

What is so important about blockchain?

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David: This is a podcast in our series on the business and legal issues in Financial Technology, or FinTech. Today the leaders of the firm's Financial Technologies task force are here to talk about the concept of blockchain. Throughout this podcast I want to discuss what blockchain actually is, when was it created, and why blockchain is so important for cryptocurrencies, like Bitcoin, Ethereum, and other cryptocurrencies. Today we're joined by two people who are, without a doubt, the most experienced blockchain and cryptocurrency lawyers I've ever met: Justin Wales and Matthew Kohen. Matt, Justin, and I, as I mentioned earlier, work on the firm's FinTech Task Force. Matt and Justin

both have an impressive understanding of these potentially transformational technologies. I thought it would be great to talk to the two of them about the work that they are doing in this emerging area of the law and what it means for the future of FinTech. So, welcome. **Justin:** Hi. **Matthew:** Hi, thank you. Happy to be here. **David:** Matt and Justin, let's take a moment and tell us a little bit about your experience in the blockchain and cryptocurrency space. Matt, let's start with you. **Matthew:** Great. I've been interested, according to some (obsessed, according to others), with blockchain technology and cryptocurrency for quite some time. I was an early bitcoin adopter out of nothing more than curiosity, have followed the developments of this technology, I've seen the way that it's grown, and in some cases contracted. I've enjoyed watching the various controversies for better or for worse and how they've played out, and I think that the promise of blockchain technology and cryptocurrency is a more open and inclusive society. I think it offers very interesting use cases for businesses so it's been a passion of mine for some time. I've had the good fortune of working with people like David and Justin on a lot of interesting projects on the legal end and I hope to continue doing so. **Justin:** I became interested in bitcoin and some other blockchain technologies through my work with civic activists and civic hackers, through Code for America and Code for Miami, that led me to a deep dive within the blockchain community. I spent a lot of my day explaining to people within the blockchain community some of the legal aspects that they need to know in order to operate their businesses legally, and a lot of time with people outside of the blockchain community explaining to them how this technology may disrupt their business. **David:** As we've discussed, Matt, since the cryptocurrencies run on a blockchain technology, and the blockchain is really foundational for anyone in this area, why don't you tell us exactly what a blockchain is, when it was created, and how it is used in cryptocurrencies. **Matthew:** Sure. As opposed to trying to identify or pin down an exact definition of blockchain, I'm not sure that the industry has really reached a consensus on that point, to make a poor play on words. I think it's important to identify some of the key features, which often helps develop an understanding of what the promise of this tech is and how it might affect things today and might affect things going into the future. So, many folks think of a blockchain as a distributed ledger of sorts, a distributed database. It has two key qualities that, in my mind, I think make it interesting and potentially transformative. The first being its secure nature. At least, if we're using bitcoin as an example, the security of the blockchain is that it's backed, not by trust of one central thing or one person or one authority, but it's backed by the trust in mathematics, in public/private key cryptography. And what this allows you to verify that things are what people represent them to be. For example, the double spend problem is one of the easiest examples of this. I want to send somebody one bitcoin through the power of math, the blockchain, and the protocol can insure that I actually have one bitcoin to spend. So, the security aspect is very interesting. So, building off that there's also this reliability that comes with a blockchain because of the fact that it's distributive, in a lot of ways, a peer to peer network, there's no one central point of failure. This allows for a lot of very interesting applications that we'll get into later, but most critically, I think, when you combine the two, you have this recipe that allows you to eliminate the need to trust. And, to me, that's what I find to be one of the most interesting parts of blockchain technology, particularly as it's been applied to cryptocurrency, in that there's no need in a lot of instances for a central authority. If

you want to use a blockchain-based cryptocurrency to transact monetarily, we don't need to trust a bank or a regulator to insure that the money supply is accurate or has integrity. To the extent you want to look at more advanced applications like smart contracts and escrow arrangements, you don't necessarily need to trust a third-party fiduciary as we do in a lot of instances today. And this trustlessness that the blockchain gives us really all comes from the fact that it's backed not by any authority or one single thing, but it's decentralized – and through the power of very complex mathematics and some really artful computer code, we're able to enjoy a system that, in some respects, is a little bit more open and accessible than some of the institutions that we have today.

David: So, those of us that operate in the FinTech area have been particularly focused on some of the ransomware attacks that happened as recently as yesterday, the day prior to recording this podcast.

But, my question and the question that clients always ask in the FinTech area in particular is... “So why should I care? Why is this an important emerging technology?”

Matthew: It's an important emerging technology because of its potential application. We're still very much in the infancy of both blockchain and its current application, if you will, which is cryptocurrency, but things have really expanded in quite a short time from simply transferring value or storing value to doing things like administering trustless smart contracts. So the reason that we need to care and we need to pay attention is because the blockchain could, and some people think it will, change things just like the internet changed things. It can offer a lot of folks who don't have access to traditional banking infrastructure the ability to bank. It can offer people who don't have access to other means of participating in society, to participate. And we've seen things like the United Nations run a blockchain pilot, which I believe was geared toward identity for those societies that don't have a really easy way of identifying their people and administering things in that regard. So, blockchain, it's untested, it's unproven, it's still very much new, but many folks, including myself, think there are some very exciting applications, particularly in the sense that we can eliminate some of the old friction and pain points that we have in today's current society, today's current business marketplace. And it would be unbelievable to me if we don't find that many of today's largest industries are disrupted or at least profoundly affected by the continued advancement of blockchain technology.

Justin: And you're starting to see, certainly, big industries and major players put a significant amount of money into exploring how they could utilize blockchain technologies themselves. One of the things that's so interesting about being a part of this new technology is that the applications of the blockchain are still being worked out in people's houses and garages. It's unclear what the ramifications will be five or 10 years from now. I like to think of it like, someone invented rebar, and now we're waiting to see what kind of structures they're going to build. The applications that exist right now are pretty rudimentary compared to what I think we're headed for in the next five to 10 years. It's like the internet in 1994.

David: That's a great analogy. So, of course, all of us, being various types of financial and/or regulatory lawyers, who regulates all this? Who regulates all of these currencies if they're outside of banks and governments? Or are they?

Matthew: That's a great question, and that's one that not only the legal community has been struggling with, but also governments and folks who operate in the marketplace. It's again an open question and there's no one easy answer. But there's a handful of, I'll call them guideposts, that folks who are interested in this technology, or interested in

getting into business or cooperating with businesses who adopt this technology, should be aware of. And the first guidepost is to identify what exactly is being done with the blockchain or with cryptocurrency. In the United States, we've got a whole host of different regulatory bodies and laws and rules and regulations that one might have to comply with. So, for example, if you are a team behind the development of a cryptocurrency, you have a much different set of regulatory concerns than someone like a service provider such as an exchange, right? But at the highest level, the federal government, the Commodities Futures Trading Commission (CFTC), has issued some guidance indicating that bitcoin and probably other cryptocurrencies are a commodity. And it's regulated as such. So, to the extent you or your business are going to be touching this stuff, you should be aware of the most recent guidance. The IRS, too, has said it's treated as property, as opposed to something more akin to a currency. Bitcoin is taxed a little bit more similarly to gold, right? So, in some cases you've got the U.S. federal government with these differing approaches to how the technology, and in this case, the cryptocurrency, is treated. Now, for example, recently we've seen a lot of these ICOs or Initial Coin Offerings, and that is essentially tokenizing some aspect of your company. In a lot of cases, these tokens look a lot like shares of stock, they look like equity. And to the extent you're talking about shares of stock, you're very likely talking about a security, which would mean the SEC is now going to be involved and you have to be mindful of those regulations. And we've seen plenty of SEC interest and intervention in the lives of people and businesses who touch this stuff. Separately from that, you've got state-based regulatory schemes. Some states have very robust money transmission and money services businesses regulations, some require licensure for various types of activity. Some regulatory schemes expressly mention cryptocurrency and other blockchain-based type applications, some do not. So, depending on what state you're operating in, you may have different rules to comply with. Of course, there are actually some states who have passed cryptocurrency specific legislation, New York and the Bit License is the prime example here in that that state has specific rules for folks who, depending on what you're doing, you'll have to comply with to the extent you want to utilize this technology and these cryptocurrencies in a certain way. So, it's difficult to say exactly who regulates everybody in a vacuum, but to the extent that you're touching this stuff, you're interested in developing on the technology and you plan to interface with others in the marketplace, it is imperative that you, as a business owner or as a developer or as just someone who is interested, remains on top of this ever-changing landscape and is able to adapt to the extent things change. **David:** Thanks, Matt. Let's turn a little bit to some of the software that runs in the various blockchains. Justin, following the theme of blockchain, tell us about some of the various cryptocurrencies (obviously bitcoin is the most well-known) that actually run on various blockchains. **Justin:** There are well over 100. The list of tokens grows every day. Partly because right now, we have an environment where it's so easy to raise money through what Matt was referring to, ICOs, Initial Coin Offerings, that you're seeing tokens pop up every couple minutes, basically. So, there are a number of different types of tokens. There are those whose only purported utility is to store and transfer value, there are others that are used as gas for lack of a better word, for an underlying blockchain application. One of the things that is interesting and latches onto the last question, is that because each token has a different utility, it likely should change how the regulatory bodies regulate

each token. But instead, what you're finding is that these bodies, the SEC and IRS, they're all treating cryptocurrencies, basically, as one in the same with each other, but different than every other regulatory agency. And I think what you're going to start to find is that as the regulators become more sophisticated, as the technology becomes more ubiquitous, you're going to be seeing different tokens treated differently, depending on what the underlying utility is. **David:** And, you know, you talked about some of the history of the various cryptocurrencies, bitcoin, Ethereum, and others have been in the news a lot recently, because of the large swings in value. And that's actually been one of the defining characteristics of many cryptocurrencies. And so, despite that history, Justin, do you think that there's a place for bitcoin and cryptocurrency, and if so, what will that place be in an established legal practice? What do clients need to know about using the various types of cryptocurrencies, including bitcoin, that are out there right now? **Justin:** Well, I think there are a few things to note. For bitcoin, the promise, really, is that it's the ability of creating a worldwide decentralized currency, not connected to any government or central authority. That's pretty revolutionary for most of the world that is underbanked or unbanked, that doesn't have the same stability that we in the United States have, for their money. So, imagine someone in Venezuela, where the price of the Venezuelan bolivar is dropping every day. It doesn't make any sense to hold Venezuelan bolivars, so what you're seeing is businesses popping up in Latin America where they exchange bolivars to bitcoin. People hold their assets in bitcoin and then when they need to pay, they transfer them back so they're not losing value. That's sort of a different value proposition than what a lot of these blockchain companies that are popping up offer, which are really, at this point, I think, sort of fancy databases that don't actually work as efficiently as a lot of databases. Matt might have some more thoughts on this, but I don't think that we've seen the true application of what a blockchain can be. And, to me, the most interesting blockchain companies that are popping up are ones that offer blockchain as a service, although there are potentially some philosophical issues with that as well. I think what clients and people in business need to realize is that the door is sort of being blown wide open on how you store and transfer and think about data and information and how you enter into agreements with other people. What smart contracts and what blockchain technology does, I think, is it allows you to scale trustability, or maybe lack of trustability, in a way that will change how we interact with each other. One application that I think is pretty interesting is the ability of conducting machine-to-machine transactions through the blockchain. So, as the internet, of all things, starts to become more and more ubiquitous, you're going to be seeing automated cars conducting micro transactions for parking spots on the blockchain. And this will drastically change how we deal with communication, and also some of the liability issues that I think are going to pop up that are right out of science fiction at this point. **Matthew:** I agree wholeheartedly with just about all of that. And I would just take it a step back and note that, you aptly call it science fiction, and in a lot of ways that's what it seems like, but as far as today's legal practice and today's businesses that are operating in this marketplace, there are some immediate concerns that are really turning a lot of the ways that we have thought previously on their head. One example that I would give is how a blockchain works and how the different stakeholders interact – in the sense that previously, we've had this notion of these controlling bodies and these institutions that are in charge of things.

Whereas on a blockchain, you've got, in one sense, these protocol developers who are stewards of updating the actual blockchain itself, if you will, the code that runs it. In the case of bitcoin, you've got node operators, who are folks that are basically lending their hard drive and processing power and bandwidth for the good of the network to serve a very important function. You've got miners, who, in their own right, the system couldn't operate without, but they have maybe a different set of incentives than the node operators or, in today's environment, than the main protocol developers in a lot of cases. And, this all changes how we think of the law pretty much on its head, right? Because there's no one place to look to for right and wrong, and there's not necessarily aligned interests in the case that you might be cooperating with someone without even knowing it, because it's kind of taking place in this architecture that's being laid, this foundation of a new way to store information, to transact with one another, and to otherwise interact in society. So, from a legal perspective, the most interesting thing to me, I think, until obviously, we get to the point where we've got some really fascinating mass-adopted applications here is how the innovators are affected by this entirely new, almost alien concept that really doesn't fit well in today's existing legal regimes. **David:** I think that's really important. And you both, as I know, are so active in the startup and the cryptocurrency and blockchain markets. I have also seen large consortia forming to address some of these issues like the Blockchain Insurance Industry Initiative (B3I). The Blockchain Consortium R3, which includes some of the largest financial institutions both in the United States and around the world investing \$100 million in this technology, and the Enterprise Ethereum Alliance, which I think has over 100 members now, including some Fortune 100 companies. So, this is both something that's important to the startup community, the trading community that you are so active in, but also in the large business financial institution community. And everyone, just like you said, Matt, is trying to get their arms around what exactly this technology is going to do and how it can transform how we do business in the future. I guess the last question I have for each of you is what do you think the future has in this technology? And then, Matt, will you touch on what's happening in the cryptocurrency space right now, specifically with bitcoin to some of our listeners? **Justin:** Sure. I don't think we really have any idea what the potential is for this technology down the line. I think what's happening is that there are some extremely innovative people working on concepts that were completely alien 10 years ago. **Matt:** The future of the technology, I think if I had any ability to predict that, I would not be a lawyer anymore. But what I do find most exciting about it, is the fact that it's very possibly laying this new foundational layer in the way that society interacts. Whether that be citizens with their governments, patients with their healthcare data, cars with one another on the roadway, trying to get a parking spot, as Justin noted, or just the underbanked engaging in commerce with one another. I think that the exciting thing about the technology, what I see for the future, is probably the nuts and bolts of blockchain and how it's going to affect society still need to be fleshed out. We're going to have to just determine what blockchains are actually good for. Justin noted they're a pretty poor database in a lot of circumstances, but, at the same time, in the sense that it is immutable and is somewhat more reliable than a centralized server, it has some very real applications. So, it's hard for me to say exactly what the future holds, but I will say that while the men and women of blockchain are today in the trenches, trying to lay the foundation for what could be tomorrow's society, part of

our job, and part of what Justin and I spend so much time thinking about and doing all day, is taking this innovation – this new, very avant-garde technology, and mitigating the risk of how folks who want to use it and want to build upon it can do so within today’s legal and regulatory framework. And that requires us to quarterback experts from all fields. We need securities lawyers, we need commodities folks, there’s got to be tax lawyers involved, we need to talk to folks who are knowledgeable about banking regulations. Just about every aspect of law to some degree, has been touched by blockchain and will continue to be, and the manner in which you massage this square peg into the round hole is going to be critical for one, insuring that the technology continues to grow in a positive way – that it can continue disrupting and helping people as opposed to being held back either by incompatible laws or by regulators who, maybe are mistaken in the manner they’re attempting to apply existing laws or other rules to today’s innovators. **David:** Justin, any final thoughts that you have about these two technologies? **Justin:** I think we’re at an inflection point with the technology, where large businesses and large industries and government regulators are aware that blockchain technology is coming and it’s going to disrupt many industries, and our job, I think, is to work with those large industries and work with regulators to make them understand that this technology is not so scary and can do quite a lot of good for our economy and for society... while at the same time working with people innovating in the blockchain space and helping them interact with those regulatory agencies and potential funders or partners in industry. **David:** Well, that’s a great point that you both made, and that’s how this crosses over normal legal business segmentation. I mean, just in this podcast, we’ve talked about our Latin American practice, our startup, our software, intellectual property practice, financial services, banking regulation and the insurance industry, and how they’re all adopting these new technologies. Thank you both for your time today to discuss the concept of blockchain and cryptocurrencies. ©2018 Carlton Fields Jorden Burt, P.A. Carlton Fields practices law in California through Carlton Fields Jorden Burt, LLP. Carlton Fields publications should not be construed as legal advice on any specific facts or circumstances. The contents are intended for general information and educational purposes only, and should not be relied on as if it were advice about a particular fact situation. The distribution of this publication is not intended to create, and receipt of it does not constitute, an attorney-client relationship with Carlton Fields. This publication may not be quoted or referred to in any other publication or proceeding without the prior written consent of the firm, to be given or withheld at our discretion. To request reprint permission for any of our publications, please use our Contact Us form via the link below. The views set forth herein are the personal views of the author and do not necessarily reflect those of the firm. This site may contain hypertext links to information created and maintained by other entities. Carlton Fields does not control or guarantee the accuracy or completeness of this outside information, nor is the inclusion of a link to be intended as an endorsement of those outside sites.

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