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Visa, Inc. (V)

MoffettNathanson Cryptocurrency & Blockchain Immersion

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Lisa Ellis
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MANAGEMENT DISCUSSION SECTION

Lisa Ellis
Analyst, MoffettNathanson LLC

All right. Welcome back, everyone. Lisa here, we are now officially in the afternoon of our Crypto Immersion here on the East Coast, at least. Very delighted to be joined by Cuy Sheffield, the Vice President and Head of Crypto at Visa. Cuy, thank you for joining.

Cuy Sheffield
VP-Crypto, Visa

Thanks for having me. Great to be here.

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QUESTION AND ANSWER SECTION

Lisa Ellis
Analyst, MoffettNathanson LLC

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Of course. And for folks on the line watching. And I'll remind you again throughout the session, if this – we want this to be interactive. So if you have specific questions for Cay, pop them into the chat and function I'll see them on my screen and I will pepper them right into the discussion as we go through it. So. All right. Well, okay. What a difference a year makes. I had the pleasure of hosting you last year during the fall.

So can you just start by framing a bit how Visa's crypto strategy has evolved over the past 12 months ? As we've basically gone from the peak peak of euphoria to sort of the depths of despair in this industry. What initiatives have you perhaps prioritized or deprioritized over the last 12 months?

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Yeah. So – so one of the advantages that we think we have at Visa is really the ability to take a super long-term view on these emerging technologies in areas like crypto. And so, you know, while the industry and the ecosystem has evolved significantly, basically our strategy over the last 12 months is overwhelmingly remain the same. And that is, you know, we really want to serve as a bridge that can connect both crypto platforms and technologies with our global network of 80 million merchants and 15,000 financial institutions. And so that's what we've been investing in for years now and plan to continue to. And so the recent events, I think, are a good reminder that we're still in the are a good reminder that we're still in the very early days of crypto. There is a long way to go before this becomes a mainstream part of payments, and it's going to be volatile. We've seen these cycles before, we actually started the crypto team in the depths of the bear market in 2018. And so we've never really had a particular view on the price of an asset or the success on any individual exchange. It's been betting that the underlying technologies and companies that build on top of that could end up playing a role. And so I think the only thing that's really changed is kind of the number and the type of companies that are coming to us. It used to really just be crypto platforms, but even despite the bear market we're seeing more banks, we're seeing more merchants, we're seeing more fintechs that are coming to Visa and we're looking at ways that they can collaborate with us as they've progressed their strategies in the space throughout the bear market.

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All right. One thing I wanted to highlight, Visa recently conducted some consumer research on crypto. You published a bunch of primary research that the firm did on consumers perspectives on crypto, can you just give us a couple of the overall highlights of that research?

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Yeah. So we first published this last year in late 2021 and we surveyed over 6,000 financial decision makers. So these are the heads of households in eight markets. So it was Argentina, Australia, Brazil, Germany, Hong Kong, South Africa, UK, US. And so first we found that of course everyone's aware of crypto, 94% of consumers are aware, it's hard to miss, but we found about 32% of the consumers we surveyed actually said that they had [ph] owned it and half of the surveyed consumers were under 35. And so we've seen that this has been a younger

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customer base and the primary reason we've seen that this has been a younger customer base and the primary reasons that they are it it was really seen as an opportunity to generate wealth, store value and as an investment. And so we didn't see payments as a major driver for why people owned it. But I think we ran the survey again in September of 2022 and we did see some interesting trends when you compare the emerging markets versus the developed markets, and so now that we've been through this year of pretty much a bear market, we've seen as the developed market ownership was pretty much flat at had actually gone down 1%, but the emerging market ownership had increased. And so we think that there starting to be some different trends and we also ask how important is it for traditional financial institutions to participate in crypto for it to be mainstream? And if you talk to people in developed markets, the 63% of them said you need to have traditional FIs in the space. Only 45% said so in emerging markets. And so we think there are some different platforms and some reasons for interacting with crypto, you know whether you're in South Africa, in Brazil versus in the US and the UK. But either way, you know we have seen growing interest in how you can connect crypto to existing products like Visa but by about 83% of the crypto owners were interested in having a crypto linked debit card. And so we're continuing to invest in saying how do we make crypto have more utility when you can connect it with existing networks, it's like Visa today.

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All right. So to that point, I guess, what is your latest perspective at advice on the role Visa cryptocurrencies and other digital assets and technology playing in society over time?

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So you know first we really start to look at it just as a technology like I go back to first principles and say, like, what properties do these technologies have that make it unique and potentially useful? And so we think there are really two important innovations that are being combined together. And the first is just the concept of blockchain networks. And the way we view these as the shared ledgers that any single entity can write to under a clear set of rules but no single entity or it controls. So it's just shared infrastructure. Then we see this emergence of tokens which are just software and code that digitally represent an asset that can be issued on a blockchain network. And so that enables people to have a registry of ownership. And that could be either fungible assets whether it's Bitcoins or dollars, it'd be non-fungible assets could be art the game assets could be property titles. And so we really start with the digital economy today. It's powered by thousands of independent ledgers that register and store ownership. And we think blockchains could be this alternative shared infrastructure which would be great if you had many different entities that could cooperate together around a single infrastructure for ownership.

But for that to happen there are a number of things that need to emerge. And I think first there is so much complexity in actually interacting with blockchains. You really have to be crypto native. You have to understand how to manage private cryptographic keys. These networks have to be able to scale, which we've seen significant progress on. But there's still a way to go. You still need trust. And I think a lot of people look at crypto and blockchains and say oh it's removing any need for trust but there are still applications that you have to use to access them. So we think that you need to see these components emerge on top of the underlying technologies. And when they go mainstream consumers won't even know that blockchains and crypto are behind the scenes. And today almost every application and use case of crypto, you know you're using crypto, it's very clear and it's a pretty difficult, challenging experience. And so we're excited to see this become more [indiscernible] and become more of this backend technology that sits behind the scenes, you know for payments, for commerce, for capital markets. We think that's where it will ultimately mean.

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And with that backdrop or that world view as a backdrop, what is Visa's vision for Visa's role in supporting digital assets?

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And so the starting point is if we want to add value to all forms of money movement, you know whether that originate on, you know VisaNet or beyond and we look at digital currencies running on public blockchains as just additional networks, and the same way we look at RTP, the same way we look at ACH. And so we think there is both potentially ways that you can connect them, you know to VisaNet. And so we're exploring benefits that digital currencies could have powering existing products. They're going to be brand new clients that are building products on top of digital currencies that we can work with. And then we think that there could be ways that they can help power new non-card flows. Think about B2B payments and disbursements and remittances. And so where you see Visa's, we've got a lot of expertise at how to manage, you know secure payments and transactions. That's a really we continue to look at this as part of our network of network strategy where blockchains and digital assets are just another network that we can connect into for our clients.

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All right. Let's talk about a little bit about the current events. So, meaning the FTX collapse, of course and then also the collapse of Three Arrows Capital and related firms earlier this, this year, so we've seen all of these, you know abrupt So we've seen all of these abrupt kind of failures, bankruptcies, et cetera, over the past few months. So what in your view so I guess first, just to clarify, do they have any direct impact on Visa? And if not, what is the broader impact or implications you see them having on the overall ecosystem?

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Yeah. So the situation with FTX is incredibly unfortunate, we've been monitoring the developments around it closely. So it's clear that we've terminated our global agreements with FTX and the US Heart program is being wound down. It was incredibly nascent, so there wasn't a large impact there. And I think our general view on this is that over the past few years in crypto, we've seen many new start-ups and companies emerge. And with any new transformational technology, particularly one that has a little bit build to entry and to build on top, that's what you expect. You expect to see many companies rush in and then some of those companies will end up building enduring successful businesses and will be able to scale and become established entities. And others aren't going to make it. And so our position is we don't want to have to pick winners and losers, particularly in crypto. It's so hard to predict what's going to happen and how things are going to evolve. And so we want to work with as many companies as we can, and it doesn't really change our view that digital currencies and crypto itself they have potential to impact the future of financial services. But I think it establishes the importance of trust and the importance of maintaining the integrity of the payments ecosystem, the importance of protecting consumers. And if crypto is going to be able to scale and go mainstream, I think it's going to take concerted effort across the industry to improve how exchanges are operated to have better standards and requirements in place and the work to make sure that we don't have failures like this again. But we're going to continue to invest and we think that overall, this is one of the most resilient industries and resilient technologies that we've come across and I

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think the pace at which things move a year from now how often will people be talking about any individual exchange in the past, the technology is just going to continue driving for.

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All right. And so, Vasant in the context of that, we quickly touch on the regulatory question. Obviously, Visa no stranger to regulators. So, what is your perspective that this is EPA, that this is the Digital Commodities Consumer Protection Act, which is one of the bills that had gained a fair amount of traction in Congress. But maybe taking a broader question on this, what is your view on what actions the US government should be taking to help support and regulate regulatory actions to support this ecosystem? What are you looking for them to do, especially in the wake of the DCCPA situation?

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Yeah. I think it's a really important question and we've been spending a lot of time with regulators and policymakers. We don't really have a specific perspective on the DCCPA. It doesn't impact payments directly as much but we've really been focused on, you have to be proactive and not reactive And there are important principles that you need to keep in mind. I think everyone is starting to agree that, there is real innovation but there have to be protections in place and you have to make sure that that innovation happens responsibly. And so, we've really been focused on how do we educate policymakers on how these technologies can be used and how responsible corporations and institutions are starting to experiment and use them. And we don't think that you should ever have one single company or one single individual kind of to be the face of an emerging industry in technology. It takes many companies together, and it takes some real effort in educating policymakers to get to regulations that that will be effective. But so we don't have a clear recommendation, and I don't think anyone does it. Here's exactly how regulation should happen. We think it's going to come together between many companies and particularly companies like Visa, who've been responsible actors in payments for many, many years. And so our approach has been let's invest in education and let's make sure we're proactively engaging so that we can get to a better place that protects consumers, even if we don't know where that will be yet.

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Okay. All right. Fair enough. Okay. Let's dive in now back to some of the Visa specific initiatives and product offerings in this space. Let's start you highlighted the consumer research that highlighted that many consumers want to have access to their crypto through a debit card. Visa is partnering already with 65 different crypto wallet partners. That's probably the one of the more prominent initiatives that Visa has in crypto that you see these, you know, crypto debit cards, crypto linked debit cards at a lot of the major exchanges. So just describe what are the types of services you're providing to these who are the wallet partner? You know, some examples perhaps of who are the types of wallet partners you work with and what are the types of services you're offering them.

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So we see crypto platforms as a pretty interesting client segment because they exist as both merchants on our network and there was a huge need to make it easier to have fiat on-ramps and you have to be able to get funds into an exchange and be able to load a wallet. And there are emerging issues. They're looking to offer card programs directly to consumers. And so companies like Coinbase, companies like Crypto.com, we've been working very closely with, on both the merchant and the issuer side. And we're finding that there are a number of

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different value propositions that these companies are bringing in. One is the ability to earn, crypto rewards back on a card, which we've seen is something that has gotten a lot of interest from consumers in the space. And the other is, the more use cases that these platforms go after, and particularly when we see Stablecoins starting to be used for things like P2P and remittances, you really have to have an off ramp for a Stablecoin to be useful.

If I make a remittance from the United States to Mexico and I send USDC and there's not really an easy way to get that USDC back into Fiat, be able to spend it. There's really no point of sending USDC in the first place. And so we've seen companies like Coinbase, like Crypto.com really look at one use case of someone being able to receive a Stablecoin in a cross-border payment and then be able to walk into a merchant across the street, tap their card, and spend from that balance at a merchant. And so we think that that off-ramp, opens up opportunities for these companies to play a greater role as fintechs. Another use case they've seen is payroll, where there are companies that are actually paying remote employees in Stablecoins. And again, you can't put your paycheck in a stablecoin if you can't actually go and buy groceries and spend it. And so we think that the on ramps in the off ramps are going to be important for years to come and you know, traditional Fiat is going to coexist with crypto assets and Stablecoins for as far as we could imagine. And so it's going to be important to have this seamless ability to go in and out. And so we see big opportunities to work with this coin segment on both the merchant and the issuing side and then to also experiment with how can we make it easier for them to bring these products to market and looking at things like transacting in in selling in Stablecoins when you have a company like crypto.com that is using USDC as a part of their corporate operations, can we let them actually send USDC to Visa? If you have an exchange that is using USDC regularly for their trading operations, when they accept the card payment, can their acquirer receive USDC? And so as we're really starting to look at, we think this is going to be a growth segment for Visa over the coming years and there are a lot of our existing services that we can provide and then there are ways that we can co-create and build new capabilities for them going forward.

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And how should investors be thinking about the monetization model for Visa? Is there anything unique or what would you call out in terms of how you monetize these different services you provide for wallets?

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It's the same as the core business and so on ramps being able to look at these companies as merchants. There's no difference in – no difference for a crypto merchant to another merchant and in terms of how we monetize as same as off ramps. And I think as these card programs grow and the demand for them you know we see them as just a fast growing fintech partners that you know we work with in a similar capacity to any other products.

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All right. Let's go to NFTS. This is an area where Visa's been particularly bullish and active. And you recently announced a partnership, I know, with has been particularly bullish and active. And you recently announced a partnership I know with crypto.com to issue NFTs in collaboration with the FIFA World Cup, which is just getting underway. That's one example. But talk about what's the vision at visa for NFTs. Why the level of enthusiasm around this? And what, as a practical matter, what's Visa's role in the NFT space?

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Yeah. So we see NFTs is just one of the most fascinating primitives coming out of crypto. This just starts to look like a new form of e-commerce. You know, digital goods have existed for a long time on the Internet, particularly within online games. But the value of digital goods have really been limited because of the fact that digital goods have really been locked in a single platform. You haven't been able to take them with you anywhere. You know, you can't really sell them, you can't build on top of them. And so digital goods in their current form haven't really had the properties that a physical good has today. And so when you can represent a digital good on a blockchain, we think that gives it unique properties that make it more valuable to a consumer. When you can hold on to it and you can trade it, and you can build on top of it.

And then when third parties can create applications that can recognize those digital goods and add utility and value for them. And so we're really excited to see what gets built on top of NFTs as a permanent. And we started with just really looking to understand them and to come into the space, engaging with communities around them. We bought our Cryptopunk last year, which was a fun experiment of just what does it take to actually buy one of these? How do you custody it? And when did you see the excitement? As we entered the space how there is this really vibrant community that looked at Visa and Visa's brand in a different way because we were recognizing the value and the historical nature of the Cryptopunks project. And so we said, let's study this. Let's come in as a collector.

We set up a Visa creator program, which is one of our initiatives where we think that it will be these individuals that are really on the forefront that are artists, that are fashion designers, that are musicians, and we want to have direct relationship with them. They're kind of like the next generation of merchants. And if you could see how quickly an individual creator can grow into being a global merchant, you look at Mr. Beast, for example, that there are these individuals who now have these enormous audiences that are able to sell products into. We want to get to know and build relationships with creators at the earliest stages. And so those have been some of the initiatives we've worked on over the past year, and then in the partnership with Crypto.com around FIFA is really the first time that Visa is creating NFTs. And so we're experimenting. We're using the Crypto.com platform. We're saying there's just so much excitement from fans in FIFA in the World Cup, how do we create some unique experiences and collectibles for them to engage with? And so instead of just taking those highlight of a goal from Carli Lloyd, we actually worked with an artist that represented that goal in the movements that happened in the steps up to it as this beautiful piece of generative heart. And so we've been able to – we did an auction of five of these classic moments, and we actually created an acquisition, and we're in Doha, fans are actually going to be able to play a game of soccer on a pitch and then have their movements tracked. And the movements are then represented in this form of generative art, and they can walk away from the activation with a collectible. It's an NFT in the wallet for that experience that they had. And so we're at still the very early days. But we see these role as we need to make it easier for people to buy NFTs. It's just another digital gain, another form of e-commerce. You shouldn't have to download a new wallet. You shouldn't have to buy a cryptocurrency or buy like anything else online. And then we want to experiment with how can it be used for loyalty, how can it be used for fan engagement, but how can it be used for business brands to be able to connect to and resonate with an entirely new generation of consumers. And so it's one of my favorite areas that we continue to see a lot of interest and excitement.

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And over time, over the longer-term, yeah, what role do you see NFT is playing in commerce more broadly, I know there is sometimes a more disparaging perspective that there's sort of the, had this sort of bubble collectible dynamic over the last couple of years. But obviously, Visa's investing very heavily in enabling this ecosystem over time. So what kind of role do you see in terms of unlocking commerce globally through NFTs do you see over time?

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Yeah. I think a lot of people get distracted by the $1 million kind of high priced sales of [indiscernible] (00:24:47). And I think some of the trends that we've seen in the categories of commerce, the first has been the potential for core avatars and kind of this emerging trend within social media and social applications where people are actually purchasing an avatar that represents themselves online. And so, it's kind of a new form of digital cultural identity where the avatar that you use on Reddit or on Twitter might say more about you than just a picture of your face. And so, if you think about the number of consumers that interact with social media, if avatar has become a norm of how you represent yourself, that's a new digital good and a new merchant category that could grow very quickly. And so, I think the success of what Reddit has done lately, seeing how meta in Twitter have both been integrating avatars that's one really interesting category. The second, it's been combining the digital and the physical and so being able to sell a digital product that can then either unlock benefits in the real world or can then be forged or turned into a physical product at a later date. I think the best example of that is what Nike is doing. Those are digital sneakers that consumers are actually going and purchasing, that they can show off in their collection online and then over time could forge for a physical pair that they could receive and wear. And so, we think that you could start to see these digital and physical combinations that are just a new way for brands to add value, that even while you're wearing the physical pair in person, you can prove that they're authentic. You can get access to other benefits because you own the digital NFT. And then third is more about royalty, you're seeing companies like Starbucks creating new loyalty programs, using NFTs on the backend and I think a lot of loyalty programs have been really the company is creating the benefits for their consumers and it's just a one to one relationship. I think there's the potential in the future for, if your customers have an NFT, any third-party developer could create benefits for a customer that's loyal to you. And so you're going to see more collaborations between brands sharing customers and providing value and utility, both for customer acquisition and for loyalty. And so those are three categories that we're monitoring closely. And we think that there's going to be a lot of experimentation and many of the NFTs that get created might never have any secondary value, but they'll still provide value in terms of some a marker of someone's identity and access paths into a real life event and we're continuing to invest in understanding where that space is going.

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All right, let's switch gears to Stablecoins. So, All right, let's switch gears to Stablecoins. So we talked first about Visa's major initiatives with Wallet partners. That's been a very prominent aspect of your initiatives in crypto then just talked a lot about NFT is another major area. Third big area is in Stablecoins. You were one of the very first, I believe the very first company to clear and settle a stablecoin USD coin native over VisaNet. So can you talk about your view on Stablecoins in general? Like what, what's, why is this a priority area for visa to be investing and what's the potential you see in Stablecoins? And then what are the initiatives that Visa has behind that?

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Yeah. So when we look at Stablecoins, we first say that they're not really new currencies, they're just a new form factor in format for an existing currency. And so now that you can represent a dollar, on a blockchain network, we think that that opens up some interesting properties. Blockchain networks run 24/7. They can be accessed globally. And so it becomes this new role that dollars can run over. And so our starting point has been that visa today, we believe, has a world-class fiat treasury. We are experts at after authorizations happen. How do we compute net settlement positions between issuers and acquirers? How do we then send and receive thousands of

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wires between banks to actually move that money, behind the scenes? And so where we've started is to say, like, we do this very well with fiat. Can we build the expertise to be able to do this with new digital coins of fiat?

and so the same way that we can convert between dollars in euros on a cross-border payment, why can't we convert between digital dollars and traditional dollars and make it seamless and so that we can give our clients work accessibility and give them the option to say what format of dollars, what role do you want to send dollars over and have it all just work in the back end within our treasury. And so this is a very long-term approach that we're taking. We're doing it very, very cautiously. We're taking our time to make sure any time you're impacting and working with piece of treasury, we need to make sure that it meets our – our standards to be able to interact with it. But we're seeing some interesting opportunities both of you, how do we speed up settlement, can we actually move money faster when we can use these 24/7 rules, can we settle transactions on a weekend, something that you can't really do with that wire in existing rails today. And then, as we look at our broader portfolio of new payment flows and money movement, whether it's cross-border disbursements and visa direct, can we enable stablecoins as just another way that actually moves the money behind the scenes that VisaNet authorizes. And so we're still in the early testing period, working closely with the treasury team, working with partners to understand how to custody, how to access liquidity and convert between stablecoins. What are we really picking around which stablecoins we interact with. We think it's important to recognize not all stablecoins are created equally. You have to understand what's the governance, what are the redemption rates, what forms of [indiscernible] are held behind the scenes. And so this is something we think will take many years, it's a really be rolled out and to have an impact. But we think it's a commitment towards Visa continuing to innovate not just on how we authorize payments, but how we actually move the money underneath those payments behind the scene.

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And just to crystallize it, what do you – what are the advantages in your view? So clearly an important nascent technology, but as you look at your clearing and settlement infrastructure, what do you see as the advantages of stablecoin technology over how it's all done today?

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Yeah. I think the number one advantage is that, blockchains are just 24x7 real-time networks. And part of the question is, will stablecoins end up being used more as payment networks that consumers are making a payment directly and it's authorized and cleared and settled all at once. It's kind of hard to do that today, a lot of blockchains don't really stop. There are a lot of barriers preventing that from happen with the fragmentation of the many different blockchains. But we think they're pretty good settlement rails. They're good at moving large value of dollars, particularly to be able to do it 24x7 in near-real time. And so that's been the most important property that we've been experimenting with is just a new real-time settlement rail that we could integrate behind the scenes.

There's some other properties that we think that are interesting when we talk to our clients in that they're starting to become used as kind of like a fintech developer platform. And so we're seeing fintechs that are excited about particularly fintechs outside the United States that want to build dollar denominated products, they might want to build a product that looks and feels like a Venmo but it's very difficult for early stage fintechs to be able to maintain banking relationships, particularly for US dollar banking and so they're starting to build these products that are fintech on the front-end, looks and feels like Venmo, but it's actually stablecoins on the back end.

fintech on the front end...

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Yeah.

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...works of bills like Venmo, but it's actually stablecoins on the backend. And so we think the combination of stablecoins as a developer platform, being able to do 24x7, 365 settlement. And then the notion of the programmability, when you can have smart contracts, when you can have defi protocols, a lot of really interesting possibilities that it's going to take many years to play out how they're -- they're developed and we want visa to be at the center of it. And so we're committed to really building an expertise and how to actually move dollars on chain and do it across a number of different types of stablecoins and a number of different blockchains and how those can connect back to our existing Treasury systems.

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Well, there's often a perception that stablecoins are threatening to Visa there is -- because you know there's, I suppose the concept that there -- there are an alternative open source, potential payment rails. So how should investors think about that dynamic? You're obviously embracing the technology and have been very central to the advancement of it, actually. So, you know, why -- why is the -- why are the stablecoin networks not, you know, not a threat to Visa?

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So today, we have not seen any meaningful adoption of consumers paying merchants directly with the stablecoins. And I encourage I tell people on my team and I tell it like, try it out, go try and buy something with a stablecoin right now. And first you see there are not many merchants that accept it. And the reason that there are a lot of challenges and complications to accept it again. It's not that there is just this one network, this one blockchain that everyone agrees this is going to be where payment happens. If you look at a single stablecoin like USDC, it actually runs on eight different blockchains now.

like USDC, it actually runs on eight different blockchains now. And so if you're a merchant or you're a merchant gateway and you want to accept stablecoins, are you going to integrate eight different blockchains that those stablecoin run on, and the consumer has to be able to make sure they choose the correct chain. We think this notion of irreversibility in payments more often can be a [ph] bar rather than a feature. From a consumer perspective, I've been making on chain transactions experimenting with these technologies for years now. I still get nervous when I'm copy and pasting an address, I am scanning a QR code and so to think that we're going to live in a world where every consumer is just going to go around sending funds on chain, what happens if you buy something at a merchant and the goods never show up? Good luck trying to get any protection there, the transaction is final. And so we think that there are a number of these barriers that make it very difficult, particularly in places where cards are established and consumers are using them today. So why would a consumer want to switch over and use a stablecoin instead? We do you think that those opportunities in emerging markets, in areas where we – consumers are still paying in cash to have stablecoins become more of a digital form of cash there? But there's a lot of work we have to do with compliance and KYC. And when we talk to merchants, they don't like the idea of anyone being able to pay them via a QR code and they don't know where those funds actually came

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from. And so we see them as fundamentally as it's payment infrastructure and payment infrastructure can be valuable, but you need payment networks on top of that. You need trust in governance, in compliance and consumer protections. And a lot of the value that Visa provides are all of those extra components, not just a [ph] real that funds can be processed over. And so we're monitoring it personally and we're committed to being experts in how this technology rolls out. But we don't really see a real risk around consumers paying merchants with stablecoins in the near future.

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All right. Another – well, speaking of value-added services, one area I know that Visa has also been active in in the crypto space is related to some advisory services and fraud-related services. Can you describe what your offerings are there? Like who's the customer here? And why Visa? What's the value proposition of Visa?

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Yeah. So we announced that throughout of our visa crypto consulting and analytics practice about a year ago. And when we started this, it was really because a lot of banks were coming to us. And they were really just starting to set up their own crypto teams. They're trying to develop crypto strategy. They're researching kind of what impact would crypto have. And so we started to partner closely and take a lot of the learnings that we've had being involved in the space for many years and helping banks to develop a strategy and execute on it. And so that was where it started. And then over the year, this business has really started to scale with a number of other companies coming to us. We've seen processors and acquirers who are wanting to follow our lead around things like stablecoin settlement and understand how they could actually participate and use blockchain to move dollars and obviously merchants. And so the interest that merchants had in crypto, a few years ago before fees, it was kind of a – it was a very small part of should we accept Bitcoin as a press release that we could put out and say that we like Bitcoin, but no one actually wants to pay us in Bitcoin. Now they're saying, can we actually come up with an NFT strategy that can have a material impact on our bottom line, either enabling us to sell new products or to make our consumers more loyal? And so we've worked with multiple merchants now to really help them in the early days of their NFT strategy and go to market. And we're seeing more and more demand in interest from merchants coming to us. And so we think this is a real role that – that Visa could play and the same way we are this bridge between the crypto companies and our network. It's now starting to go in the other direction of a bridge between our existing clients and these crypto technologies, and we think that there's a lot of room for growth there. And then on the third side, we're also really seeing some of our existing visa solutions be adopted and work very well with crypto platforms. And so, for example, on the merchant side, the product called Cyber Search Decision Manager. And so we basically use transaction data and machine learning to help merchants optimize their [indiscernible] . Crypto merchants have to be very aware and on top of fraud and being able to prevent bad actors from trying to process transactions. So we've seen some of the largest exchanges start to use our existing bar tools and you've seen meaningful reductions in fraud from them. So those have been the two areas of value and services we've spent the most time.

Q

All right. Well, you highlighted earlier this point that, you know, there's not like one blockchain. There's lots of blockchains out there. Another area I know Visa's focused is on this area of operability. And we have heard this theme come up now multiple times with different speakers throughout the day as an area of friction and challenge

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in the crypto space. So what are the use cases for this kind of cross-chain interoperability and what are the products and services that Visa can provide in that space?

A

Yeah, we will say, because it's likely that we're going to live in a multi-chain world. And I think it's both you know the significant competition that we've seen of the existing block chains and the fact that there are still new blockchains, new layer ones that are being created you know every few months. Now, there could be layer ones that don't even exist yet and that you're getting significant adoption one year to two years from now. And so we've been thinking a lot about how it's very hard to expect that every wallet itself is going to be multi-chain for a developer to be able to build a lot that supports 8 to 10 different blockchains, it's just a lot of work to be able to do. And so we would like to see a world where a developer could choose first the blockchain that best serves their purposes, but still be able to connect into a network where a consumer who has a stablecoin like USDC on the Ethereum blockchain could be able to make a transaction with someone who has university on the Solana blockchain. And so you have to have raised the two blockchains that can talk to each other. And this is where this work has really been driven out of Visa research, which is a brilliant group of technologists we have out here in Palo Alto, where they've designed a system that looks a bit like-for-like network in being this second layer technology that sits on top of a blockchain. But it can enable interoperability where you can have a what, you know, connect an open what we call a channel over one blockchain like Ethereum and then a second wallet open a channel with us over a second blockchain like Solana or like APTOS. Then you can enable a payment that's actually routed through Visa as a hub. Yeah, so it's really the same role that we play today where we enable interoperability between currencies across the world. But being able to do it between blockchains. And so this is still in early research proof-of-concept, we actually wrote a smart contract. We published it, people are Visa's writing smart contracts now, we're like building expertise on how to use these technologies and we've been applying it as well in the context of central bank digital currencies. And so we're seeing all these central banks across the world say, okay, which blockchains should we use? You know, you need to be able to have a payment move from one central bank, digital currency to another. And so we've showcase this with the Hong Kong Monetary Authority, among others, and have really been recognized that we have some expertise in how to do this in a secure manner. And so it's still to be seen how we end up commercializing this in the future. But we think that there is an important role to play a Visa being able to sit in between multiple blockchains.

Q

Got it. Okay. All right. All right. One last one, and then we'll get to our wrap up questions. I find this one really fascinating in terms of perhaps its developing markets applications, which is the concept of offline digital currency transactions. I know a final area that you've been pretty active in is helping facilitate how this will work, like meaning being able to do essentially a face to face digital cash type of transfer. What's the value proposition for that type of offering? I mean, I guess I'm thinking like in our world, you know, we kind of have like P2P services that allow you to do something kind of like that today, Zelle or Venmo or something. But what's the distinction when you're talking about doing this with the digital asset? And then what role is Visa playing in enabling that use case?

A

So our research So our, our research and work here really started as a response to questions that we were getting from Central Banks. And specifically Central Banks in emerging and developing markets. Where I think

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what we've found is, as we've talked to over 30 Central Banks. As we've talked to over 30 Central Banks in-depth about their ambitions with CBDC. The motivations in the used cases for CBDC are very different in developed markets versus in emerging markets. And in emerging markets, financial inclusion and just bringing more people into digital payments and off cash has been one of the primary motivations that we've seen and central bankers have recognised that we're still in a world where there are many consumers who don't have smartphones or don't have phones with reliable network access. And so if they really want CBDC to be this digital version of cash to be replaced with cash in their market, you know if they believe that having some offline capability is going to be an important property for them. And so this was the same piece of research group you know [indiscernible] (00:46:15) also, we really looked at how can we use secure hardware embedded in devices to be able to effectively download a balance in storage on that secure element, track payments that happen, and then be able to still ensure that funds can't be, be double spent. And so we built an initial research paper, we filed IP around it and then we have a very perfect concept. And so we think this is one feature as a part of a broader motivation for emerging market Central Banks. And it's something that, you know, it takes a lot of deep expertise in security to be able to pull off in a way and prevent fraud and other things from happening. And so we're excited to just see how we can take some of the problems that Central Banks have. And a lot of them don't have with deep expertise in payment technology that Visa does and be able to be a real partner to them, helping them think through these top-line research questions and come up with solutions for them.

Q

Yes, yes. All right. We've covered a lot of ground. So let's go to a couple of just wrap up questions. Pulling this all together in your view, what are the most promising couple of crypto related applications looking out over the next three years to five years. I think many folks kind of in and around the space are feeling a little beaten down right now. So should give us all a little of hope and promise. What are some of the really exciting – in your view, like just the top ones, if we look out a few years that you think have a lot of potential to really mature into real ecosystems, real businesses looking out a few years.

A

Yeah. So over the long-term, so really we see three opportunity spaces that public blockchains, crypto technologies, tokens could have a major impact on. Now the question is what implication – what applications within those spaces and how they emerge, you know that is still to be seen. But I think first we do believe that there's broad opportunity in capital market innovation. And I think we've seen blockchains, we've seen deFi really be used for trading these brand new assets, you know, volatile cryptocurrencies. I think the end state ends up being, you know, blockchains, being able to tokenize real world assets, stocks, bonds, loans loans. We're seeing many of the banks and asset managers we talked to really looking at this as a new form of infrastructure for capital markets. And if you could actually have a real world asset come on chain, that lending protocol just got a lot more valuable than when the only thing you could do was use it to get margin or to go long on a speculative asset. And so we think that there will be real world assets, on chain, real capital market innovations. There's going to have to be a lot of work on the regulatory side. That's going to take many years. But we think that there's something there. The second is cross-border payments. We do think that both stablecoins and in the future, things like tokenized deposits from banks, if you can have dollars represented on a shared ledger that two entities across the world can both tap into, that could lead to significant improvements in inefficiencies. And we're starting to see this today with Stablecoins, where you have fast moving fintechs and crypto companies using them for cross-border payments. We think the adoption will happen when they're large global payment companies that are interacting with each other, transferring dollars on chain between each other. And then the third being digital goods in commerce and loyalty. And so I think that's the pace of building that has happened from large brands,

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from social networks, even when the volume in NFT trading has completely has turned around in the opposite direction. We're seeing more and more brands taking this very seriously, building wallets, looking at ways that they can incorporate this in their existing products. And we think that there will be new social networks that are actually built around digital goods as a core part of it. And so those three opportunity spaces, we have high conviction that there's going to be real innovations. And I think the question is how many of those innovations are built by brand new startups that are emerging and how many of them are existing institutions taking these technologies and incorporating them into our core businesses. And I think it'll be some combination of both. But either way, as I mentioned before, it won't require consumers to have to even know what crypto is or how it works to be able to use the applications that are emerging and are built on top of it.

Q

Excellent. All right. And how should just a final wrap up -- how should investors be thinking about the role of crypto in the visa investment case, the contribution to visa's business.

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Yeah. I just say that it's -- it is extremely early, but we are really committed to being a part of a space for the long term. I think in periods like this, it's the opportunity to be able to step back and have a very long term mindset and, you know, to build the core competency and how to move funds on chain, how to provide our existing services to crypto companies as a client segment, and to really commit to make sure that, you know, as these technologies continue to grow, we can really -- we could really have been used in a responsible way that can be integrated into the back end of the payments ecosystem. And so we're going to continue to be on the forefront as the space develops.

Q

Excellent. All right. Wonderful. Well, [ph] Kai, thank you so much for joining us. Terrific session. Thanks to everyone watching. And we will be back in about eight minutes with our next session with MasterCard. All right, thanks, everyone, and thanks again. [ph] Kai, that was terrific. Thank you.

A

Thanks for having me.

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