

Lawrence Lundy: We are going to create an internet that is decentralized, distributed, automated and tokenized

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Interview by Mark Sinclair Fleton

RÆSON: In which fields do you see the most significant uses of blockchain?

Lundy: We thought about this a lot at Outlier (Outlier Ventures, eds), because Outlier is a capital venture firm. When we started we thought about which areas blockchain would have an impact in, so that we could invest there. But we also thought about the timeframe, which is really the most important thing. We don't know what the future looks like but getting the right timing is the key. Obviously, the first application was related to financial services and that was simply a function of the fact that Bitcoin was the first implementation of blockchain. I think the idea that Bitcoin could serve a function as peer-to-peer electronic cash made banks sit up and notice. Therefore, the banking industry knew of Bitcoin and blockchain earlier than say energy firms or say healthcare. But I actually don't necessarily think that blockchain have the greatest impact in financial services. I think the most interesting and exciting application of blockchains - and I say that plural - is as a class of software rather than their usage in a particular instance like the Bitcoin blockchain. I think the features of a blockchain, specifically as regards immutability (the inability for data to be erased or edited without evidence), has a tremendous amount of benefits related to public audit and the transparency of actions. And it has a lot of value when it comes to issues where security or centralized databases are problematic. I don't want to say that one market is particularly right for blockchains and others aren't; actually, the question is which cases and applications could benefit from enhanced auditability, enhanced transparency and enhanced security. That way of thinking brings you to areas within financial services, areas within the energy sector, areas within the supply chain industry. One industry is not more likely than another to be disrupted. Instead, there are certain applications for which the features of blockchain are valuable.

RÆSON: Where is the technology being implemented today?

Lundy: There are two answers to this question. First, there are lots of ways blockchain can be applied today that doesn't necessarily make it investable opportunity. For example, in the supply chain sector, e.g. in shipping, as information, data, or manifests have to go from A to B to C to D, and multiple parties need access to the right data at the right time and all of whom needs to know that the data are reliable. There is much potential for operational efficacy in shipping as well as in supply management and finance. There are many really great operational cost savings to be found.

What we are more interested in, though, are those areas where distributed ledgers combine with artificial intelligence or the Internet of Things (IoT). This may sound like every buzzword you have ever heard and might also seem like a really big macro thesis. Actually, we think the Internet of Things as a market suffers from a whole host of problems, one of which is the challenges it is causing the existing infrastructure to support, collect, and manage data. We think that distributed ledgers can be combined with IoT to offer good investment opportunities. We also think there are a lot of great opportunities once the data has been collected: Once ledgers are more able to manage data, artificial intelligence algorithms, machine learning,

and applications that use machine learning can be combined with distributed ledgers to provide what I would describe as auditability of artificial intelligence and enable data to be opened up. To give a simple example of an interesting application: When data collection occurs through the Internet of Things, data management is obtained through blockchains and distributed ledgers and the data is consumed or automated through artificial intelligence. It's the combination of those three technologies that we call the convergence ecosystem and that's where we make our investments.

RÆSON: It seems that one could define web 3.0 as the meeting of these technologies?

Lundy: Web 3.0 is a very loosely defined vision. Everybody has their own definition. It really is a suite of technology that seeks to replicate the existing web 2.0 centralized application makers - like Facebook or Google - and centralized systems like the internet protocol and then decentralize them. Actually, we think The Convergence Ecosystem is a much better framing, because it really describes instances where web technologies are applied to the Internet of Things and where web technologies are applied to artificial intelligence. All together that means that we are going to create an internet, that is decentralized, distributed, automated and tokenized. Centralized systems are no longer effective, so centralized data repositories and centralized business models will become decentralized over time. They will become distributed for better systems management and they will become automated through the use of artificial intelligence and smart contracts and then finally they will become tokenized. And the tokenization is the new part. That's a new funding mechanism but also a new incentive mechanism for which we think that is a really important part of this new web 3 stack.

RÆSON: That also describes what you do and what the philosophy behind Outlier Ventures is. Is there anything you would like to add to that?

Lundy: What I outlined is our investment thesis - which we call the Convergence Ecosystem - and that is part of it. But we think we are seeing a big trend related to the way in which venture capital is changing. Venture capital is really a function of the web 2.0 world. Venture capital was intended to be a gatekeeper for capital. You can be a gatekeeper for capital when the entry requirement [for investing eds.] is to be a sophisticated investor or the amount of money that can actually be deployed needs to be sufficient, but with token sales capital is abundant in sort of an abstract term. Anybody can deploy capital. Venture capital should no longer be a gatekeeper but a much more decentralized venture that does not just deploy capital. The new capital venture firm needs to be an ecosystem that brings together capital but also brings in advisory, academic institutions, corporate networks to help grow a sustainable community.

RÆSON: Could we talk about a more specific project that you are involved with right now?

Lundy: Ocean provides a business model for the sharing of data and we think that could end up being really powerful. It is what I would describe as a protocol for a data marketplace that enables data to be shared or used in AI-algorithms. Ocean is a really good example of what I described earlier in the Convergence Ecosystem in that it seeks to use distributed ledgers and blockchains, combine them with tokens - as a new incentivization mechanism - and help solving that major problem in artificial intelligence: access to data. Right now, data is sorted because it is what feeds machine learning algorithms and the largest companies are able to collect more data by which they become arguably more powerful in terms of being able to hire better developers, being able to invest more in infrastructure and – in the long run – in the supply wheel. And in this sense the data-rich become even more data-rich. That brings along huge issues with the monopolization of markets and we are already seeing some of those challenges that happen when a single company dominates a market like Facebook or Google. The problem is important now but will increasingly become one of the biggest challenges to not just AI-marketplaces but to society as well. We think that Ocean offers a wonderful solution which is to incentivize people to share their data. That could be individuals that get payed to share their data but also organizations for which it may sit latent in databases or even public-sector

agencies that currently have data that they have no way of sharing due to regulatory barriers or because it simply is too difficult.

RÆSON: What are the ethical implications of paying people to share their data? While this transfers ownership of data to people themselves, will this make people sell their privacy in order to feed themselves and their families?

RÆSON: I also wanted to touch on the subject of the sharing economy. It is being discussed whether what we today call the companies in the sharing economy and whether they are actually part of a sharing economy. In Denmark, Uber has been banned and we are talking a lot about the competitive conditions on the market. How do you see blockchain technology in that regard?

Lundy: I think that we are now seeing that the sharing economy is no such thing. It's a great moniker but actually what we are describing is platform capitalism. It's just a new business model, it's a digital business model, it's a marketplace that brings together riders and drivers. There is no way that it is sharing, but I do think that the idea of sharing 2.0 through blockchain. Blockchain can be used as a decentralized Airbnb or a decentralized Uber for which there might be a small transaction fee, most likely to support the infrastructure. You and I would very much be able to use a decentralized network, be able to list a bike or list our living space and be able to interact seamlessly for almost free without the need for a centralized third party to provide that service.

RÆSON: You were talking about financial services and cryptocurrencies. Do you think the blockchain will change the way we understand money today?

Lundy: I think it will over time, but it will take a very long time. So far the people that are most interested in cryptocurrencies are the people who already care a lot about money or know a lot about money, and who see Bitcoin as a reaction to the financial crisis in 2008. Though very much in its infancy back then, it was a political movement. It is the people who find importance in the very value proposition of owning their own money or not allowing central banks to deflate the money supply. All these value propositions resonate with the cryptocurrency crowd - I call them libertarians - but it doesn't really resonate with the average person. The average person, honestly, does not care about central banks or maybe they care but they don't really have time to think a great deal about them. Right now it seems like we have the opportunity to offer an inflation free money supply and that everybody can own their own money, but I have fundamental doubts about whether or not that's actually a major problem for most people. While it is great that we are building new financial infrastructure like cryptowallets and exchanges without centralized third parties the actual change will be a cultural change. That cultural change will be very, very slow.

RÆSON: You are talking about a cultural change. Could you explain that in greater detail because that wouldn't just involve money, would it?

Lundy: No. Cultural change is education. Cultural change is grounded in the media's way of understanding money. In the last four years, we have seen a real change in both fields in regard to Bitcoin and other cryptocurrencies: From a complete lack of understanding to a widespread awareness of Bitcoin's existence, while fewer people know what Bitcoin is and what it does. This happened faster than I anticipated. I think it is happening faster than most people anticipated because of a generational shift. If you have old assumptions, then it's really hard to use fundamentally new technology. Young people - fifteen to twenty-year olds - don't have any pensions, financial assets, or savings. They aren't really integrating in or using the existing financial service sector. They might have a current account, but they're much more familiar with sending money via SnapChat or sending money through Event-Mo or via WhatsApp, as is now the case in India. They are much more familiar with using services from digital providers rather than financial service providers. With that in mind, using Coinbase, another digital wallet, is not a huge leap. They don't have to challenge old

assumptions about what money is. Maybe it will be a generational shift. Whether or not cryptoassets and cryptocurrencies will make their way into the mainstream and we end up with the older demographic using SnapChat and Bitcoin, I don't really know, but we are probably likely to see a generational rather than widespread deployment of cryptocurrencies across the demographic spectrum in the next ten years.

RÆSON: What do you think is going to happen a bit further into the future?

Lundy: I think we will see decentralized networks and opensource projects slowly become the obvious choice for new startups. While big corporations use Oracle or SAP-databases, younger startups use Amazon Webservices and Google Cloud since they provide a much more flexible, cheaper starting point. That change is happening really, really fast. It benefits from a completely open source. Anyone can take and build on it. So, you are able to utilize all your existing resources within a company through the benefits of opensource technology, and thereby all of the expertise from the global, opensource community. Innovation happens at the fastest speed that I have ever seen in any of the technology I have ever looked at, including artificial intelligence and the Internet of Things. I think we will end up seeing a new breed of startups, which are able to offer networks with tokens as an incentivization tool to challenge an existing incumbent. I guess what I'm speaking about here is business model innovation. Nobody is a hundred percent sure what the tokenization will end up looking like but what we are seeing is the ability for startups to provide their own tokens and give those tokens to consumers to make them use their service. How do you achieve this with Facebook or Google or with Airbnb or Uber? What would make somebody switch from using Facebook to using your decentralized social network? In normal circumstances you provide a better service, a faster service, a more convenient service, but what about giving those people tokens or vouchers which they can use on your services? What you end up with is a new business model. I think that's the real seed of disruption. That's why I think the change blockchain represents can be much more profound than just a new type of money, a new type of cryptocurrency, a new cryptoasset. When you scratch beneath the surface [of the blockchain eds.], what it really enables is a digitally native, incentivization mechanism. And that has a much more profound impact. I think we will soon see some of the people that like to disrupt become disrupted themselves by this new decentralized way of building business.

Lawrence Lundy is head of Research and Partnership at Outlier Ventures, which is a blockchain-based venture fund – the first in Europe. He is a FinTech Fellow at the Singapore University of Social Sciences (SUSS) and was one of the pioneers of the funds' Convergence thesis – the idea that blockchain and other decentralization tools (e.g. smart contracts) are a new decentralized infrastructure enabling new technologies such as AI, IoT, 3D Printing. He has provided technology analysis for the BBC, Bloomberg, The Economist and the Wall Street Journal.