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Blockchain as Disruptive Technology: Litigation Threats and How to Avoid Them

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The United States economy is replete with the historical effects of disruptive technology. Such technologies include, for example, the introduction of wireless telecommunications, the Internet, smart phones, and more recently, ride sharing. Innumerable articles and books have been written about the effect of such disruptive technologies on our economy.

Another potentially disruptive technology is blockchain. The purpose of this article, however, is not to focus on the effects that blockchain may have on our economy. Rather, it is to focus on the threat of litigation that often comes from the introduction of disruptive technologies, and how early adopters of blockchain can attempt to mitigate some of that litigation risk.

Blockchain as Disruptive Technology

There can be little doubt that, if adopted on a wide scale, blockchain will be a significant disrupter. As a technology, it has widespread potential application. Blockchain can be used to effectively streamline transactions in a myriad of industries, including the financial, real estate, supply chain management, and healthcare fields, to name a few. Adoption of blockchain in those fields typically will require changes to fundamental, backroom technologies and processes. In other words, if it reaches its full potential, blockchain has the potential of replacing some of the very building blocks that businesses use to conduct their business.

Existing Blockchain-Related Litigation

To be sure, blockchain-related litigation already exists. Litigation can be traced back as far as 2011, with a sharp spike in 2018.¹ The vast majority of that litigation, however, if not all, has focused on cryptocurrency issues, and in particular whether fraud has been committed in connection with specific cryptocurrency transactions. Indeed, in addition to private party lawsuits, five different federal regulators have brought lawsuits, and state regulators have brought 46 separate administrative actions in thirteen states.²

While those cases are meaningful, however, they do not strike at the heart of early technology adopters. Those adopters are and will be using blockchain technology in a variety of different fields, most of which will have nothing to do with cryptocurrency. It is those applications that are the focus of this article.

Litigation by Threatened Stakeholders

Disruptive technologies can make many enemies. Stakeholders, once positioned well in a market or economy, can suddenly find themselves without the revenue stream to which they had become accustomed. One approach that these stakeholders sometimes take in addressing this situation is to use litigation to try to forestall harmful change.

A classic example of this approach is found in the music industry. With the advent of digital music, a musical revolution began. Part of that revolution involved illicit file sharing but, more fundamentally, that revolution saw the rise of single songs, digitally available, threatening to fundamentally change the way that music was sold. So, what did the leaders of the music industry do? They sued basically everyone. They sued individuals that generated the music, and they sued users. They sued companies that

created the underlying technology. They chose to fight inevitable, disruptive change by trying to change behavior through the courts. It of course did not work. It was only after the music industry adapted to the disruptive technology, and acknowledged that market changes had to be made, that the music industry regained some sense of normalcy.

There certainly exist stakeholders that would be negatively impacted by the adoption of blockchain. The most obvious of them are third-party intermediaries that presently are necessary to mediate complex financial transactions, particularly trans-border transactions. Another example involves logistics providers that resolve the complexities associated with supply chain management. Many of these stakeholders are powerful and well-funded. If a litigation path can be found to fight the progress of blockchain, those negatively affected businesses will not hesitate to use that tool. Also, there certainly may be individual cases of breach of contract, or situations where transactions have failed because of the imperfect application of the underlying blockchain technology.

Fundamentally, changing the structure to cut out third-party intermediaries does not, in and of itself, create legal risk, and there does not appear to be any clear path for third-party intermediaries to create a sustained litigation strategy. Nevertheless, any company adopting blockchain technology needs to be highly mindful of the negative impact that such adoption is having on others in the chain of transactions that is implicated. Special attention should be made to make sure that all i's are dotted and all t's are crossed with regard to those third parties. The "losers" that result from the disruption caused by blockchain will be aggressively looking for avenues to sue those that have taken away their revenue source. It is an inevitable consequence of disruptive change.

Litigation Brought by Your Blockchain "Partners"

Setting up a blockchain network is a complicated process, typically involving multiple partners to develop the technology necessary to implement the network. Then, once up and running, as a distributed network, blockchain requires many participants in the network, whether it is a public or private network. As such, from the outset, there exist many stakeholders with many and varied rights.

For that reason, careful attention must be paid to contractually addressing all potential disputes that could

arise in order to avoid potentially debilitating litigation. Issues for preemptive resolution include:

- Ownership of the various intellectual property created through the construction of the network.
- Establishing the rights of the members to use the intellectual property of other members.
- Understanding the impact that the use of open-source software has on participants' rights.
- Determining which parties have the ability to administer, maintain, and alter the network.
- Agreeing on the credentials necessary to admit new members to the network, and determining who controls that decision.
- Assessing what information can and cannot be shared and identifying which members may receive which information.

To the extent that the above issues and related ones are not resolved in clear contract language before going forward, the risk of litigation is significant. Furthermore, litigation of that nature can be debilitating, because it runs the risk of disrupting the use of a network that companies have now become dependent upon. As such, carefully considering your rights relative to others is absolutely necessary.

Patent and Technology-Related Litigation

Why Blockchain Will Attract Patent Litigation

A very real litigation threat to early blockchain adopters is the threat that comes from patent litigation and other technology-related lawsuits. In the last several years, there has been a decline in patent litigation due to a number of changes in the law. Stricter rules on proving damages, new procedures to challenge patent validity at the Patent Office, new defenses that allow for early adjudication, and a dearth of unlicensed patents have all combined to reduce the economic incentive for bringing patent claims.

The rise of blockchain technology, however, may buck those trends. That is true for a number of reasons:

- Blockchain is creating a new set of patents that have not been licensed, including patents owned by patent trolls.

- Because blockchain will be used at least by some as a fundamental building block, plaintiffs will be able to make a strong case for damages.
- Many of the fields in which blockchain is likely to be used, such as foreign exchange transactions, are highly lucrative, which indirectly will boost the value of the patents.
- In a competitive landscape, certain blockchain companies may aggressively seek to exclude competition by asserting their patents.

Certainly, patent trolls (companies that acquire patents solely to sue on them) are aware of the opportunity. Eric Spangenburg, a well-known founder of patent trolls, has set up IPWE to collect and exploit blockchain patents, and Intellectual Ventures, a well-known and well-financed troll, similarly is seeking to acquire and exploit patents in this area. As such, the adoption of blockchain is likely to usher in with it a whole new round of expensive and distracting patent litigation.

The Blockchain Patent Landscape

In the overall scheme of patents, there is not yet a large number of blockchain patents. In total, there are approximately 260. However, what is noticeable is a significant trend that suggests that many more blockchain patents are on the way. Allowed blockchain patents have increased from two in 2015 to 170 in 2018:

And applications, while they cannot be definitely counted because many are not yet public, are appreciably on the rise. Our research estimates that approximately 1,500 blockchain patent applications are pending. As such, one can anticipate, in relatively short order, that

blockchain patents will become a reasonably crowded field.

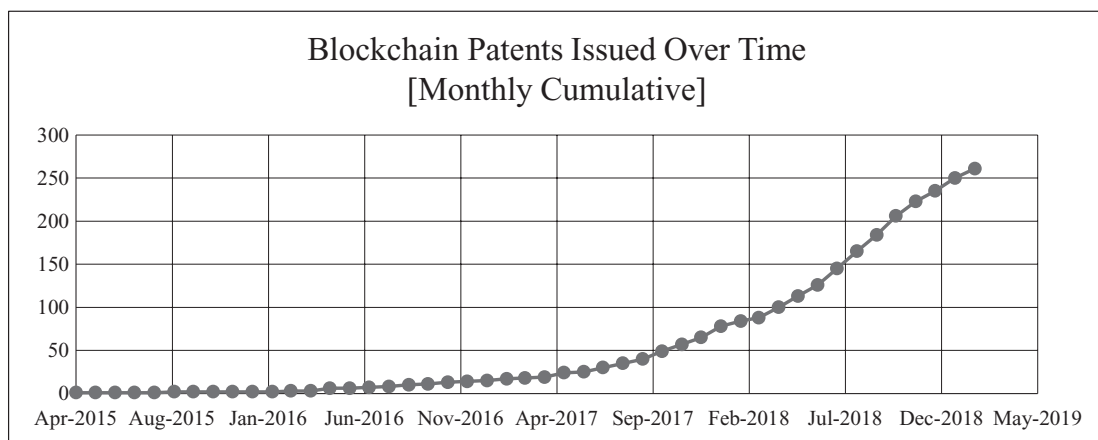
The Role of Standards

Another import development that could impact the growth of patent litigation is the role of industry standards in the blockchain space. Industry standards refer to a set of technical specifications that a large number of industry players agree upon to use in their products. Industry participants often develop these technical specifications through Standards Setting Organizations (or “SSOs”). SSOs hold meetings where participants, often scientists and engineers, representing industry players propose and debate differing proposals regarding how a technology should operate. Decisions regarding proposals, and the final technical specifications that stem from them, are reached by consensus by the participants.

Developing standards areis going to be an important part of the successful implementation of blockchain. The essence of blockchain is that it must work on a distributed basis, with potentially thousands of nodes communicating with each other instantaneously. In order to achieve that goal on a widescale, standards need to be created that allow disparate systems to communicate with each other. Without standards, blockchain will be inherently limited in its application.

This need has not gone unnoticed by the industry. Numerous efforts already are underway to create necessary standards including, for example, the following:

- The International Standards Organization has formed Technical Committee 307 (“ISO/TC 307”) to consider blockchain and distributed ledger technologies.³



- The Institute of Electrical and Electronics Engineers has formed two blockchain groups: (1) Project 2418 to develop a standard framework for the use of blockchain in Internet-of-Things applications;⁴ and (2) Project 825 to develop a guide for interoperability of blockchains for energy transaction applications.⁵
- The Blockchain in Transportation Alliance is focused on standards for the use of blockchain in freight payments, asset history, chain of custody, smart contracts, and other related goals.⁶

As the wireless telecom industry has shown, however, the implementation of standards, while critical to developing an industry, can have a substantial impact on the risks of patent litigation. Once a standard is established, in order to have a successful product, product developers will need to conform to that standard. If they do not, they run the risk of creating a product whose application is too limited for commercial success.

Knowing that, industry players attempt to create patents that are essential to the implementation of those standards, so-called “standard-essential patents.” If a patent holder is successful in doing that, the entire industry is unable to avoid the patent, and industry participants are forced to pay a meaningful license fee to use that standard-essential patent.

For that reason, in the telecom industry, holders of standard-essential patents are compelled to license those patents at a fair and reasonable royalty. Needless to say, however, reasonable minds can differ on what constitutes a fair and reasonable royalty amount. Regardless, the presence of standards, while likely necessary to implement blockchain on a broadscale, will increase the value of certain blockchain patents, and therefore increase the likelihood that they will be aggressively asserted.

Strategies for Dealing with Potential Patent Lawsuits

Patent lawsuits cannot be wholly avoided, and the drain caused by them can be significant. There are, however, ways to mitigate the risk and lessen the potential exposure created by such lawsuits. Strategies include the following:

- **Be sure to acquire your own patents.** History tells us that there are winners and losers in a new industry when it comes to patent strategies. Generally, a finite number of companies will acquire significant

patent portfolios and, to avoid mutual destruction, will cross-license their portfolios to each other. Those companies with broad portfolios then may use those portfolios to exclude others from the marketplace, or at least demand substantial royalties that shift in part the profits from the company without patents to the company with patents. In other words, for every company seeking to enter the blockchain market in a meaningful way, they should have an affirmative strategy for developing patents, even if they never intend to assert them. Without a strategy, companies have considerably fewer bargaining chips if approached by a major patent holder.

- **Join patent pools.** License-based organizations already have begun to spring up in the field. These organizations accumulate patents to take them off the market before they are acquired by aggressive litigants. Members still must pay a fee to join the pool, but the cost typically is considerably less than the costs of settling a patent litigation.
- **Join patent pledge organizations or relationships.** Coinbase and Blockstream have pledged to use their blockchain patents only for defensive purposes. Other organizations have arisen where its members agree not to sue each other on the others’ patents. These organizations help mitigate against the risk of not being able to cross-license a substantial portfolio. Membership in such a group therefore may lessen a company’s exposure to patent litigation.
- **Proactively get involved in standard-setting organizations.** By participating in the standard-setting process, participating companies have better vision into changes in the technology that are coming and potential patents that may impact those changes. Being involved allows for more strategic planning.
- **Monitor patent applications and allowed patents and proactively consider design-arounds.** By monitoring patents as they are issued, a company may have the opportunity to design around that patent as it develops its technology. It is much easier to design around a patent while still in the development stage. Changing an already established platform that is up and running often is too disruptive and cost-prohibitive.
- **Be prepared to file IPRs.** If a company becomes aware of a potentially problematic patent, it may want to preemptively address the problem by filing a *inter partes reexamination* with the Patent Office to try to invalidate the patent. Doing so requires an assessment of the likelihood of success, of course, but is a consistently much cheaper approach than litigation.

Once in litigation, a number of defenses should be affirmatively asserted, such as restrictions on patent rights arising from the use of open source software, and assertions that the patent covers unpatenable subject

matter. Such defenses may result in an early resolution before substantial fees accumulate. The best defense, however, is to not have to defend a lawsuit in the first instance.

1. 2018 in Review: Blockchain Litigation, www.blockchainlawcenter.com.
2. *Id.*
3. <https://www.iso.org/committeel6266604.html>.

4. <http://standards.ieee.org/develop/project/2418.html>.
5. <http://standards.ieee.org/develop/project/825.html>.
6. <https://bita.studio>.

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