

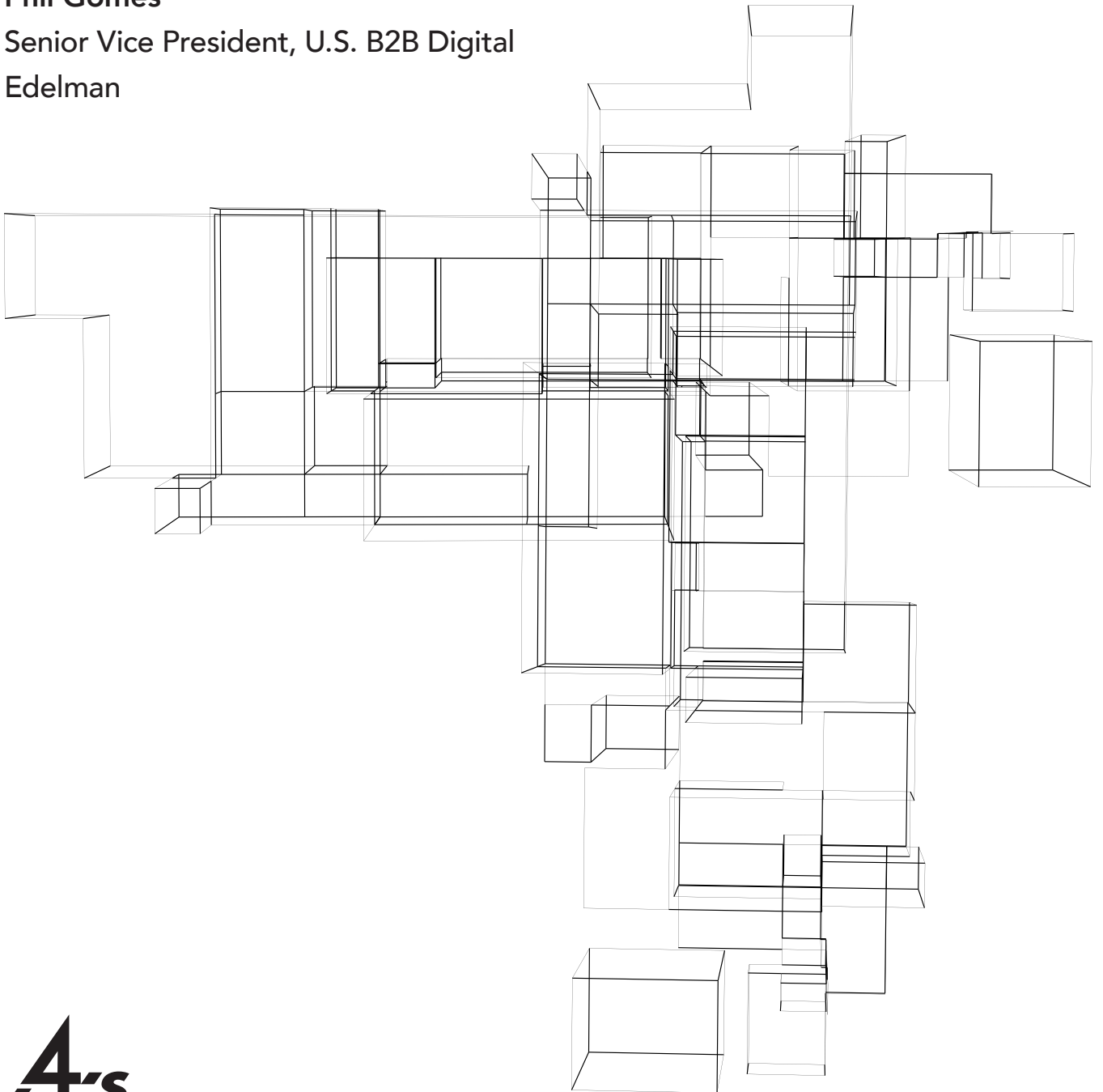
4A'S DIGITAL HORIZONS SERIES

Blockchain Technology

The Marketing Value of Digital Permanence

Phil Gomes

Senior Vice President, U.S. B2B Digital
Edelman



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Blockchain Technology

The Marketing Value of Digital Permanence

By Phil Gomes, Senior Vice President, U.S. B2B Digital, Edelman

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When you hear loud voices proclaiming that a new technology is going to radically transform industries for the better, *and* a group of equally loud people decrying that same technology as either snake oil or even irredeemably sinister, you know that you're onto something big. Perhaps even transformational. As thoughtful industry participants, this is a familiar situation. We've observed this with the advent of the internet as a consumer-accessible experience and, later, social media and Web 2.0.

We're at a similar junction today, so I will make a prediction: Whether you're in consumer marketing or corporate reputation management, blockchain technology—the innovation that supports the Bitcoin cryptocurrency protocol and so much more—will have greater impact on the communications and marketing trade within the next five to ten years than social media did from 1995 to 2005.

A bold claim, perhaps? Not at all, really, when you consider what's at stake, what's happening today, and what is yet possible.

THE CENTRAL QUESTION FOR MARKETERS

As an organization or consortium, what do you think you might accomplish with all of your stakeholders and audiences if you could create a single, shared, survivable, immutable version of digital truth?

This question is deceptively complex. Distressingly few organizations operate from a shared “digital truth,” or, as blockchain-for-banks consortium R3 puts it, “I see what you see...and I know that what I see is what you see.” For many of us, multiple versions of “digital truth” add unnecessary complexity to our lives. Even in 2017, purchasing a stock or bond requires a days-long process between the legally binding act of the trade and the settlement of accounts at the end. My hospital and my health insurance company both keep separate ledgers about the medical procedures I’ve undergone, the illnesses I’ve reported, and the treatments I’ve received. (In fact, a change of doctors within the same physical office and occupying *the very same desk* caused a cumbersome record-keeping issue.) More recently, multiple parties involved with my car—the dealer, manufacturer, and a third-party app—each had different data reflecting whether the steering assembly was required to undergo recall-related repairs. (It was.)

Then there’s the need for that shared digital truth to be “immutable”; that is, permanent and unchangeable. Our contemporary digital experience is often simultaneously and paradoxically described as both “permanent” and “ephemeral.” As such, the idea of digital permanence appears either completely understood or utterly foreign, depending on your point of view. Some will say “Hell, yes! The internet is too ephemeral as it is!” (After all, 49% of the hyperlinks referenced in U.S. Supreme Court decisions rotted off the Web as of 2013.¹) The second group, made up of anyone from “right-to-be-forgotten”-supporting, Eurozone digital-policy wonks to victims of revenge porn, see the internet as far too “permanent” already.

But all of this serves to demonstrate that much of the internet can’t really be controlled (that’s a feature, not a bug), and it really is not feasible to attempt to do so, or even *desirable* to most of us. That said, a combination of cratering trust in institutions—companies, governments, and media, most notably²—and the desire to reduce the need for trust in the first place has resulted the kind of innovation that only comes along once in a generation or so.

I’m certainly not suggesting that companies “build their own blockchain”; rather, that they explore how to participate in this potentially transformative ecosystem. Also, a blockchain doesn’t auto-magically deliver absolute truth any more than corporate blogs conjured up “transparency,” as many breathless social media pundits claimed nearly two decades ago. But even an agreed-upon, shared and immutable truth is immensely valuable to a group of stakeholders, and will gain even greater value if consumers are taught to appreciate what it provides.

FEATURES OF A BLOCKCHAIN

- **Distributed:** No one party controls the system and the data exists in multiple places.
- **Consensus-driven:** Depending on the system rules, all or most parties need to agree on the state of the data.
- **Immutable:** The data is time-stamped and highly tamper-proof once written, becoming more secure as time progresses and more “blocks” of data are cryptographically linked and added to the “chain.”
- **Survivable:** Parties can come and go without damaging the system or corrupting the data.

BLOCKCHAIN: WHAT IS IT?

A blockchain describes an ever-growing set of digital records shared, maintained, and verified by multiple participants. There are myriad species of blockchain, but this definition fits most scenarios.

Each set of digital records in a blockchain is grouped into sequentially dependent blocks. This means that attempting to alter a transaction in any one block (in order to, say, reverse or erase a transaction) would require altering all subsequent blocks, generally a computationally intensive and economically infeasible task by design, considering that a new block is added in a matter of minutes. This process makes the data more secure as time goes on and more blocks are added. Since this single set of records is continuously maintained in multiple places—that is, distributed—it is highly fault-tolerant; there’s no central party to attack, shut down, coerce, or (in many cases) subpoena. This decentralization is absolutely key to making this work; a blockchain wholly controlled by a single entity offers barely incremental benefit.

Blockchain technology owes its origin to the Bitcoin cryptocurrency. Ensuring a consensus around a digitally permanent ledger without the participation of a trusted central authority (like a bank, electronic payments provider, or a government) was necessary in order to create “digital cash.” Without one authoritative party keeping the ledger, something truly innovative had to be conceived so that someone couldn’t cut-and-paste their way into double-spending his or her digital money. This feature of blockchain technology—the ability to have a truly ownable and unique digital asset—is the vitally important feature for brands and marketers. The “digital scarcity” that blockchain technology delivers not only supports Bitcoin’s value, but provides brands a true bridge between the finite physical world and a digitally infinite one.

Much like the early days of the internet, many companies see blockchain as a wide-open technology and wish it were, well, much less open. Open blockchains, such as those that support the Bitcoin cryptocurrency and Ethereum network (which is best understood as a blockchain-based “world computer”), rely on novel methods—you may have heard of bitcoin “mining”—to make up for the lack of a trusted intermediary. On the other hand, with their exploration of closed or “permissioned” blockchains, financial institutions are falling all over themselves to embrace a technology that an anonymous individual or group invented to help render such institutions irrelevant after the crash of 2008. The hope is that, even in this digitally sterile implementation, banks can achieve benefits such as rapid settlement times and more quickly agreed-upon trade finance terms while inheriting at least some of an open blockchain’s features, such as immutability and decentralization.

dealers. Maybe it’s a reaction to the rapid-fire neologisms and acronyms that blockchain technology’s most ardent evangelists sometimes employ, which to the uninitiated must sound like a cross between an unusually passionate physics lecture and a leaked policy from the Church of Scientology.

But the marketing industry will have to embrace this technology and make it part of its toolkit. The reasons are threefold:

- The companies that the marketing industry serves are actively exploring blockchain technology for their own business needs.
- Consumers, governments, and associations will only demand more transparency and reliability from industries and the systems that serve them, things that blockchain technology uniquely provides.
- The marketing advantages of blockchain technology are a non-obvious and untapped resource and companies will want explore them early to identify potential advantages or opportunities to forge strong partnerships.

OPEN VS PERMISSIONED BLOCKCHAINS

	Open	Permissioned
Read/Write	Open read/write access	Permissioned read and/or write access
Security	Compensate for untrusted parties (e.g. bitcoin mining)	Identified and pre-approved participants
Speed	Slower	Faster
Identity	Anonymous/pseudonymous	Known identities
Asset	Native (e.g., Bitcoin, Ether)	Any asset

This chart shows, in very broad strokes, the main differences between open or public and permissioned blockchains. One can also conceive of hybrid approaches that blend aspects of each. Chart adapted from: <http://media.coindesk.com/uploads/2016/05/Slide007.jpg>

What follows describes only a handful of applications where blockchain technology is poised to deliver great impact in marketing and communications. And certainly, even within that constrained set of applications, there are hundreds of startups and projects that support them. This article is intended to provide you with a starting point for your own exploration—it is your “Genesis Block,”³ to borrow from the Bitcoin parlance.

WHAT'S HAPPENING TODAY: BLOCKCHAIN APPLICATIONS IN ACTION

When it comes to their potential impact on business and even society at large, the applications of blockchain technology are hardly science fiction. With plenty of proofs-of-concept deployed in a variety of industries and scenarios today, the evidence is mounting that this is a technology that marketing professionals need to explore today. Here are six (of many) areas of interest to our trade that blockchain technology is already transforming.

Anti-Counterfeit and Brand Protection

The old saw in the luxury products industry says that “the biggest competitor to Louis Vuitton is ‘Fake Louis Vuitton.’” Marketers obviously have a keen interest in assuring customers that they are doing everything they possibly can to ensure that they won’t be hoodwinked by knockoffs that, at least according to the Organization for Economic Co-Operation and Development (OECD), make for a \$461 billion industry.⁴ In fact, Nike—a popular example when talking to blockchain industry participants, I found—is the most knocked-off brand in the world.⁵

WHAT'S AT STAKE FOR MARKETERS?

Communicators and marketers, standing somewhere between the Wall Streeters and the techno-utopians, tend to think of blockchain technology as somewhere out in the furthest reaches of their horizons, to the degree they are aware of it at all. Perhaps it is because of the technology’s roots in Bitcoin, an association that ties it to a widespread misconception as money for particularly savvy drug

At the same time, consider that the luxury or apparel marketer has great incentive to maintain a high resale value for its items, and proof of authenticity goes a long way toward achieving this. Further, consumers risk no small amount of opprobrium in some circles if they are caught wearing fakes.

Efficiently and transparently affirming provenance and authenticity can undermine counterfeits and support price and brand value.

Enter **Chroniced**, one company that envisions an elegant combination of blockchain technology and the Internet of Things (IoT).

As the company's cofounder and Chief Product Officer Samantha Radocchia puts it, "Blockchain, in combination with secure hardware solutions, allows us to transparently and securely verify the authenticity of an item by giving trusted authenticators—like brands, verified resellers, and retailers—the ability to attest to the 'creation' of a thing."

As useful as that is, we'll see that this unlocks so many more possibilities. At the most basic level, a manufacturer would affix a unique electronic tag to its merchandise, with a cryptographic key that corresponds to a blockchain record. This key cannot be corrupted or duplicated, and a genuine item can only be tied to records from the manufacturer's address. Scanning the tag using a smartphone app and its wireless technology (such as Near Field Communications/NFC, or Bluetooth Low Energy/BLE) would present a custom page, providing additional detail and even exclusive interactive content.

On the secondary market, you would even see a chain-of-ownership since purchase, which is useful when you consider that even a genuine item could still be a stolen item. In fact, chain-of-ownership could greatly increase the value of a used item if, say, a handbag was previously owned by Beyoncé or a pair of sneakers was once enjoyed by the Seattle Seahawks' Marshawn Lynch (a Chroniced investor).⁶ What about ripping off a tag from the real item and applying it to a fake? Not only is the tag tamper-evident, but its antenna is destroyed if removed from its original item. This makes it impossible to read the tag.

With unalterable records that not only certify the authenticity of an item but contain the cryptographic signatures of those who are accountable for same, brands can provide extremely high levels of assurance to business partners and customers. They can also conceive of additional interactive experiences around the item, based on its digital chain of ownership or verified date of manufacture.

This brings us to a discussion of what could be the "killer app" for blockchain technology in marketing and communications, especially if a crisis occurs.

Supply Chain

"After securing digital identity to real-world objects," Chroniced's Radocchia told me, "the grand vision involves supply chain and logistics."

That's a good thing, too. A brand very often holds 100% responsibility for its supply chain. If your brand's electronic device is known to have a stuck-pixel screen or unreliable Bluetooth radio, no one particularly cares that it may be the fault of one of the dozens of component manufacturers that participated in that device's creation. If an ingredient provider delivers product for your brand of dog food and it informs you much later that it contains potentially toxic levels of a necessary vitamin or mineral, it's your brand—not necessarily that of the ingredient provider—that potentially has the most to lose if the products ship from your warehouse to fatal or otherwise adverse effect.

Then there are the various issues that may occur as the product moves from Point A to Point B. In other words, was the product exposed to temperatures outside of specification, causing spoilage? Did it experience damaging levels of vibration in transit? Closer to consumers and their increasing concerns about social responsibility, how can one offer a digitally assured record that the product was sourced organically or that the laborers worked in safe conditions?

Presenting a permanent record of a product's trip through a supply chain can inspire higher confidence with business partners and consumers

To that last point, consumers are demanding to know a lot more about the products that they buy, and increasing numbers of them seek sustainable options. Any extra assurance and data that support these consumer requirements could go a long way toward cementing brand loyalty, especially if multiple interested parties can attest to the product's socially responsible qualities.

"Due to the lack of trust between business partners in supply chains, actors tend to store data in closed silos with limited interoperability," said Jessi Baker, founder of blockchain startup **Provenance**. "This reduces both the confidence in the data gathered, and the possibility to both aggregate and present it. In contrast, blockchains act as single sources of truth between organizations, rather than within them."

Baker was inspired to found Provenance when she became frustrated by how little consumers knew about the products they buy. This ultimately resulted in a complete vision for how blockchain technology could be explored as a storytelling platform (more later) and, more specifically, how it can be used to inspire greater amounts of faith in the socially responsible claims that brands make.

Most notably, two of Provenance's projects involve the fishing industry. In a pilot aimed at reducing slavery and over-fishing in the Indonesian tuna fishing industry, the startup asked "What if we could share the same truth between all stakeholders—fishermen, factories, certifiers and consumers—without giving any of them a backdoor to the system?" The project not only demonstrated how blockchain technology could answer those requirements but, in some cases, also helped allied fisheries leapfrog pen-and-paper recordkeeping to deploy a digital process (Figure 1). In another pilot, Provenance worked with the Newlyn Fish Company to record the supply chain story for haddock, including the catch, transfer, smoking, packaging, transportation, delivery and sale of the fish. It has even participated in helping to tell the social responsibility story of garments, partnering with designer Martine Jarlgaard.

What results is a digitally permanent audit trail. At each step in the process, participants can provide a permanent attestation that would be indelibly written to the blockchain, reviewable by potentially any stakeholder. There are even great possibilities for so-called "smart contracts"—essentially business logic executed on a blockchain—whereby payment is held in escrow and transmitted when certain terms are met or business events occur (e.g., "When at least two out of three parties attest to receiving product at the dock, transmit 10% of the promised funds.")⁷

Though all of this delivers undeniable operational efficiencies, the potential for marketers and communicators is vast, from assuring customers of the socially responsible characteristics of a product to providing highly granular levels of certainty as to whether a product is subject to recall.

Now, of course, even if an attestation is recorded to a blockchain, it doesn't necessarily make it true. After all, as your high school computer teacher taught you, "garbage in, garbage out." To address this, multiple cryptographic signatures could be required in order to ensure the absolute minimum possibility of collusion. How many signatures? That probably varies on a case-by-case basis and no company is willing to suggest a magic number. It might be two or three parties' signatures for a paper product, more for a food item, and perhaps a lot more for medicine. Those attesting parties could include the company, the buyer, an NGO, local authorities, an auditor, and so on.

There is one supply chain, however, that is colossally Byzantine and whose participants have only recently demonstrated any incentive to streamline their processes. Much like our discussion of the financial industry earlier in this article, the delta between the purchase of the product and the settlement of accounts is almost unforgivably wide in these modern times. The complexity, of course, invites inefficiency and even fraud, which damage not just companies but entire industries. And, it must be said, the complexity also primarily exists to feed a lot of mouths. After all, as Upton Sinclair famously observed, "It is difficult to get a man to understand something when his salary depends upon his not understanding it."

I'm talking about...you guessed it...advertising.

Advertising

Last year, U.K. media company **The Guardian** decided to purchase its own digital ad inventory and made a surprising discovery: It was

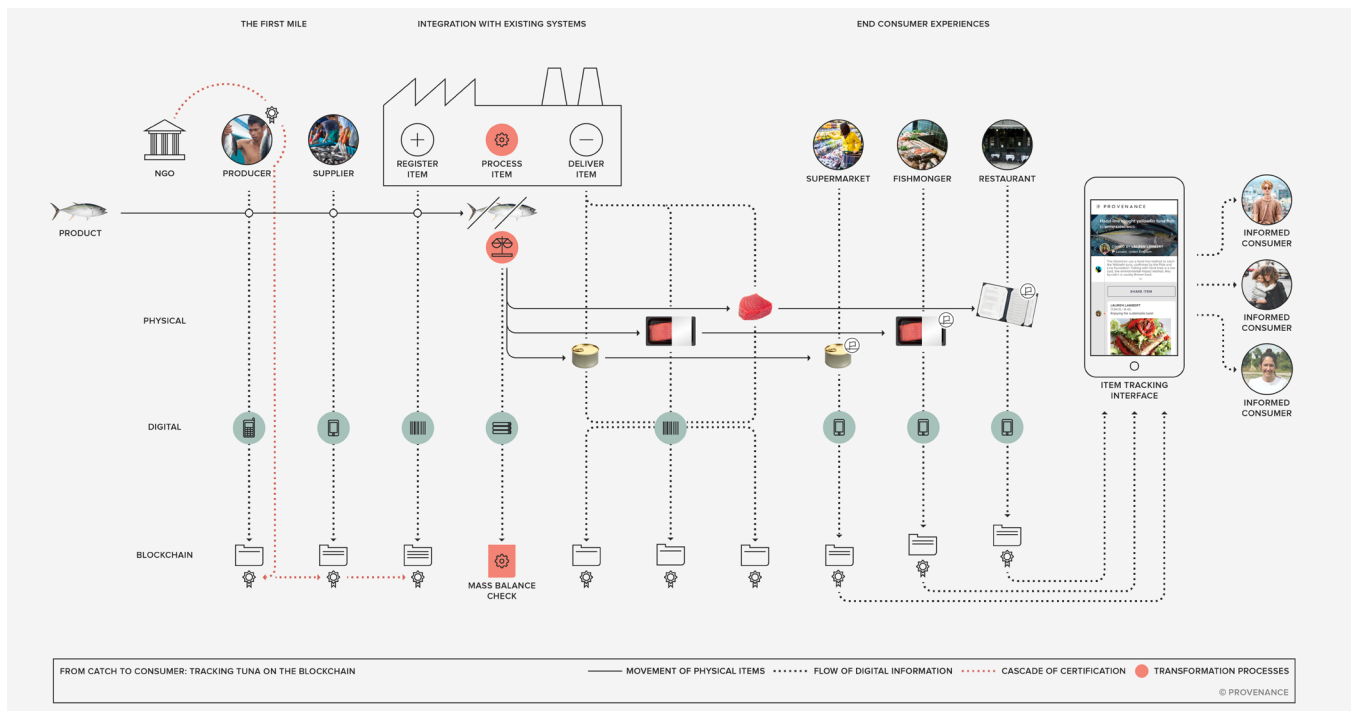


Figure 1: This chart shows how Provenance uses blockchain technology to not only permanently record certifications of supply chain data for tuna (up through sale), but also those of the participating NGOs tasked with ensuring the catch is slavery-free. (Source: Provenance)

getting as little as 30p for every pound it put in.⁸ Like the financial industry that blockchain technology stands to most immediately disrupt, the ad industry comprises a vast coterie of third-party clearinghouses and middlemen that sit between the agencies, advertisers, media companies, and audiences. At no point does the process resemble anything approaching a “team sport.” As a result, adversarial relationships abound and publishers and advertisers suffer. While there have been great strides in ad tech from the perspective of the buying and targeting experience, those advances still touch off processes on the back end that are vastly inefficient.

“Ad tech has some of the smartest tech,” concedes Konstantin Richter, CEO of **BlockDaemon** and cofounder of the AdLedger blockchain standards consortium. “It’s very sophisticated, but also very siloed. [Cloud technology] has changed the ad tech game in theory, but there are still twenty different integrations between agencies and publishers. In the convoluted ad-tech stack, people who demand the transparency don’t have the leverage to enforce it.” Fortunately, blockchain technology offers trust and transparency at its very core—thus its appeal.

“Today, a lot of middlemen [in the advertising ecosystem] aren’t necessarily blocking trust, but they serve as proxies for that trust,” said Richard Bush, chief product and technology officer of the **New York Interactive Advertising Exchange (NYIAX)**, co-developed with NASDAQ. “The path for us is to create an exchange and transition to a model with the middlemen are less relied upon.” Thus, even though it’s a relatively new technology, NYIAX chose to explore blockchain technology early on.

The NASDAQ, of course, knows a thing or two about transferring assets and is applying that experience to advertising. NYIAX seeks to bring the time- and regulation-tested discipline of a financial exchange to digital advertising contracts. “The industry has done an OK job of self-regulating, but the financial markets are very well-regulated,” Bush said. “And I think we want to stay self-regulated. But the financial markets have benefited from that external regulation in terms of setting up rigorous systems.”

“Blockchains definitely open the way for self-regulating schemes to the extent that they require stakeholders to agree on defined rules that are then self-enforced,” agrees Provenance’s founder Jessi Baker. “We envision them as a powerful tool for cooperation in achieving common goals, thanks to well-designed incentives and governance schemes. These systems are opt-in and can thus be complementary to existing regulation mechanisms.”

Adam Helfgott, CEO of blockchain application company **MadHive**, has placed the majority of his company’s efforts on the buying of TV advertising. This is because 1) the money is there, and 2) the approach stands to deliver increasing benefit as more TV-watching moves from set-top boxes (where ads are still largely reliant on 20th-century demographic mechanisms) to more data-rich, “Over-The-Top” (OTT) internet devices like Roku.

Just as blockchain technology has inspired related industry consortia from real estate to insurance, MadHive’s Helfgott sees much

of the same taking place in marketing, such as with the AdLedger consortium that he co-chairs with BlockDaemon’s Richter. This vision offers new and previously unthinkable possibilities once a shared, transparent, audit-ready framework for transactions has been agreed to.

Taking MadHive’s focus on TV/OTT as an example, blockchain technology can give traditional advertisers the kind of scale and architectural efficiencies that are enjoyed by the likes of digital giants like Facebook and Amazon. Fox and ABC might be fierce competitors but could find it in their hearts to partner on advertising efforts to their mutual economic advantage if it could be demonstrated that 20% of their audiences across two shows overlapped. Thanks to blockchain technology, this can be accomplished without sacrificing competitive advantage—it merely makes useful certain information that both parties would leverage if they already knew it.

Blockchain technology offers a potential win-win for advertisers, publishers, and audiences.

On a deeply practical level, working from a single, shared, trusted ledger would also greatly assist in the clean-up and de-duplication of audience data, a labor-intensive task that Helfgott estimates costs well into the tens of millions of dollars annually. He likens it to his experience of running a website for \$40,000 per month, only to have cloud solutions like Amazon S3 reduce that cost to the three-figure range.

For all that, Helfgott doesn’t envision that much of a change on the buy or sell side, but rather a rapid acceleration of the supply chain in between. “Equities turned over 120 times in a year before [the introduction of] the Bloomberg terminal,” Helfgott points out, “and more than 600 times afterward.” In fact, when you look at the marketing for a number of companies that are exploring this space, such as **MetaX** (currently focused on digital display advertising) or the NYIAX, the promise of seamless integration with existing systems is placed front and center.

“No one using blockchain technology today is taking ad dollars from brands” as of this writing, says Helfgott. “People are still trying to figure out what the ‘Netscape’ of this industry is.” Richter adds that “large ad companies have FOMO [fear of missing out], but maybe blockchain is too ‘hacker-y’ for them right now.”

And, with potentially far fewer parties between the advertiser and its audience, the latter stands to exert more control of how his or her identity is marketed to. This value proposition drives the concept of a “Basic Attention Token” (“BAT”) for digital advertising, as conceived by JavaScript creator and Mozilla cofounder Brendan Eich. In this concept, the ad-blocking **Brave** browser anonymously conveys the audience’s actual attention to content and ads, and the advertisers pay the publisher and user in

BATs. Audience members can use their BATs to purchase premium content or, if they so choose, donate it to the publisher. In turn, publishers might reward audience members for their activities on the former's sites. (Figure 2)

What results is an advertising scenario where the user has a great degree of control, able to dial up or dial down his or her relationship with advertisers. This trend is reflected in ideas like **uPort** that support "self-sovereign identity." Giving the users complete control over their identity information, such identity systems allow them to determine what parties they trust and what information gets shared with which parties on a purely need-to-know basis.

In other words, instead of identity information being held within a social network and often shared via whatever terms that network sees fit, the identity is held by the individual (say, as a wallet on their smartphone) with their private cryptographic keys linked to the collected third-party attestations of that person's attributes on the blockchain. So, if a site demands that its users be 18 or older and a user possesses a credible attestation for same, that user need only reveal that she is 18, rather than reveal her birthday. Or maybe a site demands that a user ID carry attestations that can vouch for the user's expertise (a doctorate in the discipline discussed online) or even history of civil behavior on a forum.

Such identity frameworks could even have great impact on influencer marketing. "In my mind, influencer marketing can go gangbusters, since you can harden that ecosystem and have better transparency and accountability," said Matthew Roszak, cofounder

of enterprise blockchain company **Bloq** and founding partner of Tally Capital. "If any system offers more clarity and trust, I'm actually going to spend more, especially if I get certain metrics and more accountability of marketing funds." Using blockchain technology, it's not only possible to provide a series of attestations or "badges" from authoritative sources that certify an influencer's credibility, but to track the effectiveness of influencer programs.

Rozsak also predicts an explosion of what he calls "tribal coins" tied to affinity groups, which would serve to modernize that great mainstay of marketing tactics, loyalty programs.

Loyalty Programs

In consumer marketing, one of the fundamental tactics deployed to help ensure repeat business is the concept of a loyalty program. Whether it's a punched card at your local café or the mileage points you accrue on a credit card, the basic value proposition is essentially the same—keep giving a company and its partners your business and the customer will be rewarded.

But, for all that, loyalty programs have remained relatively unchanged for decades and suffer from bugs and inefficiencies that marketers have simply grown to accept. For one thing, customers tend to hoard rather than spend points.⁹ In many cases, those credits are neglected to the point of expiration or the redemption rules attached to those credits are too cumbersome. Sometimes the remaining options for redemption simply aren't

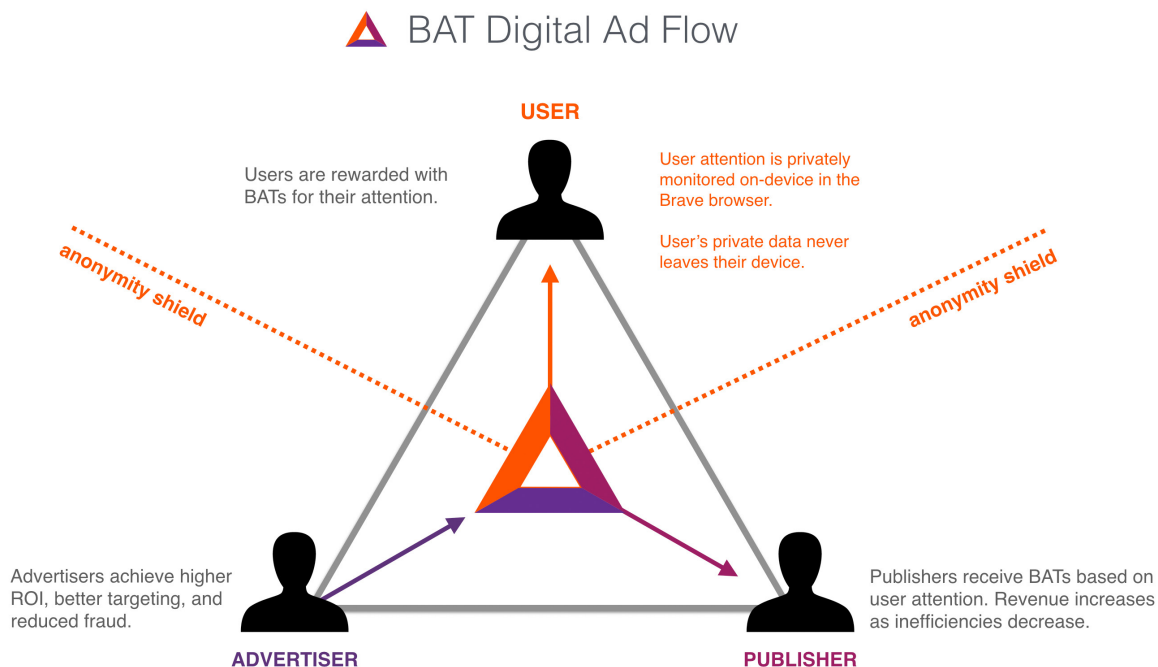


Figure 2: In the vision for the Basic Attention Token, audiences and publishers are rewarded for precisely the amount of attention an ad receives. This process strips identifying data, leaving only what is absolutely necessary in this interaction. These tokens can be traded in this ecosystem in innovative ways: The audience can reward the publisher, and the publisher may choose to deliver additional rewards to the audience. In return, advertisers can offer better targeting and accountability. (Source: Basic Attention Token)

compelling enough for the consumer. According to a 2015 study by Colloquy, one-third of the tens of billions of dollars worth of loyalty points in the U.S. alone go unredeemed, with one out of every five program members never redeeming their points.¹⁰ More recently, customer retention services company **Sweet Tooth Rewards** placed the average redemption rate for 10,000 of their customers at 13.47%.¹¹ For a business, those unredeemed points might show up as liabilities on a company's balance sheet while, at the same time, offering non-expiring points has become increasingly common as an enticement for consumers.

Program inefficiency means that billions of loyalty points go unredeemed and valuable customer insights are lost. Blockchain technology proposes a better way.

But, most critically, those points could convey an awful lot of actionable data on a customer, but they simply don't. Says Sean Dennis, cofounder and Chief Happiness Officer at **Loyyal**, "10,000 points in your wallet is not the same as 10,000 points in mine." This is because, much like the supply chain discussion earlier, there are no truly reliable mechanisms for tracing the provenance of those points. How the points were earned and the terms attached to them greatly impact the real, largely unrealized value of those points, both to the businesses and the consumers.

Loyyal envisions using blockchain technology as an interoperability layer for loyalty programs and, in fact, the company refers to itself as creators of "an Internet of Loyalty." This promises to unite fractured loyalty programs, enable new redemption options (reducing liabilities), and make multibranded loyalty partnerships easier to maintain and derive value from. For the consumer, it also means that multiple loyalty programs can be managed from a single wallet.

The grandness of Loyyal's vision is represented most dramatically by its highest profile project, Dubai—no, not a hotel chain or a restaurant group within the emirate, but indeed the entire Emirate itself. Bold and glitzy, forever the brash nephew to its neighboring, more rigid uncle, Abu Dhabi, Dubai has gone "all in" on blockchain technology for government services in a broad push that includes securing all government documents by 2020.¹²

Gaming/VR

Imagine that you bought or earned a Pizza Cutter of Wounding in a massively multiplayer online role-playing game. It's easy to think that this is a virtual asset that you own. After all, you log into the game and there it is in your character's inventory. But let's further imagine that this virtual world goes out of business and can no longer keep its servers running. You discover very quickly that you never really owned that vorpel kitchen implement in the first place.

Alex Amsel is a cofounder of **Ownage**, a startup that is exploring the use of blockchain technology to establish an ownership layer for online gaming and virtual worlds. He refers to this as "cryptoproperty."¹³

"In the conventional world, we place all our trust in data silos, be they Valve, Microsoft, Apple or someone else," he says. "Each of those silos is under monopolistic control, where rules can change without notice and where sharing is entirely at its discretion."

Amsel imagines a world where content creators and brands can offer cross-platform assets, which are just as valuable as their real-world counterparts by virtue of the digital scarcity that blockchain technology delivers. "By having a standard protocol it becomes far easier for, say, Nike to offer digital merchandise that functions across VR worlds and sports games. Indeed, by designing for scarcity they could make the digital merchandise more valuable."

This digital scarcity can also mean you can receive fully ownable digital goods when purchasing real-world items. "For example, if I own a Ferrari then not only do I maybe get the Ferrari in three virtual worlds but I also get exclusive Ferrari gear, priority Formula One tickets, and so on. Ticketing sites, music sites, games, and so on can all use standard software to verify ownership. So, what you own in the digital world may bring real world benefits, and vice versa."

What if gamers could really "own" their digital goods? The cross-platform possibilities are exciting.

Beyond the Void is another company that is actively exploring the use of blockchain technology to make its digital world behave more like the real one from an ownership perspective. As CEO Eric Burgel told VentureBeat's Ben Dickson, "Trust is no longer an issue because the blockchain system is decentralized; digital goods aren't stored on private servers but on the blockchain directly, for everyone to see. If you own a blockchain asset, nobody can take it away from you, and you have total control over it."¹⁴

Additional applications in this area include true secondary markets for virtual goods, as well as proof-of-provenance, for when it's important to know that virtual object's chain of title. Your Pizza Cutter of Wounding may be worth X, but could be worth a bit more if you could prove it was previously wielded by Vin Diesel... or killed one of his online characters!

Here are some initial steps that will help ensure success in your early blockchain explorations.

Remember the Big Question. We started this exploration by asking the question “What do you think you, as an organization or consortium, can accomplish with all of your stakeholders and audiences if you had a single, shared, survivable, immutable version of digital truth?” This provides the basis for people who aren’t as familiar with blockchain concepts to explore what it could mean for marketing and communications. It also forces you to start with the problem first, rather than fall in love with the solution.

Ask whether your goal absolutely cannot be attained by more conventional means. In talking with blockchain companies, most tell me that their first screening question when handling business inquiries is whether the prospect’s issue absolutely requires blockchain technology to fix. If you approach blockchain technology without a recognition of its dramatic potential to change the way business, government, and society is conducted, you’ll be sure to fail.

Have the courage to start small. This approach very often doesn’t excite boardrooms or prospects, but a first attempt at incorporating blockchain technology should be protected from “the tyranny of The Big Idea.” Incremental steps in incorporating and utilizing this technology will pay great dividends later and insulate you from the potentially high cost of error.

Fully understand the regulatory environment. The global regulatory attitude toward blockchain technology is literally all over the map and it is the tendency of a regulatory body to work in very broad strokes. If you work in a regulated industry, chances are good that rules are being shaped now or have already been produced. If you don’t work in such an industry, note that governmental bodies have a very high interest in this technology and are known to use emerging technology as a rationale for enlarging their footprint.

Be the standards you want to see. Interest in blockchain technology from multiple industries has resulted in an explosion of consortia. This means that marketers have the brief opportunity to help shape standards—technical, practical, ethical, operational—rather than simply accept what emerges. Marketers typically don’t operate at this level, but they ought to.

Explore how to brand blockchain technology’s value to the consumer. When it comes time for the consumer to, say, scan a tag and investigate the provenance of an item, they won’t necessarily know how to value that output versus more traditional means. There is, therefore, an opportunity to brand a seal of approval that attests to the security that blockchain technology provides. At that point, the user need not know what blockchains are, any more than most can describe TCP/IP, relational databases, or any other technology that they use every day.

Given all of these compelling examples, I hope that I have delivered on my promise at the beginning of the article—to show that blockchain technology represents a generational, transformative event for our industry that is at least as powerful as social media was, if not more so.

At the most fundamental level, what many people see as a financial technology, marketers and communicators might approach as a storytelling technology. We’ve seen some glimpses of this so far, such as Provenance’s work related to the social-responsibility narrative of tuna and garments, or Chronicled’s early focus on anti-counterfeit. However, in a world of fake news and Web rot, the need for open and secure storytelling platforms has never been greater and will only become more vital over time.

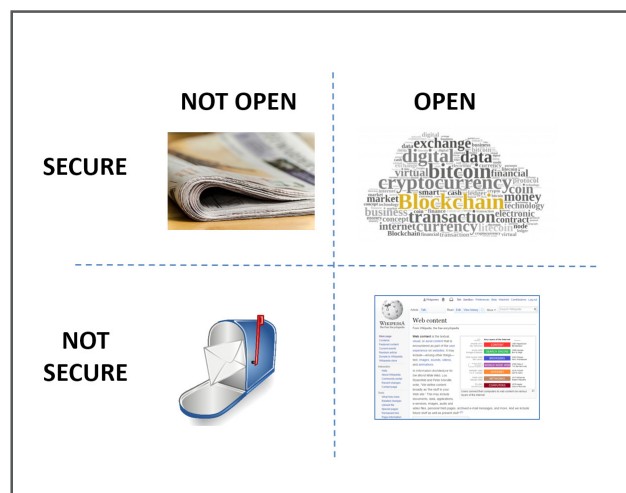


Figure 3

Up to now, you could have an open storytelling platform or a secure one, but you couldn’t really have both. Traditional media was “secured,” not only by the reputation of the brands that published them (“All the News That’s Fit to Print”) but also by the relatively immutable, “can’t unring a bell” nature of the medium—that is, newsprint and airwaves. Storytelling wasn’t all that “open” because printing presses and transmitters were expensive, to say nothing of access to distribution networks. Several decades later, with the rise of the Web (and, specifically, a user-writable Web), you have a storytelling platform that was “open” but not quite “secure,” as any company who has wrestled with the Wikipedia community might attest. (Figure 3)

With blockchain technology, we now have means by which we can conceive of storytelling—about products, companies, or virtually anything—that could be both open and secure. Indeed, with a little imagination, we can explore the concept of secure narratives, based on consensus rules and made permanent through this exciting technology.

Other Blockchain Applications

While perhaps orthogonal to the marketing-related topics discussed here, these projects and companies are worth exploring.

Government Services: In addition to Dubai's drive to implement blockchain technology, there is a global drive to explore how government services might be improved. Chicago is exploring the use of blockchain technology for securing land titles. Arizona has passed a law formalizing the enforceability of blockchain-based contracts and data. Projects like **Bitnation** seek to replace governments entirely, letting you essentially roll your own virtual nation.

Cloud Storage: Storing your photos and documents in the cloud gives you the peace of mind that very smart people with lots of very big machines are working hard to make sure your data is available and survivable. The main problem, however, is that your files are still findable and discoverable by the hosting service. Ideas like **Filecoin**, **Sia**, and **Storj** have different approaches for solving this issue by using cryptotokens to build a market for the vast amount of unused data storage capacity on the internet, delivering a truly distributed storage network.

Social Networking: Blockchain technology makes micropayments more practical, so imagine that an "upvote" on a post (like Reddit) costs you a few pennies or even a fraction thereof, with the author receiving a share. Further, imagine a publishing platform like Medium, with the first two paragraphs of an article delivered for free and the balance made available for a small amount. Such a network would be user-funded, rather than ad-funded and, arguably, you would achieve higher-quality interaction. This is the idea behind the **Yours** network, founded by former Reddit employee and all-but-dissertation physics Ph.D. candidate Ryan X. Charles. He envisions micropayments as a way to reward content creators and curators on social networks, as well as a means to unlock premium content.

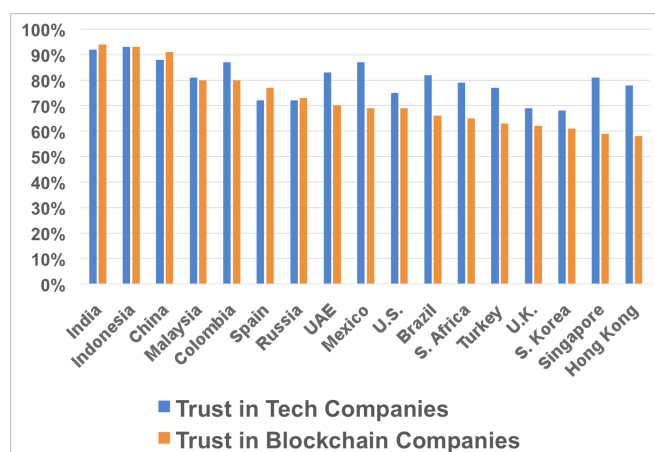
Prediction Markets: Poll people about who they think will win an election, and their political persuasion may skew their answers. Ask them to put even a small wager on that election, and you may get a very different answer. (When betting on a game in one of the most vicious rivalries in baseball, a friend once quipped "My heart is with the Giants, but my money is with the Dodgers.") Prediction markets like **Augur** seek to do this with cryptocurrency, where a share price of an outcome is also the consensus-driven prediction of the marketplace. A share in the event is worth \$1. If the probability of the Dodgers winning is 0.67, then a share of that outcome goes for \$0.67. If the Giants win, people who bet the \$0.67/share lose their money. If the Dodgers win, people who predicted that outcome pocket the additional \$0.33. While this could be technically gambling, Augur is an open source project rather than a company, (code is speech), and, thanks to its blockchain foundation, highly distributed. Thus, it would be difficult to regulate, shifting that burden to local users and myriad jurisdictions.

To Explore Further

- *Blockchain Revolution* by Don and Alex Tapscott. Hand-waving through a conversation about blockchain by saying "Oh, yeah, I've read *Blockchain Revolution*" is to 2017 what "Oh, yeah, I've read *Groundswell*" was to social media in 2008 or "Oh, yeah, I've read *Crossing the Chasm*" was to technology marketing in the 1990s. In other words, just read it.
- *Blockchain: A Blueprint for a New Economy* by Melanie Swan. I read about this text in a Reason magazine book review and it was one of my early introductions to the broader implications blockchain technology beyond cryptocurrency. It was a good primer for me, so it will probably work out for you as well.
- *The Internet of Money* by Andreas Antonopoulos. I argue that it is tough to understand the true power of blockchain technology without fully understanding the related concepts around upending finance and even money itself. Andreas Antonopoulos is a world-class explainer and evangelist for Bitcoin and blockchain technology. His popular YouTube channel (aantonop) is a must-visit, elegantly answering nearly any question you could have.
- *The Use of Knowledge in Society* by F.A. Hayek. Published in 1945, this Austrian economist articulated the then-heretical notion that the necessary information for coordinating economic activity didn't lie within a central authority, but existed as dispersed bits of data across that system's participants. This not only describes what we now know of the internet, but highlights the dispersed, hierarchy-averse, peer-to-peer nature of blockchain technology itself.
- Enthusiast news sites. CoinDesk, CoinTelegraph, Crypto Insider, Bitcoin Magazine, Distributed, and similar outlets are absolutely essential reading for up-to-date information on this topic. Despite some of their names, they cover broader applications of blockchain technology rather than just cryptocurrencies like bitcoin.
- Your local Bitcoin, Ethereum or blockchain meetup. There is absolutely no substitute for (or excuse for not!) meeting the blockchain enthusiasts in your area. Such meetups include technologists, engineers, currency traders, or people from industries that blockchain technology is likely to disrupt. Many just want to find out what all of the excitement is about. In my experience, these meetups are always friendly and welcoming.

Who Trusts the Blockchain?

For the last 17 years, Edelman (my employer) has asked members of the informed public in multiple countries about their degree of trust in a number of high-interest sectors as well as institutions such as government, business, media, and non-governmental organizations (NGOs). The result is the annual Trust Barometer, which the firm presents at the beginning of every year at the World Economic Forum in Davos, Switzerland. For 2017, Edelman asked the informed public in several countries about their trust in blockchain companies “to do what’s right.” The result is in this chart below, comparing that confidence against the degree to which the respondents trust technology companies in general.



The informed public in the top four countries—all Asia-Pacific manufacturing powerhouses—appear to trust blockchain companies to a degree nearly equal to or slightly greater than technology companies in general. Three out of the top four are components of the MITI-V (“Mighty Five”) from 2016’s Deloitte Manufacturing Competitiveness index: India at #1, Indonesia at #2 and Malaysia at #4. The MITI-V are countries that Deloitte has identified as standing to gain when China (#3) starts to focus on higher-value manufacturing segments. (The Trust Barometer currently does not poll the remaining two MITI-V countries, Thailand and Vietnam.)

In short, it can’t be a coincidence that these established and emerging manufacturing centers place trust in any company producing a technology that will allow global business partners to trust them, or perhaps obviate the need for trust altogether.

On the other hand, major financial centers in the region still have a way to go, as observed in the dramatic trust gaps between blockchain companies and the general technology category in Hong Kong and Singapore.

- Garber, Megan, “49% of the Links Cited in Supreme Court Decisions Are Broken,” *The Atlantic*, Sept. 23, 2013
- Edelman 2017 Trust Barometer. According to this annual study, “The general population’s trust in all four key institutions — business, government, NGOs, and media — has declined broadly, a phenomenon not reported since Edelman began tracking trust among this segment in 2012.”
- The first block of a blockchain. For the truly curious, you can find Bitcoin’s Genesis Block at <https://blockchain.info/block/00000000019d6689c085ae165831e934ff763ae46a2a6c172b3f1b60a8ce26f>
- OECD Press Release, “Global trade in fake goods worth nearly half a trillion dollars a year - OECD & EUIPO,” April 18, 2016
- Ball, Helena, “What Is the Most Counterfeited Item in the World? The Answer Will Surprise You,” *Inc.*, April 20, 2016
- At this point, this author entertained himself with the idea of what Rick Harrison of *Pawn Stars* would say if a customer walked in and told him, “No, really. Look here on my iPhone. Here’s proof that this guitar was owned by Eddie Van Halen.”
- Sergei Nazarov, cofounder of SmartContract.Com, imagines a new type of SEO contract, where money isn’t transferred to the SEO consultant until a bot scrapes Google and verifies the promised results. Smart contracts also have great potential impact on royalties management (e.g., “When my song spins on Spotify, receive \$0.01 and transfer \$0.0005 to me, \$0.00015 to the drummer, \$0.00015 to the bassist, \$0.00015 to the guitarist...”).
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Phil Gomes is a senior vice president of U.S. B2B Digital at Edelman. He has more than 20 years of experience in promoting and integrating new and emerging technologies, working in Silicon Valley, Los Angeles, and Chicago, where he currently resides. He is a founding fellow and advisory board member for The Conference Board's Society for New Communications Research and the director of communications for the Chicago Blockchain Center, a public/private partnership.

Phil has been exploring blockchain technology since 2014, open source software since 1994, and keeps a clandestine Linux machine under his desk at work, because reasons.

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