

**dakota**

EPISODE 24:

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# A Masterclass of Digital Assets Investing

*with Joe Marena of Cambridge Associates*



**Robert Morier:** Welcome to the Dakota Live! Podcast. I'm your host, Robert Morier. The goal of this podcast is to help you better know the people behind investment decisions. We introduce you to chief investment officers, manager research professionals, sales leaders, and other important players in the industry who will help you sell in between the lines and better understand the investment sales ecosystem. If you're not familiar with Dakota and their Dakota Live! content, please check out [dakota.com](https://dakota.com) to learn more about their services. Before we get started, I need to read a brief disclosure. This content is provided for informational purposes and should not be relied upon as recommendations or advice about investing in securities. All investments involve risk and may lose money. Dakota does not guarantee the accuracy of any of the information provided by the speaker, who is not affiliated with Dakota. Not a solicitation, testimonial, or an endorsement by Dakota or its affiliates. Nothing herein is intended to indicate approval, support, or recommendation of the investment advisor or its supervised persons by Dakota. Today's episode is brought to you by Dakota Marketplace. Are you tired of constantly jumping between multiple databases and channels to find the right investment opportunities? Introducing Dakota Marketplace, the comprehensive institutional and intermediary database built by fundraisers for fundraisers. With Dakota Marketplace, you'll have access to all channels and asset classes in one place, saving you time and streamlining your fundraising process. Say goodbye to the frustration of searching through multiple databases and say hello to a seamless and efficient fundraising experience. Sign up now and see the difference Dakota Marketplace can make for you. Visit [DakotaMarketplace.com](https://DakotaMarketplace.com) today. Well, that out of the way, I am very happy to introduce our audience to Dakota's CEO and founder, Gui Costin. Gui, welcome to the desk.

**Gui Costin:** Thanks for having me. Appreciate it.

**Robert Morier:** It's nice to have you here. We really appreciate it. We have a very special guest today who is in from out of town. Joe, very nice to meet you and have you on the show.

**Joe Marenda:** Thanks for having me.

**Robert Morier:** Well, I'm happy you were able to be here today, Joe Marenda, partner and global head of digital asset investing at Cambridge Associates. Joe, welcome to Philadelphia.

**Joe Marenda:** Thanks so much.

**Robert Morier:** Well, you were in Miami last week. I know you've been on the road quite a bit in April and May, so we appreciate you being here and extending your road trip into Philadelphia. So, what I'll do for the audience is I'll let them know your

background, who you are, where you're from, and then we'll get into the questions. Joe joined Cambridge Associates in 2006 and brings 25 years of investments and alternatives investment experience to his clients. He is a partner and head of digital assets investing specializing in discovering and diligencing blockchain-related funds across all fund formats. He also serves as the head of the firm's San Francisco office. Joe contributes to firm research on alternative assets and portfolios and crypto blockchain more broadly. Joe built the first crypto blockchain portfolio for a Cambridge client beginning in 2018 and completed the firm's first due diligence on a crypto fund in 2017. For those of you unfamiliar with Cambridge Associates, Cambridge is a privately held investment firm providing advisory and investment solutions to institutional investors, including foundations and endowments, pensions, private and corporate and government entities. Founded nearly 50 years ago, the firm has 11 offices we've counted, 11 offices around the world, with well over \$500 billion in assets under advisement. Prior to joining Cambridge Associates, Joe served as a senior analyst at a family office. Previously, he was a turnaround CEO at Kaizen, a Tokyo-based tech company focused on the Japanese public markets. Prior to Kaizen, Joe was with a family office investing in special situations in venture capital. Joe is a graduate of the University of Southern California with a degree in East Asian languages and cultures. He followed his BA with a master's degree in East Asian studies from Yale. And finally, he received his MBA from the University of Virginia at Darden School of Business. So, congratulations. Thank you for joining us. And really, congratulations on all your success.

**Joe Marenda:** Thanks. Thanks for having me.

**Robert Morier:** Well, so I wanted to ask you, just because you spent a lot of time in Asia and you do speak Japanese, what was more difficult to learn, Japanese or blockchain technology?

**Joe Marenda:** Honestly, blockchain tech. Japanese has two alphabets plus the characters and lots of honorifics, but blockchain is a lot more complicated.

**Robert Morier:** Yeah, OK. That's good to know. So, for all of my undergraduates at Drexel University--

**Joe Marenda:** Yeah, take classical Japanese first and then figure out blockchain later.

**Robert Morier:** All right. I'll let the students know right away. Well, you've been with Cambridge going on 18 years now-- so again, congratulations-- the majority of which were on the hedge fund side of the practice. So, what took you to Cambridge originally? You were in Asia, obviously, studying East Asian culture and languages. So, what took you on your path to Cambridge Associates?

**Joe Marena:** Well, the Asia outcome was more a result of having studied a lot of Asian cultures and languages when I was an undergrad. And then I thought I wanted to get a PhD. Turns out I only wanted to get a masters. And then, like, what do you do with two liberal arts degrees? So, I actually worked with a company that did a lot of US-Japan technology transfer back in the early '90s. And that actually was part of the formative reason why I understand and got crypto and blockchain tech so quickly, because we worked with a lot of the early pioneers in Unix and Linux. And we also worked for some early distributed database tech and some collaborative software technologies. And that basically led me to this company called Kaizen, which at the time, we didn't know we'd done it, but we gamified investing. And that was a huge step in Japan because in the United States, we deregulated our financial markets in the '80s, and then the internet happened roughly a decade later. In Japan, it all happened at exactly the same time. So, you had all these people who suddenly could trade stocks individually, but they had no idea what to do. And so, we created, basically, investment games. And this allowed people to learn how to trade stocks. And we created a cell phone trading interface back when you had, like, 9 to 9 keys kind of thing. And so, we created a whole generation of investors, mainly through gamification of investing. We just didn't know we'd gamified investing at the time because that term hadn't been invented until much later. And that really was the beginning of this whole progression, actually, in blockchain. But it also is what led to Cambridge because in 2001, the internet blew up, and things got pretty slow in what I was doing. And I'd gone to a family office, and just by chance, a colleague of mine, now at Cambridge, was a co-classmate at Darden. And he'd gone in 1995. And he just said what a great place Cambridge was to work, and we just started talking. And the next thing I know, I'm working at Cambridge Associates.

**Robert Morier:** In the California office?

**Joe Marena:** In the California office.

**Robert Morier:** OK. Wonderful. So, alternatives in hedge funds for 16 of those years. So, did you go right into the alts side of the business?

**Joe Marena:** I did, yes, right into hedge fund.

**Robert Morier:** Was that because of the family office background?

**Joe Marena:** Yes.

**Robert Morier:** Great. And were there certain ties that you saw going into-- I mean, 16 years in hedge funds, particularly over the last 18 to 20 years, has seen some

significant changes. So what were you coming into, and what did you develop over time as you saw the practice and then through the practice?

**Joe Marena:** Hedge funds have gone through two iterations, really, in those 16 years. From about 2006, when I joined, to about 2012, everybody wanted to be invested in hedge funds. Returns were amazing. Alpha was great. They protected in the global financial crisis. And during that time, institutional investors were taking hedge fund allocations from probably a fund of funds all the way up through maybe 25% of the portfolio, sometimes even 30%, and having large, diversified hedge fund portfolios. And then interest rates went to zero, and suddenly, alpha became a lot harder to find. All the arbitrage strategies-- you didn't get paid for shorting either the arbitrage side or being in long short because the short rate was zero, so you really had to be good at your shorting. Otherwise, it was very expensive. And hedge fund returns slowed down along with risk assets being rewarded. So long-only venture capital private equity, those did incredibly well during this period. So, it's great if you had to recite portfolio, because one thing it does poorly, one thing it does great. And hedge funds weren't doing poorly. They just weren't nearly as exciting as long only in venture. And so that largely defined like the last decade of hedge funds, which was 0% interest rates, easy money, financial repression. And that really, I think, was one of the fundamental things that crushed hedge fund returns. That and no short rebate. But even though I'm no longer really deeply involved in hedge funds like I once was, because I'm spending a lot of time on digital assets, we're in a different interest rate regime. And suddenly, you get paid for shorting again. So, I think we have a much higher probability that hedge funds are going to be really attractive going forward. Alpha generation, you know, companies can fail now. Actually, before, when there was free money, it was kind of hard to fail because it was just like, here's more money. And so, I think we're in a very different environment. Arbitrage suddenly looks a lot more attractive. But nevertheless, hedge fund programs are now much more diversified. They're much more focused on absolute return, trend following, global macro things that diversify your portfolio risk. And a lot less long-short. But there have been three real interest rate regimes in the time I've been investing, and I think hedge fund performance has generally followed that. And my interest in blockchain really was an outgrowth of having seen all these different investment strategies and then understanding how capital markets work, just seeing them from the inside and understanding that blockchain tech could actually disrupt and disintermediate the way we've been doing business as a financial community for the last century.

**Robert Morier:** Well, I heard you say, I think it was at a recent conference, that back in 2016 when you started looking at digital asset funds, that you couldn't find any. So, it's an interesting time. So, you have this interest in this asset class that's growing very quickly. There's a precedent in different parts of the world that's trying to come to the United States or at least develop in the United States. So, can you share,

leading into 2016, what precipitated the research? And how did that ideation process take hold?

**Joe Marena:** So, it was really a two-stepper. First was the experience I had in the 1990s with, we call it Web 1 now. We just called it the internet back then. And that was a bit formative in that I could see how tech could suddenly transform. And it was transformative and also highly disruptive. We created a new business model. Kaizen was a totally new business model. We created games, essentially, and people could learn to invest by playing these games. And so, I saw how tech could really change people's lives for good and for bad, because some people were, no doubt, addicted to the game. And then you have the global financial crisis. And it's like, well, those two aren't really related. But in my experience, they were, because suddenly I understood how, if people lose confidence in fiat currencies and the markets and governments, that this alternative thing called bitcoin made a lot of sense. And so, in 2013 when I ran across this article in *The Economist* about this thing called bitcoin, I was like, wow, that's really interesting. And suddenly, I was like, wait, we were doing distributed computing and distributed databases in the 1990s. We gamified investing in the 1990s. We disrupted an entire financial services industry with people being able to trade on their cell phones and from their home laptop and desktop. And now people are beginning to wonder what's next. And so those two things just came together at this aha moment for me. I don't think I said aha, but some people do. I'd like to think that I said, aha. You know? Like the apple fell on my head.

**Robert Morier:** Hopefully, someone heard it.

**Joe Marena:** Yeah. No, I was just, I'm sure I was sitting eating breakfast or something, reading *The Economist*. And then I started thinking about what this meant, and having been invested, working with hedge funds for so long, I started to see how this tech could actually roll out and be disruptive, more to like my business model and what I was doing in financial services than broader consumer applications, and that was because there was like Bitcoin back then and a couple of crazy ideas. And then in 2015, when the Ethereum whitepaper came out, I was like, wow, that's-- this is kind of interesting. And Ethereum, for those who don't know, think of it as like an operating system on your computer. It basically allows you to do a lot more things with your computer. Otherwise, your computer is just a box with a bunch of electronics, and you're like, well, that's not very interesting. But Ethereum allowed, when it was fully developed, it would allow for a lot more interesting applications. We call them smart contracts, which are basically just software that allows you to do more complicated things. And suddenly, we went from having like-- imagine a flip phone with limited things you could do with it to having an iPhone, and iPhones were 2008. We all forget that they weren't very long ago. But what I really realized at the time was that blockchain tech could really reorganize society, but more importantly businesses and actually create opportunities for folks that didn't

have any opportunities previously. And if you had it, for example, a fiat currency that was highly inflationary, then having something outside the control of your local government, like Bitcoin, is actually really good. And I think I'm going to go on a little tangent here, but this is one of the challenges I think Americans have with understanding blockchain tech. And it's that our lives are relatively comfortable. We generally have faith in our system. Our currency is relatively stable. We think 5% inflation is like a crisis. No. No. No. 50% inflation is a crisis, and lots of the world has 50% inflation, and they live with it every day. And so, in the context of knowing that next year you're going to have half as much money as you had because of inflation, or I could shield some of that in Bitcoin, which is priced in US dollars, Bitcoin actually makes a lot of sense. And so, stepping outside of the comfort zone of living in suburbia in the United States, and thinking about the globe really changes your perspective on blockchain tech, and that's really what it did for me, and I'm sure having lived in Asia it really helped.

**Gui Costin:** Since you got into it, what's been the uptake from institutions investing in blockchain chain type funds?

**Joe Marena:** It has been slow. What's ironic is that if you have venture capital in your portfolio, you have blockchain tech because traditional VCs were investing in blockchain. So even folks who say, I don't want that, I'm like, well, you already have it. And so that's one. It was always there. It's been there. Some very famous VCs were investing in blockchain companies back in like 2012, '13, '14 with Coinbase in its early rounds. And so blockchain tech has been in portfolios, actually, for a decade at this point for a lot of folks. In so far as dedicated blockchain funds, we've got a bias in favor of venture capital structures. It's because the tech is so young and new, but also, we are much more interested in the tech and what it can mean for society and business models than we are in like the liquid tokens and trading tokens though.

**Gui Costin:** So, infrastructure is what you're...right.

**Joe Marena:** Infrastructure but also applications.

**Gui Costin:** Gotcha.

**Joe Marena:** Yeah. So basically, all of the stuff that goes into creating a new business model, and so it's everything from the very base layer of infrastructure all the way through creating a really good user experience, which honestly most blockchain tech is not, it's a bad user experience. And they're working on that very much so, but it has been slow in terms of institutional adoption. I would say that up to a third of institutions have some exposure in a dedicated way, mostly through venture. Interestingly enough, even though Bitcoin got a lot of attention over the last decade, it was the first, but also it was the thing that hit 68,000, and people like big

numbers. So, it got a lot of institutional attention. As far as direct holdings of Bitcoin, it's actually quite thin globally in institutions.

**Gui Costin:** And when you think about, so what interests me is this, how about let's move just to the business question? How many businesses are starting to adopt and build applications? Because I heard one, we could put all the ownership of real estate in the United States on the blockchain. I don't know if are things moving in that direction?

**Joe Marena:** They are, and I'd say that, I was talking with, this is, I've done at least 100, if not 150 crypto 101 sessions with our clients, where I basically just explain blockchain tech. And I was in one of this. This is during the COVID era, so it was by Zoom. And one of the attendees, and he was the CFO of a major US corporations. He just gets up and walks out of the meeting. I was like, well, that... this didn't go well. And then like 10 minutes later, he came in and he said, oh, I eat. I was just... sorry, I was gone. I just, I was talking with our CEO asking him what our IT department was doing in terms of developing blockchain tech, and he said, everything we're doing is focused on blockchain tech, so I was glad that he left the room and came back. But it's actually quite broad, and there's... but I'd say it's more like alpha and beta tests, like trying to figure out what the applications potentially are and what it means. And blockchain tech is a fundamental transformative technology, and that means it's going to be a really bumpy road in terms of implementation. And so, if you remember, for those of you who are around, in the 1990s, they introduced client-server computing to companies, and everybody assumed that, well, if you want client server, suddenly, you're going to have this massive uptake, and there would be this huge improvement in productivity. And then what they realized is they had to retrain all the employees to work with the new tech, and that's exactly what's going to happen with blockchain. We can figure it out, but in the end, you're going to have to retrain your employees to work with this new technology. And we haven't gotten to that point yet. We have some beta tests. We have some applications that have been out in corporate structures, where they are, for example, using it to manage accounts receivable or track, you know, turkeys or salad throughout the supply chain because when you find E coli, you have to throw out everything that was potentially affected. But if you know exactly what turkeys went through, what part of the system that had the E coli, then you only have to throw out those turkeys. So, it's actually... those sorts of applications have been underway in corporations for quite some time. The United Nations has some tests, so it's one of these things where we are still, if we were in internet days, it's 1996, '97, '98, where companies are like, well, there's this thing called the internet. We should probably try to figure it out, but right now, all you can really do is buy a book with it, and maybe buy an airplane ticket. That was about what you could do back then.

**Robert Morier:** Yeah. It was in my high school library. I remember that was a big deal.

**Joe Marena:** Yeah, exactly. Yes. Yeah.

**Robert Morier:** But a client did invest. So, in 2018, you have your first client who does invest. It sounds like there was a lot of education that went into that, not just to Gui's question, the institutional take up, but how about with your clients and their consultants that you also have to convince I would assume as well? Your colleagues. So that education process must have been interesting just from, as you were saying, you wanted to be a teacher, so all of a sudden, you're teaching again. You're teaching your colleagues, which is a different type of teaching experiment. So how was that process for you?

**Joe Marena:** It was tons of fun. It's still going on. The tech changes every day. It's the most engaged I've probably been with any form of technology in my entire career because something new happens every day. And so, the education never stops, but the process really was twofold-- and one was-- one part of it was really creating this arc of computing. And if you think about it, we started with mainframes in the '40s and '50s. And then we introduced mini computers which are just small mainframes, in the '60s and '70s. And then we had the introduction of TCP/IP, which is the basis of the internet, although to date nobody's ever asked me how TCP/IP works, but everybody asked me how Ethereum works. So, we had TCP/IP, which basically allowed us to create the local area network. And when we had the introduction of the personal computer in the '80s, then suddenly you had client-server computing in the 1980s and 1990s, then you had the introduction of the iPhone and cellular systems broadly speaking. And suddenly, everybody has the internet in their pocket. But what that really means is we've gone from highly centralized computing steadily, basically every decade or two to a more decentralized form of computing, and we've been on this march for basically 70 years at this point. And so, it's pretty straightforward to assume that there will be another move to more decentralized computing from where we are today. And so, one is just that arc, which is I think fairly compelling. I don't know why it would suddenly stop with cloud computing and the iPhone, for example. So, I think it will continue, and the next natural step in that arc is blockchain tech.

**Robert Morier:** So how do you see the relationship with decentralization and governance? Because the more you decentralize, the less oversight. There is less oversight there is, the more nervous, potentially, institutional allocators can get or their consultants with their fiduciary responsibility over their assets. So how do you see that relationship between governance and decentralization?

**Joe Marena:** So this is really fascinating because while we're still trying to figure out governance on the blockchain, and there's been lots of different experiments, and we are very much in the experimental stage, the rules are actually pretty straightforward when they're well written in the sense that corporate governance took probably, whatever, 100 years to get to the point where we are today, and then there was obviously some regulation by the federal government in between. And yet in the case of blockchain tech because it is all written into code, if somebody has translated the code into whatever language you're reading really clearly, everybody knows how governance works. Now, there can be bugs in the software, and that's a perpetual problem with governance as well as blockchain tech, but if the rules are really clear and everybody understands how voting works and how the process of bringing something to a vote works is actually in some ways clearer than corporate structures. Because in blockchain tech in most cases anybody can promote an idea at any time as opposed to waiting for the annual meeting and going through the whole proxy contest, but this means there's a lot of votes. And so, what's going to be a challenge for institutional investors is suddenly they're going to need to be much more engaged with the governance process if we eventually get to a blockchain-based world, which is still a TBD. But if we do, suddenly, instead of having, for example a proxy advisor advising you on how to vote your shares, you're going to have token advisors, basically, who will look at and suggest. And then you might say, well, Robert really knows this protocol really well, so I'm actually going to allow him to vote my tokens. And so, you actually see a very different structure for governance going forward, but theoretically, it's more Democratic than what we have today. Supermajority voting-- so far, it doesn't exist. You don't have class A and B shares in the case of tokens at this point, and I hope we don't get to that point.

**Robert Morier:** So, at Drexel University for Career Development, I can talk about token advisors. That's the next job.

**Joe Marena:** Yes. That will be... yeah. Maybe it might be five years, but yeah.

**Robert Morier:** OK. That's good. You never know. Well, it's interesting. So, if you think about digital assets from an asset allocation perspective, I, again, heard you say that it needs to be more than just a risk asset. It needs to be a diversifier. Do you see that happening as well within the next five years?

**Joe Marena:** Debatable. I think that's still an open question mostly because we are so early in the tech, and one of the challenges is that this is really like 1995, '96, '97 in terms of the internet. And so, we have a long way to go before we end up with a lot of attributes beyond risk, and that this is a growth asset. However, having said that, because these are liquid assets in many cases, and they're traded 24/7, 365, there is an enormous amount of data, and I think blockchain tech does not get enough credit for the amount of data that's available. So, there's lots of pools of

alpha, but there might be too much data to be honest. And so, I think we might get to some point where hedge fund strategies, quantitative strategies, actually, can be designed in a way that they are diversifiers to the total portfolio. And you can create uncorrelated return streams. To date, things have been pretty correlated at this point.

**Robert Morier:** Interesting. Well, I did ask my students at Drexel to share a couple of questions because they're much more informed than I am on digital. I've learned a lot from this conversation, so I appreciate it. I know Gui does as well. One of the questions they asked is investors are often told to Zoom out when considering the short-term volatility of their investments. In what ways might this apply or not apply to crypto?

**Joe Marena:** It is a fantastic way to think about crypto, and we're talking about liquid crypto at this point, I assume, based on the question. Short term volatility is extraordinarily high. This is basically a 20-to-30-year technology trend, just like the internet was. Everyone forgets. I mean, I was running a company at the time in the 1990s. It was crazy. Like, the day-to-day drama on the internet in that era was extreme, and now, we have the internet on steroids because it's traded 24/7, 365 globally. And before the internet was siloed, and we were largely private markets at that point. So, zooming out, it's really the way to think about it. And if you think about this as a generational shift and a generational trend, you can stomach the short-term volatility. It's also good not to look at token pricing day to day. I have to, but I've gotten numb to the volatility. But think about Bitcoin has an 80% standard deviation. Like, what other thing in any portfolio has an 80% standard deviation? And like probably nothing. And sometimes, it's really correlated, and sometimes it's not. And what I remind people of is if you think about Bitcoin at 80% standard deviation, you need to think about it from the perspective of market participants globally, not just-- which goes back to my earlier comment, which if you think about it in the context of somebody who's living in an emerging market with high inflation, or where the government likes to seize assets, or where they are at risk of being , suddenly having this thing that you can walk across a border with is incredibly valuable. And that's an example of zooming out. You're just not zooming out from a market context. You're zooming out from a life context. And so, from that perspective, there's lots of ways you can zoom out, but zooming out is great. The other thing I'd say to think about in terms of liquid tokens, which do get a lot of news is you are rewarded for buying low in this market and you're actually penalized for buying high. Humans want to buy high. As species, if we see a bull market, we're like, yeah, let's go. This is a great time. The worst possible time you can be investing in something is with an 80% standard deviation is in market highs. Because you know within the next 6 to 12 months, you're going to be at market lows. And so, what's funny to me is that humans want to buy Bitcoin at \$55,000, but when it's \$25, they're like, no. That's terrible. I don't want all that. It's like, well, wait a second. You

loved it at 55. Why don't you marry it at 25? And yet humans as a species are like, no, no, no. I want to wait for it to get really expensive. But in the case of crypto because it runs at such a high standard deviation, you are rewarded for buying low, and that applies whether you're doing venture capital or whether you're doing liquid.

**Robert Morier:** I think that's why we need independent risk managers. Even asset managers need somebody on the side to help them discern when to buy or when not, when there's too much risk on the table. So, when you think about the risk management equation as it relates to your manager research role, have you seen risk management improvements from your manager's perspective, and have you have you been hearing from your clients that they're looking for more diligence, more risk management, more oversight as it relates to their investment?

**Joe Marena:** All right. So, I'll take the second part, and then we'll go to the managers. Well, we've been doing this for, actually, this is our 50th anniversary this year, so we've been doing this for 50 years. So, our process at this point is fairly well developed. We've had lots, we had 40 years of doing venture capital, so we follow the same process there. So, nobody is really questioning that aspect of it because it's been so thorough. But the first part is actually a really of high concern to me, especially, and that's because we have basically a new asset class. I'm going to call it an asset class. It's in quotes, but it's new for sure. And one of the challenges is that suddenly you have institutions. The investment firms that we invest in are holding things that really don't look like anything they've ever held before. And so, you will have venture capital firms suddenly holding within the space of two to three years a significant portion of the portfolio that is liquid. Historically, venture capital firms do not hold liquid things. Certainly not in size, and they actually have, they typically sell upon something going liquid. In the case of a private venture capital investment, it goes liquid within two or three years, and then there's still three to four, five years of real high growth in front of it for that liquid token, and the venture firm is likely to hold it. They don't typically have risk management functions, and they all need risk management functions. If you're going to hold anything liquid, you need a risk management function. That is still being learned. And so, when... if somebody said pick your favorite, like come up with your ideal venture capital date, it would be a venture capital firm that has all the things we expect out of a venture capital firm, and then they've brought in someone who ran risk at a hedge fund, who thinks about counterparty risk, who thinks about reducing position size when it becomes too large. Who's looking at all on chain data, and this is where you have to have a lot of data analytics. Who's looking at all on chain data to understand who the other holders are, and how they're behaving. And so, I think we're going to get to that spot, but it's still pretty early, and I don't know that there's anybody that I would say has really nailed that formula yet, but there's a bunch of firms that are getting close.

**Gui Costin:** Fred Wilson just came out with the post from USV talking about regulation and the increased regulation and will that deter investment, and he said categorically, no. We'll be doubling down into the fear of... so could you speak just a little about regulation of blockchain and what's going on? Maybe US versus global?

**Joe Marena:** Yeah. So, I did not read Fred's... sorry, Fred. I didn't read your post this morning. I was preparing for this. I will. I promise, though. So, there's sort of A Tale of Two Cities at this point with regulations, and it's basically the US and then everybody else. And obviously, you can bring on somebody who's much more deep into tech regulations than I am, but the US is still trying to develop a framework. We have, basically, the rest of the world is on its way to developing frameworks, which will attract capital as well as the entrepreneurs that are building these new companies and these new businesses because people will just go where the rules are clear in my view. That may not be Cambridge's view, but that's my view. So, the UK, Europe, Dubai, UAE, Singapore, Hong Kong, and Japan have all announced major initiatives to come up with clear rules of the road when it comes to blockchain tech and crypto broadly speaking. France this week invited every US blockchain entrepreneur to move to France. So, I've never seen a country like with that kind of advertisement. So, like, hey, come to France if you're feeling like the US isn't all hugs and kisses right now. And so, Europe passed MiCA, which is a major step forward in clearing up the rules there. So, the EU will be operating within the next year under very, very clear rules, and all these other countries have basically said they're going to come up with clear rules if they don't already have them. So, we got the US, which is trying to figure things out, and then you've got all these other places that have said, we're working on it, or we've already come up with a solution. So, I suspect that we'll see capital flows shift in the first quarter. I believe there was more venture capital committed to European blockchain tech than US, which is the first time ever. Even just a couple of years ago, more than half of all blockchain developers were based in the US. It's now a minority of blockchain developers are based in the US. China announced two or three weeks ago that they wanted half a million blockchain developers, and I forget...well, it's number three or something, which given the strength of China's tech undergraduate programs is totally feasible. So, we're seeing a very different story globally, and different regulatory regimes are moving at different paces, but capital is global. It will flow wherever it sees the best risk-adjusted returns. And blockchain, of course, is naturally global. It's like probably the first, well, maybe, the second. I guess you could say the internet's global. But is probably the first tech that I would clearly say is 100% global. Bitcoin was from the very beginning a global tech, and blockchain itself is basically borderless. So, from that perspective, I suspect we'll actually see much more significant development happening in Asia, happening in Europe, and the US will continue to be a force, but perhaps until we get our regulations a bit clearer, it will be a diminished force in the development of blockchain tech.

**Robert Morier:** If you think about Cambridge Associates' definition of sustainability and sustainable investments, do digital assets fit in that definition?

**Joe Marena:** They do, and we think about it in the ESG context. From a governance perspective, one token, one vote. No supermajority. No blocking. It's fantastic. You just have to figure out how the voting works, but everybody can do that, and there'll be a token advisor that will do that for you. So, government... super high. If you think about it from a societal perspective, it's utterly blind. And so, a billionaire is treated the same as a farmer in Kenya, and that's really the first time in the history of mankind that it is truly blind. Like capital can truly be global, and it can be unimpeded by any preferences or biases that people have. So that brings us to the E, and that's this question of sustainability, and there it's really a split. There are, and this is, I don't want to get into the tech, but there's basically two ways of securing a blockchain. There is this thing called proof of work, which is what Bitcoin uses, which requires an enormous amount of computational power and electricity to secure the blockchain network. And you might say, well, that's not a good business model. It's never been hacked. It's never been broken. It's never... nothing's ever been stolen from the Bitcoin network itself. There have been hacks associated with the parties that hold Bitcoin, that kind of thing, but the Bitcoin network itself has never been hacked. Name a major corporation or major government spy agency that has never been hacked globally. They've all been hacked. And yet here's this thing, Bitcoin, which just uses a lot of computing power and a lot of electricity to ensure the integrity of the and. At one point, there was well over a trillion dollars on the Bitcoin network. And if something was going to get hacked, a trillion dollars would only get hacked. So, proof of work makes a lot of sense. And in the context of people that are holding Bitcoin that are living in places that are unstable, they want that security. And if it allows you to flee an invasion and pick up your life, that matters to you a lot more-- that security matters a lot more to you than electricity consumption. Now, the cost of the planet is clearly there. In the United States, Bitcoin mining is heavily based on solar and wind and renewables. Other places in the world not so much, so we need to fix that. But that's proof of work, which is very secure, but obviously, electricity intense. And then you have this other thing-- proof of stake, which is basically I put up capital to help secure the network. If I fail in my job of helping to secure the network, I lose some of my capital, so that's a big incentive to not making a mistake. And proof of stake is massively electricity, is a massive electricity savings over proof of work, like 99.9% more efficient in electricity. So, you have two different ways of doing it. So, the E, it depends on your perspective, but most new tech that's under development has gone to proof of stake, not proof of work, and I think at one point maybe only Bitcoin will be proof of work. But it's functioning, and its role in the world is fundamentally different than everything else, which is really designed around new business models, and Bitcoin is really this last resort asset that people are going to hold if they lose confidence, fiat currencies, or they live in a place where they can't trust their fiat currency.

**Robert Morier:** Really interesting. I'm getting worried that you don't get many breaks. Are you doing this all alone? Who is... tell us about your team from a manager research perspective.

**Joe Marena:** So, Cambridge has about 150 people in manager research, so we're very well staffed and resourced, and blockchain is something that everybody wants to learn about. So, I have a couple of folks that I work with very, very closely, one and the two that I work most closely with are, they'll be younger than me, who have grown up in this new digital world. And then, although I can remind them that I learned to program in basic, and they're like, what the hell is... so there are advantages to age because you could actually look at trends over long periods of time and pattern match. But one is super deep into the tech and has a very high percentage of his personal net worth in decentralized finance, and he understands programming, and he understands the blockchain tech, and he understands the people. So, he's like my tech resource, so I was like, I don't understand this. You figure this out. What do you think? And then he'll tell me what he thinks. And so that's one of my go-to people. And then there's another person who is just phenomenal doing venture DDs, and he's just amazing at doing manager research. So those are the two core people, and then there's a half dozen other associates that help me whenever they have time on diligences. And what's interesting about blockchain is because it's new and everyone's trying to learn about it, I have investment directors, managing directors, other partners doing diligence work as well because they want to learn about the tech. And so, it's like a rotating cast of basically 15 people. So that makes probably the best resourced person in blockchain research on the planet at this point because everybody wants to learn about it. We have a bias in favor of tech, which would basically be venture, whether it's early stage or late stage. The bias to date has been much more in favor of seed and early stage because valuations are most attractive at that point. There are clients that have exposure to later stage crypto venture structures. We don't, all of crypto is basically venture at this point. So, like, we might call it late stage, but it's basically all venture. It's just later stage venture than the early stage. And that's been the heavy preponderance of assets that have been deployed have been into the lockup structures, the 8-to-12-year life funds. And then we have some folks that have done hedge funds, but realistically, the hedge funds are also doing venture at this point. They're just in the hedge fund structure. A few institutions that have done long only, index funds, whether it's Bitcoin or ETH, and then a handful that might hold it directly. But up until really like the last two years, holding Bitcoin or Ethereum or anything directly was really, really hard. And so most folks would opt for a fund wrapper at that point.

**Robert Morier:** I'm just curious, what are some of the characteristics you're now looking for? I mean, there are common characteristics we think about with hedge

fund managers or long only managers, whether it's quality, concentration. I mean, there are a number of factors. It's a new asset class. It's alternatives primarily as you just described. So, what types of characteristics are you looking for in those managers if an asset manager is listening and saying, OK, I'm the type of manager that fits that category based on what you just described.

**Joe Marena:** Yeah. Yeah. So, the emails and the LinkedIn's are going to hit-- Think very carefully. Like, this title of funnel is possible. No, actually, I try to talk to everybody that reaches out because you never know.

**Robert Morier:** It's a good approach.

**Joe Marena:** So, the things that don't apply... geography. So, we don't segregate blockchain and digital assets into Asia versus US or developed versus, like, none of that exists because it's all global, so we don't actually care about that. So, it's a global market opportunity. The TAM is global. The total addressable market is global, and it's kind of funny when people talk TAM. There's 8 billion people on the planet. That's kind of the TAM. But nevertheless, we can get into more refined measures there. So global... so geography doesn't matter. Stage of investing really matters to us. Like, where are they investing in the ecosystem? I find it's easier to slot very specific strategies into portfolios. So, if someone says I... if it's a venture fund and we do pre-seed, and seed, and series A investing, that's a defined category, and you can put it into a portfolio because you know exactly what they're going to be doing. And those are great for clients and client teams and other folks that are trying to build out a diversified portfolio because you really want to know exactly what you own, so you can add other things that are going to be complementary. When you're doing pre-seed and seed and series A investing, asset size really matters. How much money you have under management is critical, and that's because blockchain tech is really capital efficient. Sometimes there's nothing beyond a seed round. Sometimes there's nothing beyond a... or beyond a series A. And then there are other businesses that are really growing significantly, and they have to do advertising, and they have to build a consumer base, and so they. Might actually have later stage rounds. But if you are doing seed stage and early stage investing, size really matters. Rounds or a few million dollars \$15 million... \$50 million raise is a big deal in crypto. So, you can imagine how fund size matters when there's not more than a couple of raises if more than one, and so we're really sensitive to fund size. That's critical to us. Liquid tokens are a little bit different. Very different actually. But then it comes down to really the team and how long have they been in the space, how well-known are they, what is their personal network. And I can't overemphasize, and this is one of the big differences, I think, in diligence between traditional diligence process and blockchain diligence process, which is reputation is everything. And you might say, well, that applies to everything. However, in every asset class. But in the case of venture capital in particular, the reputation of the venture capital firm because it's a global network

and everybody talks to everybody else, goes very, very fast across this network. And so, when I'm doing reference checks, what the entrepreneurs think of the venture capital firms that backed them is critical, and these entrepreneurs they're very honest, I guess, I'd say. They're engineers. There are no filters. They tell you exactly what they think, and it's wonderful. You talk to like a traditional gross stage PE reference check, and it's like the CEO who's probably been in CEO of several companies now, and they're really polished. And you're basically trying to wordsmith everything they're saying, and you're looking at their body language. And you're like, well, was that a compliment, or was that actually a negative? I'm still not entirely sure. But in the case of an engineer, they'll be like, no. They were terrible. There you go. OK. Fine cause that makes it really easy. Why were they terrible? And then they tell you why they're terrible. And then you might say, and-- then you ask, like, well, did you tell your people? He's like, oh, yeah. I told all my friends never to work with that venture capital firm ever again. And that gets basically broadcast out across the entire entrepreneurial network. And so, reference checks are actually really different in this space, and so I do a lot more of them. And they're fun too, but they will oftentimes talk about all the venture funds that they chose not to go with and why. And so, you have very honest conversations with engineers that you might not have with a really polished CEO. And since that reference is what other entrepreneurs would use to decide what venture capital firm they're going to accept as their investors, it has a huge impact. So, like that is hands down the most significant difference in the process. So, if you're a venture capital fund out there, and you don't support your entrepreneurs, you probably shouldn't talk with me because I'm basically going to find out right away. But if you spend a lot of time helping your entrepreneurs build their businesses, then you're going to be getting great deal flow going forward.

**Robert Morier:** That's wonderful. Thank you for that and thank you for taking that risk of giving those insights into our audience. You probably will get a few calls, but I promise they'll be informed. Well, you are joining me at Drexel University. After this conversation, you're going to be speaking to engineers and entrepreneurs. So maybe a quick preview for our audience. What's the type of advice that you would give students, third year, fourth year undergraduates, one of whom is actually in the studio with us right now, Demetri. As you're thinking about advice, given everything we just talked about, there's a lot of change going on. It's global. It's decentralized. There are a lot of moving parts. It takes a lot of education. It takes a good reputation. So, what's the type of advice that you're giving younger people that are coming into this world?

**Joe Marena:** Well, they have an inherent advantage because they've lived in the digital world, and this Generation Alpha, the one that's coming up, they're going to think differently than everybody else because they will be living in an AI-driven world. And so, I think that having that is one a prerequisite to working in a blockchain

world. But you really need to start experimenting and exploring how blockchain tech is used in day-to-day life, and it's a really bad experience in general right now. But nevertheless, you need to figure it out. And so, you need to start experimenting with decentralized finance platforms. This doesn't require immense amount of capital, but you still need to understand how it works. You should be on some of the new social media platforms that are out there, understanding how they work. You want to understand what a good user experience is and a bad user experience, and that is sort of the defining moment for blockchain tech, is that right now it's generally a poor user experience, so we have to get past that. If it is an iPhone, it's easy to use. It's your iPhone. It's not going to become a global TAM. It will remain the domain of a bunch of engineers. And then it comes to the question of programming, and so obviously, having some understanding of programming is going to be quite helpful, especially a place like Drexel, they all understand that. But it's beyond that because blockchain tech is all about incentive structures. It's how do you get... build a market and a group of consumers or users. And you do that through token design, through incentivization structures, which basically relies upon economics and behavioral finance theories. And then you might as well be participating in the governance platform and process as well, and there's lots of... every token has a governance structure, so there's lots of different ways to experiment there. But you really need to get as broad of an experience as possible while you still have a couple of years to really decide what you want to do. Because once you enter that world, you're probably going to be specializing. And you might find that you're focused on cryptography, or you might find that you're focused on token design. You might be wanting to work with the venture capital firm, and then you need all of the above. So, getting as broad of an experience as possible, and if you find something you love, go deep into it because that basically sets for your career path going forward. And if it's cryptography, it's cryptography. And if it's figuring out great user experiences, then figure that out because quite frankly, the user experiences is quite terrible at this point.

**Robert Morier:** Who are the people who have helped you along the way? So, if you think about your team, outside of your colleagues, who are the mentors who have helped guide you through? A lot of our students are looking for mentors right now, and I'm sure a lot of your sons are looking for mentors. They've got teammates, and I should plug Gui's sons. They're about to play in the Final Four, Lacrosse Final Four at Penn State in Philadelphia. But as you think about mentors for yourself, who helped you along?

**Joe Marenda:** I guess... there were two types of mentors that really helped me. The ones that you really want to find, and these were the ones I honestly worked with, but... and I tried to replicate this, which may or may not be frustrating to the people that work for me. Which essentially is here's a problem. Go solve it. And you're like, OK. Anything else? No. No. Just go solve it because it basically... you create your own

thought processes, and you have to figure out things up for yourself. And then once you figured it out, it's kind of like you can give somebody a fish, or you can teach them to fish. That kind of thing. And so, my brain is much more like, OK, great. I'll come up with my own solution, and then I, of course, chastise myself, and I don't think it's like the right solution there, or it could be done better, and then I try to improve. So, if you have an improvement mentality, and you always want to be better, then those are the people that you need to really to find. At the same time, prior to Cambridge, I worked for a couple of people, who I would... they were, I guess, positive-negative influences in the sense that they taught me how not to treat people. And you basically have to get away from them as quickly as you can, but once you've been on the receiving end of those types of behaviors, you realize you don't ever want to do that to somebody else. And so, I learned very quickly this is not how to behave to another human being. And while that was a harsh and fortunately brief lesson, it was this Japanese gentleman way back and my first job out of school, who basically said to me, go figure this out, and I did. It wasn't smooth, this process, but those are the types of mentors that are great. I think that back then it was a lot harder to connect with people. Now, you can find people on LinkedIn, or you can find them through social media, and people are much more willing to share their time. So, there's a whole range of opportunities that are open for mentorship now that didn't exist back when I was going through it.

**Robert Morier:** Thank you so much. Thank you for being here today. Congratulations on all your success. This was a very interesting conversation. We appreciate your time. Gui, we appreciate your time as well being here.

**Gui Costin:** Thanks Joe.

**Robert Morier:** Yeah. That was great.

**Joe Marenda:** Pleasure. Thanks for having me.

**Robert Morier:** So, if you want to learn more about Joe and Cambridge Associates, please visit their website at [www.Cambridgeassociates.com](http://www.Cambridgeassociates.com). You can find this episode and past episodes on Spotify, Apple, Google, or your favorite podcast platform. We are also available on YouTube if you prefer to watch while you listen. If you want to catch up on past episodes, check out our website at [www.dakota.com](http://www.dakota.com). Finally, if you like what you're seeing and hearing, please be sure to like, follow, and share these episodes. We welcome your feedback as well. Joe, thanks for being here. Gui as well. And thank you to our audience.