Innovation Panel: Institutional Perspectives On Blockchain And Digital Assets

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Sean Douglass

2:46:40PM

Good afternoon, everybody. Today we have a panel on institutional perspectives, blockchain and digital assets, emerging trends opportunities and Alpha generation.

I'm going to let the panel introduce themselves. I'm Sean Douglass, co -founder and CEO of Amberdata. We are a digital assets data infrastructure that serves institutions.

Rajeev Sambyal

Hey everyone. My name is Rajeev Sambyal.

The digital asset custody.

product that bank of New York Mellon.

And I also lead couple of different initiatives.

Part of enterprise digital assets.

Sandy Kaul

2:47:12PM

Hi, guys I'm Sandy call I'm, the senior Vice President with Franklin Templeton.

Well I'm going to be building out a industry trends and advisory service, which builds on the work I did at Citibank.

I ran and created business advisory services that looks at the industry's evolution.

So what's going to be happening in the next 12 to 36 months and that the revolutionary potential for the industry and where disruption may be coming from looking out 510 and 15 years.

Hi, everyone.

Shawn Douglass

2:47:42PM

Okay. So the first question is really trends, where do you see institutional opportunities today? And I think Tracey you come with an interesting perspective doing the private blockchain backend infrastructure. Do you want to talk about where you see institutional opportunities?

Tracy Moors

2:48:24PM

[inaudible] technology as a whole [inaudible]. I think DLT generates new revenue opportunity to the conversation. So we're seeing a lot of clients that are able to reduce cost, reduce risk, but by building applications on blockchain and leveraging DLT technology, they're able to get to market faster with new assets, and obviously when we're thinking about our businesses we all want new streams of revenue. So I think that is the fundamental change I see with DLT versus traditional Fintech.

Shawn Douglass

2:49:30PM

Awesome. Sandy, what's your perspective? You look at more public blockchain stuff as well, right?

Sandy Kaul

2:49:38PM

Yeah, I think that if we take one step back and we think about our whole industry, right? Each time new technology has come forward, it has changed the foundational delivery model: what products are enabled, how we build portfolios, how we deliver those products, what those products are able to accomplish.

We saw this when we introduced mainframes, we saw this again when we introduced personal computing and the Internet and digitalization. We saw this when we went into the virtualization wave where we're still currently sitting with cloud-based architectures, AI tools, mobile technologies. And now we're entering into the fourth wave of technology innovation in recent years and that is the whole web III decentralized space. So each time this technology turns over there are new opportunities and new potential. And this one in particular is going to be a very transformational wave just as the internet was a very transformational wave.

I remember, some people in the room are old enough to remember with me those ads that came out in the mid-ninety's that said, "At some point soon you're going to be able to book a concert ticket on the Internet. You're going to be able to book travel on the Internet." And I was like, "Wow, that just sounds so cool, so exciting." And now, that's just so commonplace we don't even think twice about it, right? And we're really at that transformational point like a lot of the things we may talk about here today may seem fantastical just like that idea of booking a ticket seemed fantastical, but think how quickly we went from that being fantastical to that being commonplace and that's the point we're at today and that's why there are so many new models and so many new assets that are coming that as institutional investors, we have to be focused on this space because this is really where the next wave of growth is coming from for the entire globe, not just our industry.

Shawn Douglass

2:51:40PM

Rajeev, BNY Mellon, you guys are doing a bunch of interesting things with custody and you guys have fingers on a lot of things. Where do you see things heading? What's the hidden alpha there if you have any insight into that as well?

Rajeev Sambyal

2:51:54PM

Not sure if I can talk about the hidden alpha. But look, like I think we are seeing a lot of interest from asset owners and asset managers, like the one hold, or at least the one who had the freeze on crypto right and held it as part of their portfolios, but not only that, right? So a lot of institutions when I speak to them, they want to do more than just hold the crypto assets, right? Like not just the financial services but operating leveraging for identity, right? They want to see how they can leverage daily blockchain for identity, and if they're doing something in that space, right? Even going beyond cryptocurrencies, and all, the institutions are starting to look at it from a market infrastructure perspective, right? So can we leverage this technology, which to Sandy's point it is transformational, right? So can we leverage this technology for increased mobility of the assets to increase the liquidity pools, right? So there are a lot of use cases, right, which institutions are actually looking into right now, which goes beyond holding some cryptocurrencies on their portfolios.

Shawn Douglass

2:52:58PM

I want to pull a thread here between Sandy and Rajeev. Cryptocurrencies and digital assets are effectively financialization of the Internet and what's different between other web III or web II applications and web III applications is that there is an incentive mechanism inherent in cryptocurrencies that incentivize behaviors and those cause network effects that create value and it has this transparency and I think that that's one of the things that is driving the innovation that has institutions kind of on their heels like, wow, the internet then they miss cloud computing and they're like, "Wait a second, I get this, I can run financial services on somebody else's infrastructure and I don't have to pay AWS and my total addressable market is the world, you have my attention," right? So with that in mind, where do you guys see tokenization, stable coins, defy, structured products, funds, what have you? Like there's a ton of stuff going on, we don't have time to talk about everything.

Sandy Kaul

2:54:03PM

Yeah, I'll kick off if you don't mind. I think there are three key areas that we're going to really see the potential of these new technologies take hold. I think the first is going to be creating liquidity around illiquid assets, right? So all of us hold illiquid assets in our portfolio, many of us hold real assets in our portfolio, many of us hold LP shares, which is something we were just talking about it in the hallway, and these things are very difficult to create liquidity around.

Even with the secondary markets, these are not optimal exit vehicles. It doesn't really give us the optionality around how to add liquidity into the portfolio. So I think that these new tokenized structures can create that liquidity around previously illiquid assets and it can create new marketplaces to exchange that liquidity and we can even start to democratize the distribution of that liquidity to a far broader investor base, which will really help to diversify portfolios at a tier where we don't create that diversification today. So I think that's the first area.

I think the second area is around utility, right? We are not used to thinking about what does our investment portfolio do for us other than making money and these assets are going to be created, tokenized digital assets are going to be created with a smart contract at the core of them, and that smart contract, you can program in utilization rights, you can program in transferability rights, right? So I think that you will see far more people looking at their portfolio as what does my portfolio do for me? Does my portfolio facilitate my life, right? So you can see people almost combining loyalty programs and investing, almost combining incentivized programs. I like to talk about here in New York, if you live in Brooklyn, if New York City wants to put tolls on the Brooklyn bridge, they could actually raise the money to do that by giving a token offering for the Brooklyn Bridge, and if you're a token holder when your cargo is across the bridge, you can have a special owner's lane that only the owners of the Brooklyn Bridge can utilize, and think about how much convenience that might add to your life if you were living in Brooklyn and having to commute to the city every day. So I think that the potential is that these assets can create a new concept of utility as well as liquidity in portfolios.

And then I think the final aspect that we're going to see is that the data that gets generated from this new ecosystem is going to really transform how we inform algorithms, how we inform personalization, how we inform tailoring of investment products, and we're going to be able to use zero-knowledge proofs and other new techniques to be able to model that data without people having to actually give up and share their data. So I think each of those is a completely transformational opportunity that will be coming.

Shawn Douglass

2:57:06PM

So Sandy, you talked about the tokenization of security, tokenization of physical assets, creating structured products around yield generating assets, tokenized asset management like the enzyme in the set protocols over the world, and I think Franklin Templeton also has a fund like that. So it really is touching all the financial primitives. Mostly today all the roar is around public networks, but I know that digital assets, Tracy, you guys are doing some things for taking smart contracts and enabling institutions on the backend. Are you guys seeing the same stuff kind of in the private blockchain space as well?

Tracy Moors

2:57:54PM

I think it's exactly with what Sandy just walked through. The majority of the use cases we're seeing and how we at Digital Assets think about this transformation is that we're very focused on the workflow. And if you think about financial services, they are multi-party in pretty much every aspect, whether its settlement, whether its custody, so it's about bringing those parties together and when you have multi-party you naturally have friction.

Multiple speakers

2:58:27PM

What Sandy mentioned when you think of alternative assets, real assets, the friction there is really probably the worst of any asset class today. I think equities are quite smooth but when you think about the alternatives and the friction, how do you remove that friction? When you remove the friction, you remove the risk to lower the costs and you speed up the entire ecosystem for everybody involved. So I think those are the projects we're seeing from clients and usually, they're coming to us with a problem, it could be an old problem, and they're trying to use that problem to understand how smart contracts work, how blockchain can help, and I think that is key for us. I think, Sandy and I talked about this as well, you've got it evolution versus revolution. I think this truly is a revolution that we will talk about in 10-15 years, but in order to get there, you have to start small, you have to think of projects that you can relate to and then bring that technology in, and then grow from there. So many of the innovations that we're seeing on say a public blockchain you guys are behind the firewall doing that to optimize peoples' process and to reduce the number of databases that they have to use and to make it easy to reconcile front office, middle office, back office, and all our smart contracts, is that right?

Tracy Moors

2:59:58PM

Yeah, and you mentioned private versus public blockchains, I think the financial services industry is one of the most highly regulated industries out there, so for someone to go to a public blockchain ecosystem first is just not natural. We think this is not a technology problem, I think the public blockchains certainly have a lot of value out there, but this is a behavioral problem to where people need to get comfortable first and they're able to get comfortable on the private blockchain ecosystem. They feel they have the privacy that's needed and they feel they have that comfort and I'm sure we will evolve to all of those things in a public blockchain at some point.

Shawn Douglass

3:00:43PM

It's kind of interesting, we're kind of feeling the elephant from all different areas, right? And we all have our own interpretation of it. At Amberdata we're serving the biggest banks in the world, the biggest liquidity providers, the biggest trial fire players, the biggest crypto players. To me, it feels like everybody is already in crypto. So Rajiv, when we say institutional crypto what does that mean for you?

Rajeev Sambyal

3:01:04PM

Yes, so I think whenever people talk about crypto I think like many terms used like stable coins, [inaudible] and things like that, right? So like we at Bank of New York Mellon right, from our perspective we call collectively digital assets and we kind of break it down into three major categories, right? So one would be the cryptocurrencies like the Bitcoin, Eth, virtual currencies, which are in the market that people who want to hold them in their portfolios, so that's one [inaudible]. The second is more from digital cash, so when I say a digital cash it could be your internal coins, right, so just instead of Fiat you're using a digital representation of it like your definition of digital could be a book-to-book transfer on digital rails, or you actually have a coin which you are using, or you have stable coins right, which are backed by assets right, or CBDCs, right. So all of those collectively would come under the digital cash umbrella right. So each one has different merits and they have their own journey right now, but that's our second category. And the third category is broadly, which we were discussing earlier that organization, right, so when you look at the traditional assets right, how do you take the existing assets, whether it is equities, corporate bond, or even physical right, like if we talk about coal or commodities and things like that, how do you actually turn them out for optimization? So for us, we broadly classify them into three categories and selectively [inaudible] digital assets.

Shawn Douglass

3:02:45PM

Okay, and then like Sandy how is your firm or your clients incorporating digital assets into their portfolios or into their products or into their funds?

Tracy Moors

3:02:55PM

Yeah, so I think this is a great time for experimentation, right? I think that we also have to take a step back and realize that this is a space that is new and they are running real-time proof of concept. That's what's so interesting about this space is you don't go off to the side and run your proof of concept, you launch your code and your code runs in the real world and you get to see how it responds to events like today with big market downdrafts. Does your code work as it's intended? And you see some instances where it absolutely does and then you see some instances where it absolutely doesn't and you need to learn.

I was speaking with someone earlier today and I'm almost like these are the stress events that we need to see happen in the crypto space to really begin to have the right type of new risk management in place to actually manage the risk of these new investments. So in a sense, this is a very healthy period of upheaval and experimentation. But there are a few things that we're already seeing that really raised lots of exciting prospects. So at Franklin Templeton, we have worked with the SEC and we have actually gotten an authorization and we are trading a money market fund on the public blockchain. We are minting coins that represent shares in the money market fund. Those coins are going to be able to be used in the digital ecosystem as collateral, as payment, they're transferable, and we're able then to burn those coins and redeem them back for the physical shares of the money market fund when those get taken out of the crypto ecosystem. So this opens up a lot of great potential because we've seen like with the Terra and the Luna blowup a few weeks ago, there's a lot of uncertainty about stable coins, there's not a lot of regulatory clarity. Even the more reputable companies that are working with that there's not 100% transparency into the holdings, right? But everyone understands what a money market fund is, right? And so money market funds are taking a traditional vehicle, transferring it into this new ecosystem, and extending the use cases of how that could actually be used in payments, right? So we're actually allowing people now to make payments in money market fund shares which is a whole new use case for that traditional investment.

We're also doing experimentation, we've launched four funds that trade in the listed tokens, right? Listed tokens have their own token-omics around them, those are the fundamentals of this new space. You're able to analyze their token issuance plans, you're able to analyze their ownership pools, you're able to analyze the decisions being made by the community that influences the direction and value of the tokens, and so we've launched four strategies, a capital weighted and equal weight and strategy for the 20 largest coins, excluding Bitcoin and Ethereum. We've launched an infrastructure coin fund that's looking at the layer one protocols, the layer two protocols, the Oracle networks, the stable coin offerings, and we've launched a factor-driven fund looking at the crypto factors that differ and provide diversification to the portfolios that you don't get in the public or private markets today. So we're looking at building strategies and taking existing strategies and finding new use cases for them.

Shawn Douglas

3:06:27PM

Rajeev, how do you see your clients incorporating digital assets into their portfolios, or are you guys doing that above and beyond?

Rajeev Sambyal

3:06:35PM

So the thing is, as I was mentioning earlier right, so I think that although a lot of inquiries and demand is from holding some of the cryptocurrencies in their portfolios by paying them and that's where we started in the public domain that we are building our own digital asset custody platform and pending regulatory approval hopefully we'll launch it later this year. So a lot of that was holding the assets in their portfolios, but now they are looking beyond just the traditional cryptocurrencies like we do a lot of our clients we are the biggest custodial firm who does upfront services on Bitcoin ETFs, right, so we do a lot of that work also. So the interest in this space is actually growing, right? So we are seeing a lot of discussions and inquiries around holding to organize assets, right? They want to see can we hold some of the tokenized assets. There's a lot of interest in the alternative space, right, so we are seeing interest over there as well just going beyond just the traditional use of cryptocurrencies. So yes, I think we are seeing broader interests from our from asset owners, asset managers right, to broaden the scope of digital assets.

Shawn Douglass

3:07:57PM

And Tracy, from your side, like what do you see from an infrastructure required to enable institutional adoption of digital assets and blockchain?

Tracy Moors

3:08:06PM

That's a great question and I think sometimes it's a hurdle that people perceive that's really not there. When you're thinking about building an application with our technology, you can deploy that on a traditional database. You could deploy that on post for us today. You could pick our three blockchain, you can pick any private blockchain that's out there to deploy their applications. So I think a lot of the nervousness around infrastructure cost to get started are unfounded. You really can get to market testing as Sandy mentioned use case to really see how that works. Now, how you build that out longer-term when you pick your underlying infrastructure on a blockchain is going to require a lot more work and thought and buy-in from the entire organization. And I think one thing that we failed to mention sometimes is that when people are building these applications they need to have their partners in mind. When you're thinking about the ecosystem, we've talked about multi-parties, you can't force your custodians and your administrators to necessarily use that blockchain if that's not what they're comfortable with. So having your partner's interest in mind and the flexibility to use different infrastructures to execute these transactions are key.

Shawn Douglass

3:09:35PM

Awesome. Rajeev, at BMI Mellon you guys have a unique vantage point anything with regards to custody and note infrastructure data and all of that stuff. What are your views on how hard is it to take an institution and bring them into the digital assets world?

Rajeev Sambyal

3:09:51PM

So my background is technology, right? So as a technologist and an engineer to see what this technology can do is just amazing, right? It's like you learn new things every day. But I think to stand up the infrastructure to bring this properly into an institution you would need to have a couple of things, right? So for us like a custodial bank, one of the most important thing is the safety of assets right, like how do you actually design it, architect it, control it, right, so a lot of focus around do you have the right foundational elements to be able to safe-keep the asset, so that's paramount, right? So you need to have like foundational build there. What goes along with this is the cyber security pieces, right? So you don't have to start anything new, so it's like you have to just identify what are the things where there are gaps, like as I said you have to have foundational elements of making sure the assets are safe-kept and you bring the cyber security pieces to it. The third element of it is the risk bits of it, right? Do you have the right risk infrastructure and risk processes to be able to make sure that you can bring in the crypto assets inside or do the work on digital assets broadly? That's the third piece. So I think if you have these couple of elements I think you can bring these in.

And another thing which we have done or we realized early on is that to actually partner to bring in like the industry partners who have the strength in some of these AVRs and integrate deeply within our ecosystem, right? So I think that has really helped us like scale this right, rather than building everything from ground up.

Shawn Douglass

3:11:42PM

Okay. And then the infrastructure to do that, I mean somebody can come to you and look for BNY's help doing custody, and part of that is just having good best practices on how to have processes and controls in place because the technology is maybe not that hard being a bank.

Rajeev Sambyal

3:12:03PM

Exactly, yes, you're right. I think it's not the technology, it's the surrounding. Look like we are one of the biggest custodial banks right, and part of it is like we're a 230 years old Bank, which has been built on trust. We have solid risk practices right, solid cyber security practices on the traditional side right, so what we have been doing over the last two years is actually how do we take our processes, controls, all of that, and bring it over to the [inaudible] because that's what institutional investors want from us. The reason they're coming to us is because they trust us, they trust us that we will be able to have the scalability, the security, the resilience to be able to do that, right, so a lot of work has actually gone in there.

Shawn Douglass

3:12:50PM

And how hard is it to understand what's happening globally, I mean, crypto is very much like FX that it trades around the clock around the world in every jurisdiction, so 30 exchanges, 15 major blockchains, like how hard is that?

Rajeev Sambyal

3:13:05PM

So I won't deny it's extremely hard, right? So I think that's where we are not opening up and saying that we're going to support every protocol under the Sun, right? It's extremely hard, extremely hard to be able to do that and plus right you need to work with--So the difference between a Fintech and an institution is that I can't just go in tomorrow and put protocols down and say we're going to support it right, so there is a legal regulatory element to it. We work with the regulators around that right? On top of it, the 24/7 element right, so one of the attractions toward digital assets or blockchain is the availability of 24/7, so all of those models right, you need to build up and we are building up those models, and we're incrementally adding protocols to our portfolio right. So we are launching with Bitcoin and Eth this year as our product portfolio grows, and one of the things consequently, I keep on thinking as part of the product is that what is the expansion strategy? What we are going to do next? And a lot of it is driven by client demand.

Tracy Moors

3:14:07PM

I think there's also evolution within this space that's happening that's really interesting from an institutional perspective, because a lot of this started with the ethos of people that were kind of anti-authoritarian that they didn't want institutional investors in there, they didn't want institutions participating, and now you're seeing a real tension starting to emerge because there are many projects and many protocols that today are very much looking to build in some of the controls that we as institutions would want to see in any investment landscape that we get into. So there's some interesting new concepts coming out, concepts around white listing as opposed to black listing, so going onto only networks where people are agreeing to self certify that they are who they say they are and you will only transact with people who can self certify that they are who they say they are, going into digital identity verification, there's some really interesting new pilots emerging around digital identity verification, so that without exposing who your identity is you can get your identity verified almost like Paypal will let you use your debit cards, there's going to be centralized services that will verify your identity to allow you to engage in certain protocols and transactions. So we're starting to see the space itself build in some new capabilities that will make it easier for institutions to participate.

Shawn Douglass

3:15:36PM

Yeah, that's a massive trend, I am seeing that as well. Like I know that all the [inaudible], Avalanche, Polygon, quite a few, Ave, are all building institutional actual platforms where they're going to do either KYC their customers, separate pools would enable institutions to have less fear in operating. It's interesting from our vantage point, we also have a lot of institutional customers to participate in Defy and they're looking at it. We do our diligence to make sure that we are compliant and that they're going in, they're talking to the regulators and make sure they are transparent and they are open, but they are leaning in and they're leaning in pretty aggressively. And I think last year that wasn't true, and I think right now, even though it's kind of a nasty market today and it has been in the last couple of weeks, I think that people are looking at this as an opportunity to lean in and not step back is the way I think we're starting to see anyways.

So at Amberdata, we have a unique vantage point, where we see what's happening across stock markets, across derivatives markets, options, venues, everything on-chain, and in every protocol, who are the liquidity provider, who's making money, how are they making et cetera. There's a lot of complexity in being able to understand the difference between what a wallet is doing, between what an asset or a pool is doing which is like a central limit order book on-chain kind of managed by a market maker, and what's happening out of a protocol perspective. But I think that like there is us and others that are starting to make that easier to understand. So what are the other challenges associated with institutions being able to lean in more into digital assets and why would they want to? I'll open it up to anybody.

Rajeev Sambyal

3:17:30PM

So I think, like just carrying on that discussion we were having a couple of minutes ago. I think from an institutional perspective, I think when institutional clients, what they're looking for right, it's a couple of things right? Like they're looking for trust, resiliency, scalability, and security, right? So mainly most of the institutional clients that's what they are looking for with their assets, right? And that's why they come to like institutions like Bank of New York Mellon, right? Can we actually provide all of this, right? And if you look at our traditional space, so we have been providing this for quite a while now. So again, we're one of the biggest custodial for the bank so we have the trust in the market space to be able to do that. Scalability-- we provide, we have the financial backbone on the traditional space as Bank of New York Mellon. Our security, again, sound security practices, which have enabled us, whether it is lending, collateral management, and bond issuance broader market infrastructure, you name it in the traditional space we cover all of that, right? So I think that's what institutional clients are looking for and I think when we have the discussions with institutional clients or when I have discussion with institutional clients I think these are the pieces we are trying to highlight, how are we actually transforming the digital assets space and moving some of these over to digital assets. right? So I would say that's sort of where infrastructure is concerned.

I think it's a matter of scalability right as I said that you take certain protocols into the mix and then you scale up, but at the same time the partnership with Trintex or broader institutions, so we have publicly announced our partnership with [inaudible] analysis, our investment in coin metrics, our investment in five blocks. So all of these partnerships are helping us bring these providers or Fintechs who have the capabilities in the space and we are trying to integrate like back into our bank [inaudible].

Sandy Kaul

3:20:01PM

And if I can just add to it, I think the other thing that institutions need to think about and bring to this space just curiosity, right? I mean, there are new things happening that are rewarded in ways that we've not seen before. Shawn mentioned in the intro that this is an incentivized space, so when you participate, when you add liquidity into the system, you are rewarded for adding that liquidity through token drops and coin drops that will actually give you another asset simply for participating. That's not something that we've seen before, that's an interesting new model to experiment with.

When you look at non-fungible tokens, today, they're being used for kind of silly collectibles that might appeal to your teenage kids, but once you take one step back and you think about what a non-fungible token could provide exposure to, think about all of the algorithms that companies use to drive value, think about the data pools that they have locked inside of them, think about the intellectual property that they have in terms of brand programs and loyalty programs, and think about what it would be to be able to get direct access and invest in those assets and get return streams from those assets right. So there are a lot of new models that are happening in this space and we as institutional investors need to have our curiosity in place and really start to think about where can I bring these benefits into my members and into my organization.

Shawn Douglass

3:21:32PM

I think that's a great point Sandy, like the whole concept of an NFT is simply a mechanism for digital rights management and even the capturing of annuity streams off those digital assets, it's profound. But when you start to look at the loyalty points programs that are happening with Adidas and Nike and every major brand and every record label and they're starting to--and a lot of the sports labels, they get it, they are leaning in. There is an opportunity to build lifelong relationships with their customer base that they can't through any other loyalty program that has incentives, that gain momentum, and snowball overtime. It's pretty profound and then on the financial services side, there is new financial primitives that are being created. It's basically just like Fintech won that old factor of payments out of banking, now you're taking in yield generation and factoring out that because you can't make money on treasury bonds anymore, so there's--

Sandy Kaul

3:22:30PM

Yeah, well I'm thinking about like--I mean this is the one that just always blows my mind right is that in the game Fortnite last year, an artist, this guy Travis Scott did a concert, sold tickets to the concert in the game, and had over 700 million people watch his concert. So think about that just for one second that when you think about new distribution channels or you think about new opportunities or new economic models like that is mind-blowing to me that that happened and that happened in 2020, that's already two years ago. So I mean, there are new things coming that we haven't thought about in our calculus and I think that it's really staying open, and not drawing quick conclusions on any one day of price action or any one blow up of a protocol. This is really a whole new ecosystem that we have to embrace and learn about and as Rajeev said there are beginning to be the right ways to participate in this space that can make it safer for us as institutions.

Shawn Douglass

3:23:35PM

Let's talk about risk for a second. So earlier you talked about UST Luna stable coin. So for the people that don't know in the room, UST was a stable algorithmic stable coin that had mechanisms that incentivized it would be pegged around the price of a dollar, but financial markets are hostile places and once that peg was broken there wasn't value that was destroyed, it was value that was transferred to somebody else's wallet. And I think that we're seeing that even today, Celsius in the news. They were a lending platform that evidently is in trouble today and it's this innovation around these different opportunities but for the case of UST Luna, it was fairly transparent even though it was ugly and what happened how fast it happened, I think the space there is better transparency and digital assets in any traditional financial market, but how do you look at risk in this space and how do you kind of stick a toe in without losing your foot?

Sandy Kaul

3:24:44PM

I think like how Tracey said part of the way you look at the risk in this is you start with private blockchain and models that we know and get used to the new technology and use cases that we know need fixing, so there are still lots of products we trade where it's very manual, we're exchanging paper through pdfs and faxes still. There are opportunities there to get our toe in the water and get used to the new technology and use cases that will make our own lives easier. But I think that the way that you think about risk in these markets is you have some risk capital that you invest to understand and really start to get the nuances of the space. It's always hard to understand the space looking from the outside. The reason that Terra blew up so much is that market professionals saw the problems with how they had designed the algorithm around keeping their peg and they exposed the problems. This is a service that we did, this isn't something necessarily bad, this was good because they need our expertise. We've solved hundreds of thousands of financial problems effectively that we can transfer that knowledge into this new space. That's why things like what Rajeev is talking about in terms of building out the right custody environment for risk and security is so important because we understand what safe keeping means, right? They don't understand what safekeeping means. They think having your wallet unplugged from the internet is safe, right? That's not quite safe enough. So we need to bring our knowledge into this space to really build the right types of risk oversight because we're the ones who really understand risk management.

Shawn Douglass

3:26:30PM

Tracy, do you want to comment on that on the risk component or on whether financial institutions should invest in digital asset initiatives just generally?

Tracy Moors

3:26:40PM

Yes, I think what Rajeev said earlier and it's just really a key line as we think about the industry or anything and that's best practices. Regulation continues to expand and that's not going anywhere. Best practices are key. When you think about digital assets and blockchain those best practices just need to evolve. You need to think about the new risks and you test those risks and you need to test those with your partners in the market, and that's how we build better best practices for this new industry.

I think one of the risks that we see and we hear in our conversations is around data and transparency in a transaction certainly appeals to everyone when they think about real-time actions. But with that excitement comes the fear about who can see what. So what we like to talk about is sub-transaction privacy. So yes, you, party A and party B can see what each need to see in a transaction, but party A's data stays with party A and party B's data stays with party B. And that gives that comfort to move forward with that transaction leveraging best practices around cyber security and data management, but with the new efficiency of real-time transparency where it needs to happen. So that's a lot of what we're--

Shawn Douglass

3:28:19PM

Isn't a lot of the value from a blockchain, whether it public could be public or private is that transparency is an attribute for sure but isn't it also that it's not just the database, there is actually a record verifiable that's never been tampered with and nobody can come in and change the books later on. I mean, it's like you know that you always have the correct data and that data is completely transparent, which when you think about traditional financial markets with all of the layers and all of the intermediaries, one database talking to another database talking to their back office, et cetera, et cetera, there are just all kinds of things that need to be reconciled end of day, end of month, end of quarter, end of year, where a blockchain it's always the single source of truth, right?

Tracy Moors

3:29:04PM

Yeah, it's removing reconciliation and I think that reconciliation is not a nice word in the industry, but it's a reality. And how do you remove that reconciliation, but also not having party A see what party C is doing when that obviously doesn't create that comfort that it is going to hold water with regulators and with best practices at an institution.

Shawn Douglass

3:29:33PM

Rajeev, did you want to weigh in on the risk thing?

Rajeev Sambyal

3:29:35PM

Yeah, so I was just going to say that as Sandy was mentioning, I think what happened with Luna is actually good, right? So we had an innovation cycle right, so this is the time to filter out a lot of noise like things which are good and things which are not good and bad and all that stuff. I'll tell you like four weeks ago or three weeks ago no one was even talking about Luna algorithmic stable coins, except for the people who knew what is the difference, right? But now pretty much I think 90% of the people are educated on okay, what does is [inaudible] at least bits of it they understand now. So I think this is actually really good to have some of these things because it actually educates people in terms of so that they can make better decisions, risk-based decisions on where do they want to go.

Shawn Douglass

3:30:24PM

I think that's a great point, it really is. I think we have about five minutes left. Maybe we just start at the end down here and just say what would you like to tell somebody that was starting digital assets or crypto today? Like what do they need to know and what should they be excited about?

Tracy Moors

3:30:46PM

I think we've talked certainly a lot about best practices, key things, but I think starting small. I think the key message I would say is that yes, it is a revolution, but you need to evolve over time to get to that revolution and it doesn't happen overnight. You need to work with your partners in the industry, you need to work with your counterparties, the trust that you've built over the years from these relationships will help you leverage this new technology and find these efficiencies going forward. I think there's certainly a lot of green field out there for asset classes, for replacing legacy tech. I think over the last 10 years we've done a lot of putting bandaids on problems in fact compounding these issues by just adding more tech on top of it I think over time, it's building new and building things the right way as we start replacing some of these legacy systems.

Sandy Kaul

3:31:52PM

I would say learn, right? I mean, I always tell people start with the infrastructure. Do you understand the differences between something like Bitcoin and something like Ethereum? They're completely different animals, right? And they offer different value propositions. Do you understand what a layer one protocol is versus a layer two protocol? Do you understand what an Oracle network is, what smart contracts are? This is going to become the language of our future and we can all start to educate ourselves on this today and watch as it evolves. Because it's like basically a whole new set of investable products that are coming that we're going to have to reconcile some way with whether it's through our customers, through our participants, or through our governments and we're going to have to understand these assets in this ecosystem. So I would just encourage you to go out and start to learn.

Rajeev Sambyal

3:32:50PM

Yeah, so at Bank of New York Mellon, I think last year in Q3 or Q4, we released a paper and we said that digital assets are here to stay and we firmly, firmly believe that top-down, right? So I think for anyone looking at it I think the only thing I would suggest is like go beyond Bitcoin and these cryptocurrencies, it's a much broader percentage point. Like if you explore areas you will really find a lot of things you can look at.

The last thing I would say is that we are building new market infrastructure and digital assets. We are actively hiring, I have to do my plug over here, right? So if you are interested in building the market infrastructure find me or shoot me a note or something, engineering, product, anything.

Shawn Douglass

3:33:40PM

Awesome. I actually have to comment on this one as well. So like Sandy mentioned, I live through internet one data. It's going to be a brick-and-mortar business so you're going to have a webpage and you fast forward to where we're at today and the internet is pervasive. Digital assets are just the financialization of the internet. It will touch every business, every person in the world, and if everybody in this room talks to the smartest person you know, I almost can guarantee you that they are interested in looking at digital assets. And as financial professionals, there isn't a tremendous opportunity around derivatives, around options, around vaults, around yield generation that you can't even find in traditional financial markets. And be safe, go small, but get your toe in the water or you're going to miss out. You'll probably be wondering what happened here as everybody passes you by.

So I think we can open up to a few questions. Okay, great.

[Applause]

Bill Stephenson

3:34:51PM

So I'm going to call an audible here real quick. We're going to put Jack Devine on before the break, so if everyone can just stick around we want to get him on as the featured speaker and then we're going to do the break and then the roundtable sessions. So Jack is going to come up here in a moment, so if you can stick around that would be great. Thank you.