

## DIGITAL ASSETS AND THE FUTURE OF BANKING

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Featuring:

Michael Shaulov, CEO and Co-founder, Fireblocks

Caroline Butler, Global Head of Custody, BNY Mellon

Moderated by Tom Hoare, Deputy Chief Communications Officer, BNY Mellon

**TOM HOARE:** Hey everyone, it's Tom Hoare. Welcome back to the BNY Mellon Perspectives podcast series, where we bring you the leaders and influencers who are making an impact in our financial world, in our industry, and beyond.

We've got a great episode today. Our guest on today's episode is Michael Shaulov. Michael is the CEO and co-founder of the company, Fireblocks. Fireblocks is a fintech startup that is building a really incredible platform to store, transfer and issue digital assets across the entire financial ecosystem in a secure way. And in this episode, Michael is interviewed by our very own Caroline Butler, the Global Head of Custody at BNY Mellon and an incredibly impressive leader and executive. And they have a really interesting conversation that I think you are going to enjoy and maybe learn something from.

You might know that earlier this year, BNY Mellon was in the news when we announced the launch of our Digital Asset unit to provide clients a secure infrastructure, a multi-asset platform, for owning and transferring digital assets, including cryptocurrencies. And Caroline is really at the forefront at that for our bank at building the team, and the capability to bring that to life for our clients around the world.

We also made the news recently when we announced another move in this space, which is that we announced that we would be a participant in the Series C funding round for Fireblocks, which is one of the reasons why we asked Michael to come on the show today.

Michael and Caroline talk about Michel's incredible career. He served in the Israeli Defense Force and out of that experience has formed two companies, including Fireblocks. They talk about the nature of digital assets and how to think about storing them, in hot warm or cold environments. They talk about the difference between traditional custody and the custodying of digital assets. And they talk about the technologies that Fireblocks is using to make the management of digital assets safe and secure, which is a really important topic. You'll also hear about this question of regulation in this space. And more broadly, the revolutionary impact that digital assets will have on the financial industry as a whole.

I think you're going to find this podcast educational and interesting. And I wanted to give you a little bit of the context as to why Michael would appear on our show. We're thrilled to have him as our guest. We're going to get right to it. So, without any further ado, Michael and Caroline.

**CAROLINE BUTLER:** Michael, thanks so much for joining us here today. Before I delve into how we're going to collectively transform the future of the finance industry, no small feat, I just wanted to extend a huge congratulations to you on the latest round of funding. Obviously, we're very proud to have been part of that, but [it was] hugely successful.

**MICHAEL SHAULOV:** Yeah, first of all Caroline, thanks for having me here, really excited. And I really appreciate you guys being part of this round. That's really instrumental for our company.

**CAROLINE BUTLER:** Great. So I thought what we would do if you don't mind is, just talk us through your journey a little bit and your story, because I mean, obviously, I've heard this a few times from you, and I find it not only just inspirational in the sense of where you've come from and obviously starting in the Israeli Defense Force and obviously getting to where you are now. But I think it also serves a purpose of really crystallizing what Fireblocks does, and so if you don't mind, do you mind sharing, how you got here?

**MICHAEL SHAULOV:** Yeah, sure. So, it's been a long journey, right? I started my career in cybersecurity and that's where I spent most of my career. So about 20 years ago in the Israeli Cyber Command Defense Forces. And about 10 years ago I started my previous company that was focused on the transformational aspect, actually, around IT. So, we built the first company that was protecting mobile devices, Android and iPhones, from cyber-attacks. And that was sort of catered to the institutional market or the enterprise market, actually, to help IT to manage the risk of basically

allowing people with iPhones and Android devices to get email and documents, something that's like really obvious today, and something that some of you guys that remember, people really freaked out about a decade ago.

We scaled that company. About three years later we got acquired by a company called Check Point. Check Point is one of the biggest cyber security vendors. They invented the firewall back in the 90s and had a pretty good run on the back of the internet. And I was running the mobile cloud security portfolio for them so, basically, their transformational unit.

And in 2017, we had a pretty interesting, well what basically was I guess, the monumental moment for bringing us here. We were part of a fairly big investigation of a breach that happened in South Korea where four cryptocurrency exchanges got hacked. And about \$200 million worth of Bitcoin and other assets were transferred into North Korea. What was interesting about that breach was not only the sophistication. I guess it's sort of the realization that as we dug more and more into it, what really resonated was that the technology behind Bitcoin and digital and cryptocurrency was something that was going to transform finance. And it was 2017, so Bitcoin was around \$1,000 back then. Unfortunately, I didn't buy anything but that's a different conversation.

But what actually happened is that we started to talk with a lot of the institutions that were either already active in the cryptocurrency space or that were contemplating creating activity. And what was very clear is that not only that you had all those security issues out there, there was really lack of infrastructure to basically build toward what we believe would be this future of this financial space and the technology and infrastructure that will provide the security and operational efficiency to really deal with the promise of how this will transform finance well beyond, I would say, sort of like buy-in-whole notion around Bitcoin.

**CAROLINE BUTLER:** Yeah, it's interesting because when you say Bitcoin, and you think digital assets, one of the things I've noticed is folks just associate those two singularly together. So, from your perspective, can you share with folks, what are digital assets? Because again, Bitcoin is just one version of it, but if you don't mind sort of demystifying the space of digital assets a little bit?

**MICHAEL SHAULOV:** Yes. I think that this is really where there is a lot of, I think, misunderstanding today, because definitely Bitcoin is sort of the most popular asset right now. But it's also the most unique and very remote for everything else that is happening. So, when I think about Bitcoin, it's this

unique asset that is really a reserve asset or basically this digital gold. But all the other cryptocurrencies and all the other digital-assets based technology -- what they are really supposed to do -- is to create a digital representation of either an existing financial instrument or a non-bankable financial instrument, or new financial instrument on a ledger that is immutable, that is distributed and allows the transfer of value of those instrument in a global scale, in a way that is I think, is sort of native to the internet.

That really put Bitcoin in a very unique position. But also, for me. Digital assets are basically stable coins which is sort of commercial money that is tokenized on the blockchain, security tokens which are shares and bonds that can be transferred. It's everything that right now is called NFTs, but it can be anything from real estate to art to, you know, even non-bankable assets that can now be represented on the blockchain. And we can create new markets in terms of how this is being exchanged. And that even leads us to things around trade finance in terms of how you track goods and the supply chain, how that really interacts with the underlying financing of those operations. But clearly those are things that are much more, I guess, closer to the financial instruments that exist today in a non-digital asset form. And bringing them into this new ecosystem really creates much more efficiency, programmability and other recent benefits that this supposed to unlock.

**CAROLINE BUTLER:** Yeah and I think the exciting thing is it helps create markets where markets either don't exist today or they're fragmented in such a way where it's rather difficult to trade in those markets, so definitely a breadth of applicability, going to your point, much greater than just Bitcoin. I've heard Fireblocks being called a cyber-security company. I know that's not necessarily how you would define that in its narrow form, and I share that perspective with you. I believe that Fireblocks is much more core to market infrastructure than it is just a narrow cybersecurity firm. Do you mind giving your perspective on that and just helping our listeners understand why that's a relevant difference?

**MICHAEL SHAULOV:** What I realized over the last three years is that it's actually a huge difference. And I think that when we started, personally, we actually had this view of that we are a cybersecurity company for financial institutions, but very quickly we discovered that we are an infrastructure player that just uses an underlying cybersecurity technology to basically provide a very secure infrastructure.

But we are much more of a fintech infrastructure or a financial or market infrastructure than a cybersecurity company. And as someone that actually spent a lot of time, and who is still very much involved in the cybersecurity space, there is a very distinct approach between the two. So, most

cybersecurity companies, it's sort of a rubber technology on top of other IT or on top of other systems that are designed to take unsecure systems. So maybe, the best example is that you have your windows machine. It's very challenging, by the way, thing to do but you know, the operating system was not as secure as we wished over the last 30 years, and then you have cybersecurity companies that produce antivirus that is designed to protect it.

On the other hand, a great example is actually the iPhone, right? So, for example an iPhone. When people buy an iPhone, they sort of realize that it's actually a very secure device. So, when people buy an iPhone they don't care, they don't try to install antivirus on an iPhone. Somehow an infrastructure, an operating system, was created. That people perceive it as secure enough. They don't really bother with trying to [understand] if it's, you know, it can be more secure. But it's secure enough. It gives you all the guardrails and all the things that protect you but it's also very operational. You have the app store, and you have all those things that you can install.

And what I see, the way that I view Fireblocks is much more closer to iOS where the secure operating system or the secure, I guess, core infrastructure for financial institutions that are establishing a digital asset programs or digital asset services, and we provide them the operating system that is secure, apparently secure by design. But what it actually does it enables business applications.

**CAROLINE BUTLER:** So is it fair to say you know it's really the kind of core foundational pipes and plumbing for the market. Is that a fair representation or...?

**MICHAEL SHAULOV:** Yes. Yeah. So essentially an operating system for financial markets. It's basically the pipes and the plumbing and the account management, and that's what we do.

**CAROLINE BUTLER:** So maybe then, it's a good segue into the custody site specifically. So, you know if you think about traditional custody it's very much safekeeping, transactional like moving assets, settlement of assets and then a host of adjunct sources that come with that in terms of reporting, etc. When you think about custody for the digital asset class, how do you view custody in your words? And, with a particular focus on whether the nuanced risks that this asset class actually introduces for a traditional custody service.

**MICHAEL SHAULOV:** Yeah, so. I think one of the obvious or well-known issues that exist in digital assets is that as a custodian, or someone that creates custody over digital assets, what you

effectively maintain is the private key. So, the private key, which is just a long, random password, that is eventually what governs the access and the ability to instruct a movement from account A to account B. So, the custody is done on that key material. That's very different from traditional custody, where you have a safe and there is like a few bars of gold in that safe, so that is traditional custody.

And the idea behind the fact that the ledger underneath that actually manages those accounts, the fact that it's immutable and the fact that the settlement times are to an extent almost immediate, introduces of course a lot of the benefits that digital assets bring in terms of this sort of global ability to coordinate the accounting system and the ability to sell transactions instantaneously. But they also introduce a fair amount of risk and new risks. The first and the foremost thing is that if you made a mistake and you wired or transferred the assets to the wrong location, you have no recourse.

And the second issue is really the fact that it's real time. So as a comparison we can take SWIFT, an international wire that might take somewhere between two to three days to settle. And within those two and three days you have, you can have a bunch of analysts that will look at those transactions. They will understand there was something that was fraudulent, and they will try to basically recourse or reverse it.

In digital assets, you don't have that sort of time. So inherently, the challenges of creating custody they, I would say, they boil down to two main issues. One, is really how do you secure that private key at rest, because that essentially is what guarantees to you that, you know -- you go to sleep with 100 Bitcoin in that wallet, and you wake up the 100 Bitcoin is still there.

And the second issue, which I think a lot of people don't really think about in this context, is that eventually the most difficult part is really to make sure that you are transferring it to the right location. And this is essentially where it's a very short period of time where there is a huge amount of risk. So, if you're doing it once, if you're doing one transaction per day then you can have ten people looking at that transaction and you know there is a very complicated process in which this is being done. But if you want to operate at a scale in doing hundreds or thousands or hundreds of thousands of those transactions, clearly those protocols, those manual protocols cannot scale. And then you need a very different type of technology to make sure that that transaction is being issued in a correct way to the right party, to the authenticated party, and there is basically zero risk of that being diverted either to hackers or insiders or just human error that can in public blockchains burn the asset.

**CAROLINE BUTLER:** Yeah, so how does Fireblocks solve for that? What technologies are you leveraging that starts or at least greatly enables the mitigation of that risk?

**MICHAEL SHAULOV:** Yeah, so in general, and that's sort of philosophically in cyber-security, you discover that if you spend a lot of time in cyber-security, is that there is no silver bullet. It's something that people are always surprised when I say it because it almost sounds like, you know, that I'm actually undermining the whole concept, but this is true. I mean at the end of the day, in every defense philosophy, you need to think about layers. And what we've done from the very early days is really think about how many layers we can put here in order to mitigate those risks and also to make sure that those layers are sort of complementary, that they aren't sort of actually the same layer, replicated multiple times.

So, the first layer, the first thing that we really need to protect is the private key. And in order to protect the private key, we've implemented multiple solutions and multiple defense controls that are working in conjunction with one another. The first one is a technology called MPC that distributes the private key. Effectively, you don't have a private key in one single location. You have a distributed cluster of servers and individual devices that in order for a transaction to occur, they need to communicate with one another, but they never concentrate the private key on a single device.

So then eventually, this is what helps you to reduce any single point of failure that first and foremost protects you from hackers -- that would try to compromise one device or maybe multiple devices from collecting the private key. And second of all, it really protects you from an insider threat because no single individual within the organization really has the ability to instruct this without involvement of other machines or other individuals.

So that's layer number one. Layer number two, we basically are using hardware isolation that is critical to create another layer of security on the specific device itself. So even if the hackers or even if for example, an administrator, has the control of that machine or maybe on all of the machines, there is still a very complicated barrier that they need to break through in order to really extract the individual key shares or the key material. And then, depending on our customers, we work on the physical distribution of this system to make sure that, okay, it's not that we have like three different devices all being placed in the same room, but they are actually being distributed across multiple environments, where we put a lot of thought on how to make sure that if one of them fails, there is sufficient amount of time to protect the others.

**MICHAEL SHAULOV:** So that's how we protect the wallets. And the sort of isolation technology also help us to protect the network, so we basically created the Fireblocks network that allows this B2B institutional system through which you can really authenticate your counterparties, and there is a guarantee of the transaction to go end-to-end without a susceptibility to being diverted to the wrong party.

**CAROLINE BUTLER:** Yeah. So when I think about casting our minds to when this product offering, if I can phrase it that way, came to market first, there was a direct correlation that the solution was cold wallet storage, and it was like holding obviously an offline computer in a good old-fashioned vault off in a bunker in a desert somewhere. How have we evolved and maybe just, help again, just demystify the wallet space a little bit, because I think there is definitely, at least in my observations, there's definitely some confusion in the market, I would say, in terms of what's the difference between hot, warm and cold storage. And then obviously with MPC, relative to that, I think it would be beneficial to again just level-set on what wallet storage is.

**MICHAEL SHAULOV:** Yeah, definitely. So there is a lot of confusion because people associate a lot of different terms into different brackets that like, for example multi-sig, MPC, cold storage, hot storage sharing -- all those terms are being mixed in a very different ways that don't really eventually do justice to any of those technologies. So, the general idea is that there are two questions that are being asked.

One is how the private key is being distributed, which basically dissolves this single point of failure that can exist. And the technologies that are designed to do that are what is called multi-sig or MPC. So multi-sig is the older technology that was invented back in 2012. It was invented specifically to deal with Bitcoin and, over time, there were sort of, it's not that it was insecure, but there were significant operational challenges in terms of borrowing it to networks like Ethereum, large-scale organizations, and so on.

So MPC is sort of the next generation of multi-sig, which allows you to have distribution. In parallel, there is this very different concept which is asking, "Is your system connected to the internet or disconnected to the internet?" And that's basically the difference between hot and warm storage and cold storage. So in a cold storage, by definition, you have one of the key shares, it can be multi-sig or MPC, or it can be even like one key that is never connected to the internet or usually is not connected to the internet, which -- generally speaking, first and foremost, reduces potentially the online attack

factor that people are very concerned of. But you know, on the other hand, it introduces slowness because you actually need people physically running and scanning QR codes.

And there is also some kind of introduction of risks, because you now have humans that are involved in that process. And yeah, human make errors, they have their own incentives and things like that. So, it does introduce certain risks that exist in cold storage but do not exist in hot storage.

And then in hot storage, the system is connected to the internet, of course. It benefits from all the security aspects that we've discussed earlier. One, it's programmable so we know how it's going to behave and two, it is actually capable of issuing hundreds, thousands of transactions per day, per minute. Basically, it's a high-scale operation. And the point is that, at the end of the day, when we think about how to really organize across those two different architectures, we really need to think about a use-case. So, if you're going to buy Bitcoin, you're going to store that Bitcoin for the next two years, then cold storage is a reasonable solution.

If you're going to operate a payment a solution or lending facility or retail focus facility, then cold storage is not a solution. And you cannot scale it to the performance or scale it to the requirements. And therefore, you need to use hot and warm solutions that basically are managing that collateral in a secure way through that.

**CAROLINE BUTLER:** Yeah, I know it makes a lot of sense. And I think I've always found it personally a little bit ironic that all of these sophisticated technologies walk us right back into the physical vault. You know, especially when you want access to the asset in rapid speed clearly for those use cases, cold storage doesn't actually apply. But, thanks for the explanation because I do think people, you know, do tend to throw terms out there. How much are you spending your time educating people on the basics and just demystifying this space? If you'd to throw a percentage on it because I would imagine that's a large portion of your time.

**MICHAEL SHAULOV:** Yeah, I think that in the last couple of months it's probably I don't know, 30% of my time. But it's great, I mean it actually means that the space is expanding. Because half a year ago, I wouldn't spend that much time on educating people because the only people that were involved were sort of the crypto enthusiast that already knew this space occasionally better than I do, and now we actually have a lot. I mean, I would say at the very least, that the mainstream of the financial market is basically coming in. They understand that the train is moving, they want to, if they were not

going to get on that train, then they will stay in the station. And a lot of the time that I spend is just explaining to people the basic concepts, market structure, all of the things in this space are very different than how they operate in the traditional space.

**CAROLINE BUTLER:** Yeah. Actually, speaking of education. In terms of regulators, how much time do you actually spend with regulators and what's your view on regulation in this space? Are you "pro," or do you think that it should be left as a free market untouched?

**MICHAEL SHAULOV:** No, I don't think it should be left as a free market. I think that in a free market... I'm actually not on the anarchist sort of side of this market. I think that regulators are important, especially everything around consumer protection. I think that what happened back in 2017 - 2018 with all the ICO was a horrible thing both to the space and personally for the users. I think that regulators really need to think through how they protect customers from having reasonable access and protecting them from fraud and a lot of other issues here. That's one aspect.

And the other aspect is really around the AML (anti-money laundering) and terrorist financing and all the issues. By the way, they are not issues that are specific to cryptocurrencies. Most of the terrorist financing and money laundering actually is conducted using regular dollars, but I do think there is an opportunity here to really create a much more secure and robust system in which it's much harder by the way to do those things.

But we do spend, to your specific question, we do spend a decent amount of time with regulators to basically help them to understand the space, the risk, the things that they need to regulate and how they should be thinking about it. I think that some of the things that the regulators are currently doing are definitely very positive. OCC, SEC -- I think that all the recent movements that we've seen there are definitely encouraging and aligned with some of the...or is sort of gradual measures that allow people to really go in into the space. I think that some of the reactions around the [inaudible] -- I think that regulators need to be more thoughtful in terms of how, that they don't take the way that it worked in the old world and try to basically apply it as is into new technology because it's not going to be effective, and it's going to just backfire.

**MICHAEL SHAULOV:** And I'm not saying that because I'm sort of opposing that kind of regulation. I mean I spent the first half of my life working for law enforcement and working for people that were basically fighting the bad guys. So I'm aligned with the mission over there, but also it's very clear to

me that what we've seen with a lot of those things around privacy and encryption is that there is a point in time that technology changes, you know privacy sort of baked into those platforms by design, and the law enforcement and regulators they need to change their tactics. They can no longer apply the old tactics. It happened in telecommunication, it happened with mobile phones, it's going to happen here as well. The faster the regulators and the law enforcement understand that they need a new toolbox on top of the old toolbox, the better they're off. And I think the better the industry will be.

**CAROLINE BUTLER:** Yeah, and that's why. That's a prompt to my question on the education because for me, it's not as simple as taking traditional and applying a new asset class and then ticking a box and moving forward. We have to make sure that we're evolving through the nuances of the asset class and making sure that we're all appropriately protected along that chain. So if I think about why The Bank of New York Mellon is taking a lead as a traditional custodian bank and the world's largest custody bank into this space, it is because of the fact that we, first and foremost, we're there for our clients and they're moving in. But secondly, it's that trust that we have in applying all of those institutional standards to make sure that things are done in a safe and secured way.

What's your -- as a pure industry insider, how relevant do you think it is that The Bank New York Mellon is taking a lead as a custody bank in this space and really applying an innovative mindset to the traditional custody world. What do you think the implications of that will be on digital assets more broadly?

**MICHAEL SHAULOV:** So, in my view ... when do you guys did the announcement, somewhere in January or February?

**CAROLINE BUTLER:** Two months ago, yeah. Time is skewed but yes.

**MICHAEL SHAULOV:** Yeah so whatever that date was, let's say like 15th of February. I think that date will actually be written as a chapter in one of the financial history books, because I think that the fact that The Bank of New York Mellon is moving into this space, and you know the strategy that you guys are taking, which is a very, I think, broad and innovative strategy, is going to propel and transform the space. I mean you guys sit at the top of the pyramid in terms of trust, and trust is of an essence here.

So, it's true that over the last two or three years we had a lot of small fintech companies that were

coming here, hedge funds and innovators. But at the end of the day, to move really big players and make them comfortable in playing in this space, we need someone that is in the top of the pyramid. I think you guys are just moving the market with leaning into this. And I also, what I think excites me the most here, is that you guys have great people that are working on this project and I think that it's not going to be this kind of sort of just 'okay, we are here just to basically check the box,' you guys are actually going to lead this space and to really show people how innovative and aggressive this technology can be used for. And we're just seeing that everybody is following the path that you guys are opening up.

**CAROLINE BUTLER:** Yeah, I mean look on a personal note it's a super exciting time. And it's also, we talk a lot about the transformation of custody, and for me this really is the kickstart of that. There's a lot of things that we can leverage and take advantage of. Digital assets is a new asset class to really just transform even the traditional ones. I mean you talked before about digitally representing traditional assets on a chain.

And for me, again, we're really starting to see, what I would say, an area that was more than ripe for transformation, and the custody sites start to move into the modern era and again start to chart a path forward, which is fantastic. So, given you missed your \$1,000 Bitcoin price, if you were to now look into a crystal ball what would you forecast as the next big hot trend in this area? I mean obviously DeFi is all around the place as a lot of industry chatter there. But again, if you had to try and project what's the next big hot thing in this space, what would you call it?

**MICHAEL SHAULOV:** I think it's still DeFi. I mean, it's sort of the intersection between. For me it's the intersection between stable coins and DeFi. You know, to a certain extent, maybe some of the NFT stuff. But predominantly I think that it's the intersection around DeFi and stable coins where I think that this is actually going to really revolutionize how payment and how collateral and treasury management is going to be done. And yeah, that's probably, the next 12, 18, 24 months where we will see a lot of innovation and push.

**CAROLINE BUTLER:** Yeah, yeah, makes a lot of sense. So just one quick shift to ESG. So, when we talk about trends in the industry obviously ESG is another big one. Clearly, Bitcoin has been, you know, I'd say there's been a large amount of chatter about how environmentally unfriendly Bitcoin is, just given the mining protocols that they leverage. So again, I think in terms of misinformation in the industry, there is sometimes a natural walk between -- ESG-unfriendly and digital assets. Which I

think is quite a leap. But what's your perspective on dovetailing digital assets with ESG? And how can digital assets actually help with ESG in, you know, with various different, you know again, industry things that are going on at the moment?

**MICHAEL SHAULOV:** Yeah. So, I think there are basically three aspects there. The first one is really the proof of work – mining – that there is just a question over there that is still very unclear in terms of how much of that is renewable energy and how much is not. You know you see stats between 40% to 75%. I mean there are probably two aspects there. One, this has to go into full renewable energy. Speaking about regulation, I think this is where really the regulators have the opportunity. I think the Chinese just made some crackdown over there in terms of banning mining in specific territories.

The second thing that we've seen over the last year is there are a lot of startups that are going with energy optimization solutions -- that they basically only using wasted energy to do mining. I've seen a few of those going to the space and that's basically Bitcoin, I guess. I think for all the other protocols we see it for ETH to Cardano, it has to go into proof of stake. There is no reason for that to be on the proof of work. I don't know if Bitcoin will ever be a proof of stake. I don't think it will make a lot of sense, but I think for all the other protocols, there is no excuse. And I think the one that will not go into the proof of stake, will likely die right?

**CAROLINE BUTLER:** Mm-hmm (affirmative).

**MICHAEL SHAULOV:** Because people will not accept non-environmental nature over there. Now, on the flip side, unrelated to the cryptocurrency itself, there is essentially the market of 'how do you create traceability,' 'how do you create transparency' around general energy consumption. And I think, digital assets in terms of carbon credits and the markets that are evolving over there, there is a really huge opportunity to create transparency in markets that regulate and often help to offset that. So hopefully, the technology itself, the blockchain technology itself, will help us to move the broader energy market into a much more environment-friendly one and hopefully, one of zero emission future in the next decade or so.

**CAROLINE BUTLER:** Yeah, and I think that's a great example of what we spoke about earlier in terms of where markets exist. But they don't exist in a very efficient form and therefore, there isn't as much potential trading on those assets. So, being able to actually create a market run, whether it's carbon credits or an extension of, that would be a fantastic use of digital assets.

So, I know you and I could talk for hours on “all things” digital assets, but we have to probably draw to a close at some stage. Just one last question for you because just as you were talking through your journey at the top of our chat, one of the things that just sprung to mind for me was the fact that, it's been as you said a long journey but it's been quite a transformational journey I would imagine on a personal front. So, you've had to sort of mold yourself into many different forms. Obviously, from working in the defense force through to technology, cybersecurity, etc. I personally know you could stand toe to toe with an insurance lawyer, which is no easy feat. So, what are the core leadership traits that you have just, you know, inherent in yourself that have carried you to this place and that are your strongest traits to carry you into a continued successful future?

**MICHAEL SHAULOV:** Yeah. So, I think that there are probably two aspects that I think were really transformational for me personally along the years. The first one, which I think where I transformed from actually being a, I would say, a technologist to an executive or a technologist to a manager, which happened probably about a decade ago. And that really is, the understanding that you need to focus on the customer, that the customer and the market sort of this product-market fit -- essentially understanding that the most critical thing is to not only, personally for me and personally for the company but as really the leader of my group, is to make sure that all the employees, all the people that are part of our journey, they understand the customer, they understand the mission, they understand what we are trying to do and why they wake up in the morning. That's a critical thing for me to really address in every point and communicate to them.

The second aspect is really just continuously learning. When we started Fireblocks, the amount of books that I had to read about market infrastructure and finance was, you know, I had to read a lot. I didn't know what central clearing was, what was depository, what was an option. That was a very steep learning curve, but I think that if people are really able to focus on reading and educating themselves on things that matter and specifically matter to their customers to my previous point, you can really go into different industries and eventually become I think the leader there.

**CAROLINE BUTLER:** Yeah, it makes sense. We've got Todd Gibbons, our CEO, who has a very strong philosophy of adopting the “learn it all culture” not the “know it all culture.” And, you know, for me it's actually core to being a resilient leader as well because if you're constantly learning, you're motivated, so you're protected a little bit more against burnout because obviously there is a tremendous amount of work to keep innovating and disrupting.

I thank you for your collaboration with us because it's been a very exciting journey today. I look forward to continuing that journey with you, and I feel like we have potentially a couple of spin-off podcasts. Your leadership podcast we can announce. I'm sure as we continue to think through those use-cases that make sense to our clients, there will be a further journey that we will be going on. So, thank you very much Michael, appreciate your time today.

**MICHAEL SHAULOV:** Thanks Caroline, I appreciate you guys bringing me here. Thanks.

**TOM HOARE:** Hey, everyone, Tom here again. Thanks for joining us for this episode, I hope you enjoyed that conversation, and we hope you will keep listening on Apple, Spotify, Google, or wherever you consume your podcasts, and we'd be grateful if you'd share your feedback. Leave a review or a rating or tell us what you'd like to hear more about on social media, LinkedIn, Twitter, Facebook, Instagram, and of course on [bnymellon.com](https://www.bnymellon.com). We appreciate you joining, we're grateful to you as listeners, and we'll see you at the next episode.

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