one percent of businesses reported a figure of over \$25,000.⁸⁷



To further complicate matters, distinguishing who is really contributing from who is coasting isn't always easy. This issue clearly frustrates many large companies. A recent *Wall Street Journal* article featured Kimberly-Clark committing to a new era of individual accountability where "people can no longer hide."⁸⁸ A myriad of other issues is at play here, including recognition, morale, résumé fraud, and reference verification that affect our ability to hire and retain the best individuals.

Blockchain-based HR: Keep the best talent, lose the deadweight

Keeping track of verified credentials (courses completed, awards won, training certifications) in an immutable way is a natural fit for a blockchain-based hiring solution. In the realm of recognition and value created, we could begin to see cryptotoken systems where employees could (or must) spend all of their tokens by awarding them to others on their team whose contributions they value.

For example, an employee who works on a big project with a large, distributed team is impressed with a few key players as teammates. The individual could send an amount of cryptotokens to that person's account. Then, at the end of the year, a manager could essentially have a "value ranking" of employees by how many tokens are in that employee's account. All employees would know in real time how valued they are as a teammate and where they rank at the team, department, and company levels. CMOs could use this type of feedback to spur collaboration, weed out weak performers, form stronger teams, and more. This reward system may not be sufficient alone, but we can start to see it as a quantifiable way to assess the relative value of employees as viewed by their peers.

Blockchain technology can give us confidence that the attestations of co-workers are valid and the claims of each person are true (or not). Recommendations that we see on LinkedIn might even be digitally signed and discoverable in the near future. We can expect to start seeing recruiting and resume verification platforms based on blockchains that reduce some of the risks associated with hiring marketing talent. In *How Blockchain, Chatbots, and PDRs Will Disrupt HR Technology*, Rob Scott writes, "Seed funding has increased by a multiple of five times since 2013 and a few HR tech vendors are exploring its [blockchain] possibilities and benefits."⁸⁹

One notable early entrant from established players is Recruit Technologies, a subsidiary of Recruit Holdings Co., an established IT leader in Japan.⁹⁰ Recruit Tech is developing blockchain-backed cryptographic certificates of authenticity. It seeks to encourage data sharing among different institutions and allow for fraud detection based on data mining. It will store record credentials on a blockchain, and tamper-proof certificates of authenticity will be generated via digital signatures. Through this effort, it plans to reduce forged or altered documentation of school credentials, previous employment records, or documents that have been translated.

Blockchain technology can give us confidence that the attestations of co-workers are valid and the claims of each person are true (or not).



As technology makes coordination and collaboration easier, the cost of hiring a contractor to do a job will continue to fall below cost of a full-time equivalent (FTE).

Blockchains that enable decentralized systems could accelerate the end of full-time employment and make the "gig" economy the new reality for most people.

Chronobank.io, an Australian short-term work platform, is developing a blockchain-based financial system for freelancers or contractors to obtain work and receive payment in proprietary "labour-hour" tokens.⁹¹ For an employer-employee relationship, this would be illegal if mandatory. In the client-contractor format (a relationship we are seeing more of in the age of remote work), contractors may choose to receive payment in any fashion. The designer of this report was paid in a combination of cryptocurrency and preferred arrangements for a trip to Zug.

Networks and crowds: The evolution of the notion of a "marketing organization"

We are witnessing a change in the very idea of work and employment. A few months ago, *The Wall Street Journal* published a powerful article, "The End of Employees," which stated, "Never before have big employers tried so hard to hand over chunks of their business to contractors."⁹² It goes on to quote the former CEO of Virgin America, David Cush: "We will outsource every job that we can that is not customer-facing."⁹³

If this is indeed the trend, and the data in the article suggests that it might be, it is possible that what is already happening on top (to the people) is mirroring what is starting to happen below (the supporting technology infrastructure). That is, the trend towards decentralization. As technology makes coordination and collaboration easier, the cost of having a contractor do a job will continue to fall below cost of the FTE. This is Nobel Laureate Ronald Coase's "Nature of the Firm," which states that, "If it is more efficient for a transaction to take place within the firm than under some other institutional arrangement, then it will take place within the firm."⁹⁴

The corollary is that the opposite is true as well. Blockchain-based HR and workforce systems will help enterprises get to the point where it is more cost-effective to decentralize (another way of thinking about outsourcing) all but the most critical items. As the ability to interoperate with technology increases, it will be even easier to remove non-core employees (because the core shrinks even further). In their new book, *Machine, Platform, Crowd*, Andrew McAfee and Erik Brynjolfsson suggest that we will see a combination of companies, networks, and crowds. According to Accenture, "One of the 2,000 largest companies in the world will have no full-time employees outside of the C-suite within 10 years."

It is almost, but not quite, a decentralized autonomous organization (which has no formal managers, just smart contracts executing agreements). Blockchains that enable decentralized systems could accelerate the end of the full-time employment world and make the "gig" economy the new reality for most people. In this environment, the CMO of tomorrow does not look anything like the CMO of today. No huge organization charts or mandatory "all hands" meetings. At the same time, fewer internal HR considerations and discussions of promotions and corporate ladder climbing. Fewer politics. The result



is that more of the people whom a CMO counts on to “do” marketing will not work in the same company as the CMO.

Bottom line for marketing leadership

Blockchains represent a generational opportunity for CMOs to dramatically improve the measurable value of marketing investment. Some CMOs have already begun to investigate.

- » Blockchains represent a generational opportunity for CMOs to improve the measurable value of marketing investment dramatically. Some CMOs have already begun to investigate.
- » Assessing the value of marketing talent will become more data-driven.
- » Most of the marketing talent that a CMO of the future leads will not sit in a hierarchical organization

Conclusions and recommendations

We have covered a lot of marketing ground in this project. Blockchain circa 2017 is akin to Internet circa 1995. While innovators in the space are working out the specifics, macro trends are starting to emerge.



The arrival of blockchain technologies represents an opportunity for CMOs to demonstrate more clearly the return on marketing investment by increasing the size and scope of revenue generating opportunities and improved visibility on the effectiveness of marketing spend. It is critical to understand the implications of blockchains in terms of disintermediation, transparency, increased security, reduced costs, and smart contracts. These are the enablers for the CMO of the future.



Blockchains are not perfect but they are not going away. Much of this paper focuses on the positive transformative power of blockchains. Decentralization could make everyone economically better off, more secure, healthier, living in a cleaner environment, and more respected. Still, CMOs who have embraced previous disruptive technologies (e.g., social media, mobile) have seen enough to know that any new technology brings many challenges. Blockchains are no exception, particularly since they are a relatively immature technology with limited proof at scale. There is some time before they arrive in force, but that does not mean you should put off testing and proofs of concept. It is better to be ahead of the game.



In a blockchain world, data changes from an asset to a commodity. The larger the dataset, the better the artificial intelligence, which is why open or public blockchains should dominate in the long run. It's not who owns the data that



conveys competitive advantage; it's who uses it better by asking the best questions. Marketing technology staff will need backgrounds in artificial intelligence, and all marketers will need to understand how AI and machine learning works. Building relationships with the top data scientists in your company would be a worthwhile investment.



The arrival of blockchain technology means that CMOs will have much greater confidence in the integrity and accuracy of the data they use as the source of customer insights; obtaining perpetual access to customer data will be more difficult; stitching together behavior patterns across an ecosystem will be more challenging; expectations for frictionless experiences will increase. The C-suite will expect CMOs to use blockchain for measuring and optimizing customer experience. Marketers should begin developing a deep organizational competency of how customer experience (CX) and user experience (UX) are measured, the components which comprise the measure, and how each component connects to increased revenue, reduced costs, or reduced risks.



A brand of the future, by whatever definition we choose, will need to deliver unquestioned trust via blockchain-based proofs that are transparent for all to see—proofs, not claims. Brands will need

- › An inspiring mission that is community-first, concrete, and as bold as a “man on the moon by the end of this decade”
- › A vision backed by evidence of how the brand makes the world a different and better place
- › A plan to engage a community of people in ways that meet their emotional, psychological, and financial needs
- › Circular economies of value around customer utility and customer experience with a core respect for customer privacy.



Advertising will be the one of the first disciplines disrupted by blockchain technology. The good news is that we will have much greater trust in knowing that our advertising and outreach efforts are going exactly where we intended them to go. The bad news is that attention of others will come with a price tag. The digital marketing team should explore interfaces with protocols like Papyrus, MetaX, NYIAX, and others.



As scrutiny on the enterprise CMO intensifies, smart contracts provide an opportunity to demonstrate more clearly the value of marketing spend and compete effectively. CMOs need to understand pay for performance, pay for attention, and metering or pay-per-usage models and applications in pricing and generating new revenue streams.

The C-suite will expect CMOs to use blockchain for measuring and optimizing customer experience.

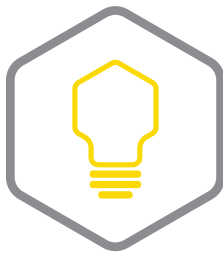




Loyalty program management should simplify and new opportunities for innovative loyalty programs will emerge. Loyalty programs of the future look like a function of maximized customer utility and innovative flexibility. Marketers will be responsible for measuring and optimizing customer engagement on blockchains—not the “likes” and “retweets” of the social media era but measures like *net promoter score* (NPS) that help us assess the emotional commitment that customers have for our brand.



The definition and make-up of a marketing organization will change from a hierarchical, command-and-control environment to one made up of networks and crowds with improved ability to assess the contribution of individuals across the ecosystem and where high-value participants are rewarded for creating valuable, brand- and reputation-enhancing experiences that attract additional community



About the author

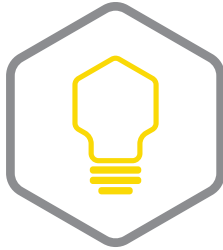
Jeremy Epstein, CEO of Never Stop Marketing, has 20 years of international marketing experience in helping to bring innovative technologies mainstream. Most recently, Jeremy was vice president of marketing at Sprinklr, which grew from a \$20 million valuation and 30 people to \$1.8 billion valuation and 1,400 people in four years. Jeremy is also a co-founder of Crypto Explorers, a leading community for passionate individuals seeking to understand the decentralized future, which hosts quarterly gatherings called “Crypto Valley Trips” in Zug, Switzerland. He is also founding director of the Blockchain Board, a brands-only peer-to-peer networking group for the world’s largest enterprises that want to understand different use cases and implications of distributed ledger technology.

Jeremy edited and published the book, *Blockchains in the Mainstream: When Will Everyone Else Know*, in collaboration with 33 of the biggest influencers and thought-leaders. He has written three books of his own: *14 Rules for Successful High-Growth Marketing*; *The CMO Primer for the Blockchain World*; and *It’s ALL on the Blog, DON’T Buy the Book*. A leading speaker and writer on the topic of blockchain-driven innovation from a marketing perspective, Jeremy is a frequent contributor to *Venture Beat*, *Bitcoin Magazine*, and *Distributed Magazine*, as well as a regular guest on the Bitcoin Podcast and Cryptoverse.

Disclosures

The author works as a virtual chief marketing officer for OpenBazaar/OB1.





About the Blockchain Research Institute

Co-founded in 2017 by Don and Alex Tapscott, the Blockchain Research Institute is a knowledge network organized to help realize the new promise of the digital economy. It builds on their yearlong investigation of distributed ledger technology, which culminated in the publication of their critically acclaimed book, *Blockchain Revolution* (Portfolio|Penguin).

Our syndicated research program, which is funded by major corporations and government agencies, aims to fill a large gap in the global understanding of blockchain technology and its strategic implications for business, government, and society.

Our global team of blockchain experts is dedicated to exploring, understanding, documenting, and informing leaders of the market opportunities and implementation challenges of this nascent technology.

Research areas include financial services, manufacturing, retail, energy and resources, technology, media, telecommunications, healthcare, and government as well as the management of organizations, the transformation of the corporation, and the regulation of innovation. We also explore blockchain's potential role in the Internet of Things, robotics and autonomous machines, artificial intelligence, and other emerging technologies.

Our findings are initially proprietary to our members and are ultimately released under a Creative Commons license to help achieve our mission. To find out more, please visit www.blockchainresearchinstitute.org.

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