EMBRACING TECH IN FINANCIAL SERVICES EPISODE 13: WHY BLOCKCHAIN IS HERE TO STAY

TRANSCRIPT

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Tim: Blockchain has the potential to create whole new business opportunities. Adoption is growing fast, but where will it ultimately have an impact, and how will it disrupt our existing business models? I have two industry experts to help us better understand this.

Presenter: Welcome to Embracing Technology in Financial Services, a podcast brought to you by Accenture. In this series we will hear from experts to uncover the latest in technology and trends in financial services. Now, here's your host, Tim Broome.

Tim: We're going to have a cracker of a conversation today in and around the topic of blockchain. With that in mind, I'm joined by two close colleagues who have had a number of years of working in and around the growing business of blockchain. So firstly, Nando Di Santo, Capital Markets Business. Nando, how are you?

Nando: I am awesome today Tim, and glad to be here to join you.

Tim: Why you are awesome today?

Nando: Because we're going to talk about blockchain.

Tim: Every blockchain conversation is a good day.

Nando: It is.

Tim: And also joined by Tansu Şenyurt from our Technology Advisor Business. Tansu, how are you?

Tansu: I'm good Tim, how are you?

Tim: I'm awesome because I'm also here to have a good conversation about blockchain and the growing business in around this, not only emerging technologies, but I guess emerging business models. Can we start off, Nando, with... We've mentioned the word blockchain a couple of times, but there's also the phrase distributed ledger technology. Can you just help us understand what's the difference between the two, if indeed there is a difference?

Nando: It's a good question Tim actually, it comes up quite a lot. The blockchain mechanism behind the scene is a technology that enables Bitcoin or the cryptocurrency to occur. It's that which is a distributed ledger, so you're distributing the mechanism and the record of what events happened in what sequence to different nodes. A node is something like... Basically, you have an ownership of that on a system that participants keep. It's that, that's really the distributed ledger and it's that mechanism. You'll find that a lot of the enterprises will try and use the word distributed ledger just to create that differentiation as it pertains to sort of blockchain. So, you don't get that Bitcoin or other currency sort of mechanism come through.

Tim: Let's take a bit of a step back before we jump into that. Tansu, can you just give us just a bit of an overview of what is distributed ledger technology?

Tansu: Good question again. A blockchain is a way to store transactions in a connected chain of data. It is basically distributed because, as the nodes or participants, each participant may have the same database in their infrastructure. So, everybody seeing the same database. It is cryptographically connected together, all the events, so you cannot change the data historically. You cannot go back and change something, and you have a running blockchain.

Tim: I try and compare it to the internet as a network which has inherent redundancy built into it. Is it effectively the same thing for data management?

Tansu: Absolutely right. There are really similarities between TCP/IP as we know it, and blockchain.

Tim: When you say TCP/IP, just to confirm, you're talking about the infrastructure layer and the protocols on which the whole internet operates, yeah?

Tansu: Yeah, exactly. If you think about it, TCP/IP solves the problem of communication. On the other hand, blockchain is solving the problem of transaction. So, they are doing the same thing, they're just connecting dots together. Now, we have a bigger problem which is the transactions, running on applications, running on enterprises, and blockchain is solving that issue.

Tim: Nando, then why is everybody so excited?

Nando: There's two people you could classify as being excited: you've got the enthusiasts and you've got the enterprises. You've got to really think about the enthusiasts coming at it from a different angle all round: why did blockchain start, where did it come from, where was it born? If you think back to -

Tim: 2008?

Nando: 2008, and that sort of movement around anti-government and what's going to happen with currency. You had central banks doing certain things to the market. So that really borne that

antiestablishment sort of practice. If you fast-forward now, everybody is actually in the enterprises, and they're getting excited around the fact that this is actually – Yes, there's a technology that underlines it – but effectively what it is, it's a new business model or a new paradigm around how you share data or transfer value between enterprises.

Nando: The power of blockchain, if you were just doing it for yourself as an enterprise, really, it's like a database. You're storing data or you're storing some transactions, that's what Tansu was talking about, but the power is about connecting. It's like the social media for businesses. Right? How do you connect people together and share value? And that's quite important. You've got to have a different mindset around using blockchain. You don't want to do blockchain for the sake of just the technology, and that's really one of the key insights that you've got to think about.

Tim: You mentioned new business models, different paradigm. Do you think that's what slowed things down a bit? Because, having been around a number of years, it feels as though we're still trying to figure out exactly what we do with this technology, where it fits into the ecosystem. Is it because it's less about the tech and more the business?

Nando: Well, you're showing your age a little bit here, Tim –

Tim: Thank you.

Nando: Well, because actually, it's probably one of the fastest growing innovations ever. If you look at the famous S-Curves, and I think we were chatting about this before we started today, it's actually quite fast in terms of the adoption of the technology.

Nando: If you look at it, blockchain has only been around just over a decade, right? It started with the [famous paper from Satoshi](#). If you look at the adoption of where enterprises are looking at it in terms of the proof of concepts, etc. We're now at the establishment of, how can we use

this to underline value and transform businesses? Where it's up to is companies looking at ways of how to actually leverage blockchain, but not as a technology internally, but now how to actually partner and make money out of that. Where's the path to revenue with it? That's where we're up to in this.

Nando: Tansu and I were talking a little bit about an analogy of this earlier, and you can think about the power of blockchain as something like a phone. Back in the early or the late 1990s, you had like a Nokia phone, the one with the pull up antenna, that phone, and we used to play, was it Snake? You remember Snake?

Tansu: Yep.

Nando: Think about that, right? No one really thought about, what are all the apps that you could play, not play, or make money off or actually generate revenue as if you're an organisation back in 1998 or the early 2000s, right? If you fast-forward, this is an enabler technology, and what you're building here is the platform and the connectedness, but where we're up to now is that transformation.

Tim: The underlying tech isn't new tech, it's almost a different way of connecting that technology together, which solves a completely different set of problems. Tansu, let's dive into the tech a bit on that then. So, what is the tech behind the hype?

Tansu: It is the usual suspects really. As you mentioned, it is traditional tech. The problem is not about technology at all, it's about collaboration. But when it comes to technology, we are talking about technology in different ways, right? So, we need to think about what's happening with DevOps in that one. What is happening with data? What's the presentation layers? What is infrastructure? What is the security behind it? It's all traditional discussion, but in a different level, because it's a mind shift from traditional centralised application development, to an ecosystem application development which is distributed.

Tansu: So, we have to think about, you're creating an application, but it will run everywhere, globally. So, it's having some effects on DevOps, data, presentation, integration, and security as well.

Tim: All of which are moving pretty fast at this point, changing very quickly. I spoke with Dave Powell a couple of times on security, and the rate at which attacks are coming in that space is moving faster and faster. The rate of clouded option is moving faster and faster. Are we entering an area where this is going to make things easier or more complicated?

Tansu: I think it's more complicated, especially for blockchain as well. With blockchain, security is a big consideration, right? We had some famous hacks happen during the last three years or so. We have 2014 Mt. Gox, half a billion dollars of that Bitcoin, and then we have DAO and Bitfinex hacks happened.

Tim: Hang on, just dive into that. Is it, the chain that was hacked or was it that the keys were acquired?

Tansu: Yeah, good question. It's not surprising that there's a misperception that blockchain is hacked, but actually it wasn't. In reality, none of these incidents were related to underlying blockchain technology, but the ecosystem around it. The hacks happened on the endpoints, on the wallets, or on third parties, not in blockchain, because blockchain pretty much is really simple. It's mathematically proven way of storing data. You don't get much out of it if you hack it. The rest of blockchain security is pretty much the same with traditional security. So, 80% I can tell, you have to think about traditional security, like the governance, endpoints, data, everything, and 20% is new stuff like crypto, like keys, like HSMs and PKIs.

Tim: Tansu, by PKI, can you just expand on what you mean by that?

Tansu: It means public key infrastructure, in a basic term. It was around with the credit cards for a long time, now it's coming back with

blockchain because it is how you secure your keys, how you define the process around creating a key, signing something, and validating the keys.

Tim: So, it's effectively a way to authenticate that I am who I say I am.

Tansu: Yeah, correct.

Tim: So, the security is inherently built into the way it operates, but all the same problems exist that exist everywhere else?

Tansu: Correct.

Nando: Yeah. And I think we're even seeing a little bit more of the... Some of the security mechanisms that were thought about in a bygone era, like particularly PKI… We thought, that's all coming back. So, it is a blend of the traditional with some of the new. Just to pick up on a point that, one of the inherent risks is actually quantum computing, which is going to be not just in blockchain, but anything that's stored cryptographically.

Nando: Accenture has been doing some research and working with the labs on that, and there is ways around quantum-proofing blockchains and supporting the transition from a pre-quantum world to a post-quantum world where if... Some of the listeners might not be aware, but quantum is sort of like a brick-force, it's going to try every combination very quickly, therefore undermine some of the technology used to support cryptography. That being the case for blockchain, it's based on that. One of the key areas that people are looking at is: how do you actually quantum-proof blockchain? That's actually something that's been squared away now. Particularly as enterprises who are looking at adopting the technology, that was one of the risks.

Tim: I think that it's important to be conscious of it, but we're not even really seeing broad-based blockchain adoption yet. I think, for me, I want to spend more time thinking about, how am I going to get value out of what we've already got? Okay,

keep an eye on what's coming over the horizon, but if you spend all your time looking at the future and solving the problems that aren't here yet, you won't really be focusing on, how am I really going to get value?

Nando: It's a fair point, Tim, you think about it like that. But actually, someone fired the gun, and we're off and we're racing. There's three areas where we see that there's actual a lot of momentum built into the market. It's actually, we're at, sort of that phase two where we're coming out of the initial proof of concepts and so on, and now we're looking at: how does it transform markets and where can you apply it? And then the third phase is building innovations on top.

Nando: We're at that second phase in three key areas. Those are financial services, market infrastructure. We're seeing it in supply chain and in identity. We're actually seeing value starting to be extracted out of that. I can give a couple of examples there. If you look at the exchanges globally, a lot of their value chain is actually going to get disrupted because blockchain is effectively a mechanism to mutualise the data and also to tokenise a particular asset; an equity or a share, a common share. So, if you buy Woolworth's stock or Apple stock, you can tokenise that on the chain and allow that to be executed across multi-parties. So, the value there that you talk about starts to cut through where you don't have many handoffs and checks; have you paid for it? Have you got title? Have you got this obligation? What's the right if it fails in settlement, and all those sort of things.

Nando: That's where a lot of the value is starting to be extracted, and we're seeing basically every exchange, globally, look at how to actually think about that problem –

Tim: Yep –

Nando: Is it just part of the value chain, or is it all of it? Even the central banks are starting to think about this, so we're seeing a lot of movement in this space.

Tim: There's a couple of things I want to dive into. You mentioned the S-Curves, and I want to look at that in association with the central authority that either does or doesn't exist under a blockchain model. Where do you see the next curves coming that blockchain is going to be fundamental behind?

Nando: It's an interesting question. I think we're on that S-Curve at the moment with blockchain –

Tim: Sorry, but if we're on that curve, what's the existing model which is probably doing quite well for itself right now, that whoever is on that needs to think, "Well, I'm doing very, very well, but my business model is potentially coming to an end because there's the blockchain or the curve that it's associated with." What is the existing model that needs to be looking at what's coming?

Nando: That's right, and it goes back to right at the start when we talked about, blockchain isn't just about the technology, it's about a business shift, a business model shift. The S-Curve is predominantly a technology curve that talks about different values of different technology suites that are coming and where are they in terms of the value that they're doing and their maturity. You're spot on. In terms of blockchain, where we're at is, the technology is there and it's proven, and where companies are looking at now is, how do I actually change my business model, because you could put blockchain in today in your organisation, and you could change your database and put blockchain, but it ain't going to make much value. Actually, it probably costs more, right –

Tim: Yep –

Nando: Because to replace a core system that's very much tuned and so on, you just wouldn't do it. Blockchain is about collaboration, and you see this pattern of technology where you're bringing different parties together. We saw it in social media: you have people and the actual individuals coming together. Businesses need to come together to achieve value, and that's the difference on the curve. What's going to require for enterprises is, how do you get enterprises

sharing data confidently and securely together to create value? How do you get enterprises that traditionally competed against each other to actually work together to unlock some value in the market?

Nando: That's the actual challenge, and what we see is that in the initial sort of businesses that are coming through are the ones that are those central authorities that you talked about. That's why we see the exchanges where they actually have a natural collaboration of participants already. But one area we need to think about is, how do you actually start to change your model to position yourself for that paradigm shift?

Tim: Look, I think there's a couple that leap out to me, especially within financial services. If we think about the insurance industry, either my life insurance, or my vehicle's insurance, or my housing insurance, to be able to have a central point where information about whatever that thing is that's being insured, where multiple parties can add that information so everybody has a clear view on what is the history of this item? Be it me, be it my car. That's not only value to the insurer, it's value to people who are buying and selling cars. I suspect if we looked at things like your health insurance, there must be benefits to being able to have a clear view on... Look, it's almost my health record.

Nando: Absolutely.

Tim: I think that's a good one. The other one that I was thinking was just the broader housing market. It's very, very painful to buy a house, and there's an element of trust in, even when you've had a survey done, what's really happened to this property? Now, if I had a very, very clear view, I knew what happened to it, I knew when it happened, that's better from those who are giving loans perspective to understand the history of a property, it's better from an individual to know what risks they're taking. So, if you are at the better end, this should be an opportunity for you to get a better deal.

Nando: Absolutely. I think... Tansu will talk a

little bit about some other cases we're seeing here, but you just think about open banking, right, all the data that's going to be open. What you're talking about is the classic example for blockchain, which is a registry that's shared across participants, right, whether it's your health or your banking data. We're starting to see that movement again where you're sharing things across the industry. Whether it's regulatory-forced or not, it's going to happen.

Tansu: I still think that we need some regulatory happening on blockchain as well. There's an irony on central authorities. We know that blockchain will disrupt central authorities, but at the same time, when we are looking at the investments happening, currently, it's all coming from central authorities. They already realised the fact that they are going to be disrupted, so they start initiating the ecosystem by themselves.

Tim: Do you think we as a society are ready for business models where there is nobody that you can turn to?

Tansu: Ah, that's why I think about having a regulation at some point. Let me give you an example on identity. When we think about identity, we have real identities, right? We prove it by our passports, driving licenses. It's pretty much everywhere. Then you have digital identities, which is basically the conversion of our real identities into the digital world. Then we have the virtual identities on the third layer, right?

Tansu: Virtual identities is use case-based identities we had. Like for banking, we have an identity. For social media, we have another one. Digital identities is really important because there is a responsibility to hold your private keys, and it's a big responsibility. If you lose it, you lose everything. I think that's where regulatory can play a role, right? We need a central authority or regulatory body that can store our digital identities.

Tim: Okay, so you're saying that the regulator or the central body is almost the assurance against those bits of information that are critical?

Tansu: Yeah.

Nando: Yeah.

Tim: You mentioned data, all of this revolves around data. We're talking about a data store which cannot be changed, and I'm going to ask you about GDPR and the various flavors of protecting an individual's data and specifically their right to be forgotten. By GDPR we mean the general data protection regulation. What have you got on that one?

Nando: There's two ways, Tim. First way is, do you store that data on the chain, or do you store a little pointer to another system that has your data in it? This is called the off-chain. There has been some thinking about this GDPR thing that you talk about.

Tim: Okay. So, this is, the thing that you're storing isn't really personal information about me –

Nando: It's a point to where it might be –

Tim: ... it's a reference to it?

Nando: Yeah.

Tim: Okay. Makes sense.

Nando: That's this thing around on and off-chain data. Therefore, it makes it easier in the case where Tansu was talking about, is how do you delete it if you want to?

Tim: Okay. Makes sense.

Nando: Then there's another one that I think Accenture was looking at. It's called a chameleon chain or chameleon aspect which allows you to redact parts of the chain. So again, depending on the application and how it might work, there are mechanisms to deal with the right to be forgotten.

Tim: Okay. As we wrap up, can we just think about, what's the scale of the market, because this is really why we're talking about blockchain.

What would you see is the estimated value? I know this is not the easiest question, and there isn't even a single answer.

Nando: There isn't a single answer, I don't think, no –

Tim: What ranges, what type of numbers are we talking about here?

Nando: Oh, it's significant Tim. I'm not going to put a number because it's on record, about what it's likely to be, I think there's many references out there. You could go to the accounting firms, you can go to futures, etc, and they'll go, "the sky's the limit!" If you just looked back, say, 20 years ago and go to your point at the start about the internet, and thought about how big the internet is, how would you value it today?

Nando: I think it's a bit like that. To be honest, I think we're at that cusp of understanding how blockchain can really transform the market. But what I think it's going to actually do is, it's going to force through this paradigm we're talking about, companies to collaborate differently, right? They're going to actually have to come together to create new value or arbitrage the way that they're doing it today.

Nando: To pick up on some data, if you just look at the industry that's the capital markets industry around exchanges, there's significant value in there that's just around companies sitting in the middle or doing reconciliations. The value of that could be anywhere like $200 billion just in that industry alone, and the arbitrage value could be around $80 billion. In those, those case points is –

Tim: Did you just put a figure on it?

Nando: Yeah, because I knew those data points. But that's just one example of the industry. If you multiply that by industry to industry... What we haven't touched on here particularly is blockchain, it cuts across all industries. It's not just capital markets, it's not just finance. It's in supply chain, in government, in registries. It's all over there. Again, it's the combination, it's a

combination of data, the technology, the business models, all coming together, and that's the value Tim. I think, back to your dotcom thing, is you have to claim your stake, right? If you start creating that market and that ecosystem and that platform today, that's going to be critical for you to generate the value and the revenues in the market eminence.

Tim: So, the S-Curve point, it's already taken off by then, and if you weren't part of it, your organisation has missed the boat.

Nando: Correct, yeah. That's what we're really seeing at the moment. There are some real leaders in the field, and those leaders will have a strategic advantage because they already captured a lot of the participants.

Tim: All right. Look, that's nice way to wrap things up Nando. I really appreciate your time today. It's been great to talk to you, and Tansu as well.

Tansu: My pleasure.

Nando: Thank you. It was great.

Tim: If anybody wants to hear anything more about this heavily growing topic, which looks like it's going to blossom over the next few years and probably continue after that, please reach out to me, Tim Broome, Nando Di Santo, or Tansu Şenyurt. We're all on LinkedIn, and you can also get us on email within Accenture as well. Please feel free to reach out to us and we'd love to continue the conversation. Thanks a lot. Goodbye.

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