Blockchain, Big Data and Business Intelligence for Accounting and Finance

I'm Tom Hood, CEO of the Business Learning Institute, a learning and innovation affiliate of the Maryland Association of CPAs. I want to talk to you a little bit about Blockchain and what it means for today's finance and accounting professional. And I titled this Blockchain, What you Don't Know Can Hurt You, because these exponential technologies are starting to change things in some fundamental ways and I think it's important that today's finance and accounting professionals understand what these technologies are and what they are not and you you might be starting off thinking about them.

So we start with this idea of the Fourth Industrial Revolution. I don't know if you've heard that term, but it's becoming more and more frequent. It was coined at the Davos World Economic Forum in Switzerland and the CEO of that group, Klaus Schwab, wrote this quote about the pace of change that we're in. And he said, "We stand on the brink of a technological revolution "That will fundamentally alter "the way we live, work, and relate to one another. "In its scale, scope and complexity, "the transformation will be unlike anything "humankind has experienced before." Now I'm sure you've heard the hype about all this stuff, but when you really start to look at what's going on in Blockchain, Cloud, Big Data, Artificial Intelligence, Machine Learning, those things are all starting to make a direct impact in the finance and accounting world. And that's what we want to make you aware of today. And this started, kind of our whole exploration in this area started with this research that was done by the American Institute of CPA Subsidiary, CPA.com, and they hired a Futurist who ended up surveying CPAs and accounting and finance professionals.

And 92% of them said they weren't Future Ready. Now he defined Future Ready as being anticipatory, having the ability to be aware, predictive and adaptive of emerging trends. Social trends, technology trends, et cetera. So when we started looking at that, we realized that the three key words actually are petty important. Aware, predictive and adaptive. Because just recently, only about 4% of financial and accounting professionals even heard of Blockchain and had any idea of what it might be. And contrast that to the CEOs in many of the major companies who are saying about two thirds of them believe Blockchain will have an impact on their organizations in the next five years.

So I think that disconnect would say, what can we be doing to make sure our profession is aware of the trends, they understand, they see them, and are paying attention. Secondly, are they predictive? Can they actually figure out where that trend might be going? And then last, maybe most important, is can you actually start thinking about strategies for you to be in the driver's seat to help get your organizations to adapt to these emerging technologies before

they disrupt you? And so we think the key to this really kind of starts with this idea of an anticipatory mindset.

Now we've done some research with another Futurist, a guy named Daniel Burress, who has actually worked to create an anticipatory organization learning system. But Dan says that actually the things that we have to be thinking about is can we start to anticipate aware, predictive, adaptive of disruptions before they disrupt, problems before you have them, and maybe even more importantly, opportunities before your competition. And that's what we hope to empower you with today. So first to start with, there's some other research about what the top trends facing everybody is, and you'll have a PDF of that you can refer to in this lesson, but there key here is this is what we surveyed to a finance and accounting audience, and these were the top 10 out of the top 20 trends in technology that were researched by Dan Burress and his organization.

So you can see the big five are Big Data, Adaptive and Predictive Cyber Security, Artificial Intelligence, Cognitive Computing in Audit and Tax, Virtualization and Automation of Business Processes and Services, and then Blockchains. Now interestingly enough, all of these top five trends for the most part are kind of interacting and converging. And so they are amplifying and speeding up the impact with which they're hitting the market. There's one scary quote I heard from Ray Kurzweil, who is the guy who did the Law of Accelerating Returns, he said that in the 21st Century, we'll actually, instead of seeing 100 years of change and transformation, we're more likely to see 20,000 years worth of change and transformation because of these exponential technologies.

That's why it's really important for us to constantly be putting our antennas up and scanning the horizon for these kinds of trends and technologies. Let's look of this idea of Bitcoin and Blockchain. Actually, Blockchain is what we want to talk about, but everyone things about Bitcoin, 'cause that was the first thing that happened. So now you're gonna have to get a whole new language. As you can see on the screen, there's the Time Magazine Man of the Year was Satoshi Nakamoto who is the inventor of Blockchain, everyone thinks.

Actually, no one really knows. He authored the White Paper that founded it, but no one's ever seen him. He's not been identified publicly. And in this idea that he created, this secure platform, if you will, of doing transactions on which Bitcoin runs, you've got this idea of miners, these are miners that actually create the blocks that could end up becoming the chain, cryptographic algorithms which are kind of underlying all this, it's all secure, it's theoretically immutable, no one can change it, and then these ideas of hash functions. And together that creates this Blockchain Platform, compared to Bitcoin, which is a digital currency.

And we'll talk more about that as we go on. So the first thing is why should you care? Well this article certainly got my attention. It says, "Will Blockchain render accountants irrelevant?" Accountants do a lot of transaction processing, reconciliation and control. That could change

significantly if this technology gets adopted on a widespread basis. The cost savings that the banks are looking at are huge, and most of what's saving is people who do back office. So whether you view those as accountants or ledgers, there's a degree of challenge to those in accounting professions who work in any of those finance functions.

So literally any of the back office processing functions could theoretically get displaced by Blockchain and then there's also the audit. So four problems we see in modern accounting is that the current regime of accounting relies on managers to swear that their books are in order. You know, the auditor goes in, you've got this kind of management letter that says that everything's good. AIG, Lehman Brothers, Worldcom Tyco, Toshiba, all show that management doesn't always act with integrity. So that verification from a manager doesn't give that much assurance.

Human error is a leading cause of accounting mistakes. According to Accounting Web, nearly 28% of professionals reported that people plugged incorrect data into their firm's enterprise system. So despite all the controls and oversight, internal controls and external audit, there's still a risk that transactions be recorded improperly and or fraudulently. And then new rules such as Sox and Dodd-Frank et cetera haven't truly stopped the ability for fraud to be committed in accounting systems. Last traditional accounting methods don't really account for all the new business models that are emerging. Platform Businesses, Subscription Models, all those kind of things, and we truly haven't figured out how to measure and monitor that. I don't know if you seen a book by Baruch Lev called The End of Accounting. It deals with the fact that accounting isn't always measuring the right stuff, relative to these new business models. Awhile back, The Economist did a feature story on Blockchain, and they described it kind of interestingly.

They compared it to the World Wide Web, right, so the whole beginning of the Internet if you will, and that was all about information. And now they're saying that this next platform of Blockchain which they actually compare to the Internet, they would say is now the World Wide Web, World Wide Ledger of value and trust. We're gonna build on that a little bit, but I think that's pretty significant, right, the Web of Value, and the Web of Trust, because of the way this works. So we all are familiar with Luca Pacioli, our Italian monk who gave us accounting back in the 1490s.

And that was double-entry accounting, but think about Blockchain, Blockchain really is triple-entry accounting. So you're gonna see where the buyer and the seller's books exist, and obviously those transactions abound, but there's a third ledger, called the Public Ledger or Block, and all the transactions go there. So you can actually reconcile them, and you can actually prove that neither one was manipulated. So in the instances of accounting misrepresentation or error someone records transaction wrong.

So if you had a triple ledger where you knew that Tom paid you $1000, and you've got $1000, and those two transactions were identical and connected, that would certainly take away the need for a lot of that validation or potentially audit. So Blockchain can actually alter the whole technology landscape with the way it works. So if someone, the way this kind of works through, someone requests a transaction, and that transaction is broadcast to this peer-to-peer network, which they call Node, so it just goes out on the Internet, and that's where they use these algorithms.

That's where miners actually get involved, and mine these transactions, and then begin to create these Blocks. So after it's verified, the transactions combine with other transactions and create a Block of data that's added to this ledger. And the new Block is added to the existing Blockchain in a way that's permanent and unalterable. So thus the security algorithms has so far held up and no one's been able to crack them. And then that gets completed, and now the Block is ready to be transmitted, including both sides of that transaction.

So it's a decentralized, transparent ledger of all transactions across a peer-to-peer network. So I think you can kind of get the concept about how this might apply to technology. The next piece get to how fast is this Blockchain thing moving. Well, Gartner has a Hype Curve and so they would say right now, Blockchain is at the top of the Hype Curve, if you will, it's where expectations are high, but it hasn't actually been commercialized or publicly done. And then oftentimes we get what they call the Peak of Inflated Expectations, and then we move to the famous Trough of Disillusionment.

That's when the transaction, you know, this whole technology's been hyped, and it hasn't really produced anything significant. And then you move to the Slope of Enlightenment, people start to figure it out, apply it, do things with it, and obviously then you get to this idea of Private Productivity. So you can see other items up there, Software Service, obviously that's your Cloud, that's well over in the now past the tipping point, Big Data and Analytics are kind of in the midst of that, they're still pretty hyped up and haven't fully been disillusioned, if you will.

Cognitive, that's AI, Machine Learning, and then Blockchain. I actually thing Blockchain could move, all these technologies could actually move faster, because that's what we're seeing, right, is this accelerated speed with which things are moving into the market. So here's a couple great definitions, this all compliments of Melanie Swan and the Blockchain Studies Organization. And this gets to what Bitcoin is, just to differentiate that so you're not confused. Digital Currency Payment System, it combined what was called Bit Torrent technology, which is peer-to-peer file sharing, and then Public Key Cryptography, which is the security component, to create that idea of a secure digital currency.

And the thing about this currency is it's agnostic. It's not tied to dollars or any other currency. It does have the potential to dis-intermediate even World Currencies from that perspective. Now, Blockchain. So Blockchain is a lot of things, right? It's concept, it is a transaction database, a

ledger, a decentralized public ledger, a technology layer, like TCP/IP. So it literally is a protocol that sits on top of the Internet and works on all those other Internet services. It's an information technology, it's an asset administration tool, we'll talk about that more, and the application areas, finance, economics, payments, asset exchange, exchange of all assets, right?

The Internet of Value, if you will. A registry, inventory, a listing of all the world's stuff. And all built, obviously, on Cloud as well. Here's some other kind of deeper thoughts about what it is. It's all the transactions owned an monitored by everyone and controlled by no one. It's like a giant interactive spreadsheet that everyone has access to, updates to confirm that each digital credit is unique and secure. Literally blocks of transactions in a chain, sequential ledger of Bitcoin transactions, a digital wallet, it actually stores your keys, your Blockchain keys, and Bitcoin's public ledger was started on January 3rd, 2009, at 18:15 UTC by Satoshi Nakamoto.

First Block is known as the Genesis Block. The first transaction recorded in the first block was a single transaction paying the reward of 50 new Bitcoins to its creator. And then all these miners worked for Bitcoins, by the way, so they are still tied from a technology standpoint. So, Melanie kind of wraps up her thoughts about this by saying we should think about the Blockchain as another class of thing, like the Internet. A comprehensive information technology with tiered technical levels and multiple classes of applications for any form of asset registry, inventory and exchange.

Including every area, finance, economics and money, hard assets, physical property, intangible assets, votes, ideas, reputation, intention, health data, information, et cetera. So it's a pretty big concept. We're gonna try and break it down a bit to say what does it mean from an accounting standpoint? Now Mark Anderson, he likes to say we're confident that when we're sitting here in 20 years, we'll be talking about Blockchain the way we talk about the Internet today. So id you remember way back then, you had no idea what it was, an now everybody, it's kind of ubiquitous.

One more piece from Mark Anderson, he says we want a whole sequence of companies, digital title, digital media assets, digital stocks and bonds, digital crowd funding, digital insurance, I'd add to that digital auditing. If you have online trust, like the Blockchain provides, you can reinvent field after field after field. Now you can substitute disrupt for reinvent, too, because if you're not involved in it, it's gonna feel rather disruptive as you have to react to that change. Now here's a couple of areas that they're seeing it already gaining adoption in.

Fintech is absolutely number one. Lots of investment by banks, insurance companies, Big Four CPA firms, all working in that space, are beginning to spend money there. Identity is another key area. Obviously, titles, they say Title Industries could be be dis-intermediated. Communications, the thing about this is it's machine-to-machine. It does not require anyone to enter or key transactions. So it does eliminate a lot of that cost, and obviously the other side of

that could be jobs. And then it's decentralized coordination, so you can use it for things like voting to actually make a secure environment that probably we would all like to see.

Privacy and some other things are also in that area. So here's a perfect example. The State of Delaware has already passed a law to seek legal classification for Blockchain Shares. So they expect to begin to use Blockchain. They handle registry of companies in the State of Delaware and connect at that perspective. And you can see distributed ledger shares hold the promise of immediate clearance, immediate settlement, and bring about dramatic increases in efficiency and speed and an increase in commercial transactions for which Delaware is known.

The other thing that makes me think this technology is gonna show up a little faster than we might think is because it's kind of an extension of the Internet of Content to the Internet of People, the Social of Web, all the way up to the Internet of Things with these connected devices. 75 billion, probably way more than that by now. The point is, that when everything's connected, this kind of technology can start to allow for speed and actually reduce resistance in terms of friction in all those transactions. And that's why we'd say it's an opportunity as well as a threat.

Another example of this, our friend Daniel Burress says in the next five years, we will transform how we market, sell, communicate, collaborate, innovate, and educate, due to these hard trends coming at an exponential pace. The one message I think is really important to take away here, is I want you to put your antennas up. Once you hear about this technology don't just say oh it sounds interesting, and then go back to the work and get busy. Just maybe take a minute or two, or savor it, or better yet, take that hour a week we think you should be spending on the future, and curate a couple of articles that you've got saved that you can then identify, and keep that research going so you pay attention to where this technology is going. Because it's one of those things that when you blink, you can certainly see a big difference. So keep you eyes on what's going on there. So here's some examples, like what does it really look like. So it is, truly, like a big Excel spreadsheet. Transaction of anything can be recorded, anything that's digital, right?

And it's recorded, and then it's assigned a Block. And that gets transmitted in the Blockchain. So why is it called Blockchain? It's because of how this system works, from this both cryptography, obviously the security, and the ledger part of it. So every 10 minutes, the latest Block, whatever transaction then created into a Block, is validated, that's what these cryptographic miners do, and then they post it to the distributed ledger and create a set of Blocks. And then each new block of transactions, numbered and labeled, is aggregated together, chained, if you will, and that becomes the Blockchain.

And that's how this data is actually linked and locked and transmitted around the Internet. So that's how the public ledger gets to be a public ledger. Here's another graphic. This one's from The Economist. But it does give you that notion of the Hash. So a Hash is the number of the

Block, so you're getting all kinds of new technology, so you could say input the transaction A, any digital length of data, it then gets mined, turned into a Block, a Hash value, and that's the output you see there, each transaction that makes up a Block fed through the program that creates that encrypted code, which is that secure hash value, and that's how you can identify that.

We'll talk some more about some of that stuff that goes on once these Blockchains are actually created. This Don Tapscott, he wrote a book called The Blockchain Revolution and this is his idea of the Internet of Value. The point is literally anything that you could transmit electronically, which is almost everything today, can be securely done and accounted for with Blockchain. So deeds for mortgages, stocks like Delaware's trying to do, any kind of transaction. You could record inventory, all those pieces would actually be ripe for this idea of Blockchain.

So that's why it's called the Internet of Value, and The Economist added the Internet of Trust. Se here's some other examples of things that could be handled through Blockchain. So you can see obviously digital content, there's a school of thought about protecting digital assets, like artists, you know copy music, all those kind of things would prevent copyright or from people stealing it, any authentication or validation. Digital identities, health records is another one. The marketplace, real estate, gold, diamonds, supply chain things you'll see, any kind of financial uses are all parts of examples where this technology could become pretty significant.

Now here's where you can see this idea of validation or trust without a third party or a trusted party. So again, this shows how both ledgers, the buyer, the seller or the transacting people, can actually match that transaction and see it publicly, that both sides recorded it the proper way. So I'm gonna give you a quick example of how Blockchain could be used in a supply chain environment. So everyone wants sustainable tuna. So you can see there's two Malaysian Fishermen. So right now if you wanted to know, I want to know that it's line-caught tuna if I'm buying and paying for that extra quality that it's sustainably done, I don't want someone defrauding it on the supply side.

So these guys, actually though digital technology, or Smartphone, they take a picture of the fish when they catch it, and create a Block out of it. So they take that picture, create the Block, then when they row into the group to drop the fish off, they record it again, then they hand it off and create another piece of the Blockchain, with a digital, you know, it's got the time, the date stamp, geolocation, all that information is in there, thanks to today's mobile technology. It goes from the processing house, shipped to probably a freezer or a packaging shop, and again the Blockchain's recorded on that, all the way to the can of tuna.

So when you go to your Trader Joe's and pick up your tuna, you can actually, if you wanted to, you could theoretically trace that transaction all the way back through the supply chain, to actually see what happened. So it's got tons of uses for things like the sustainability that we're

doing on wood and coffee, and you name it. Here's a diagram of that. Rachel Botsman, who's been doing some of this work, as showed how this could work. But you can see how the data actually moves through a whole supply chain and gives the final user the comfort and trust that what they're getting is really what they are paying for.

So now I want to talk a little bit about Blockchain and accounting, and Blockchain and auditing. And I think the significant concept here, and this comes from Ed Kless, by the way, at Sage. He says the significant piece about here is that N equals awe. Almost everything we do in accounting, and especially in the auditing or internal auditing area, is based on sampling. Because we can't possibly go do all the transactions over again. But in a Blockchain world, actually every transaction could be looked at with the power of machines today. Between Artificial Intelligence and Big Data applications.

So if it's all digital, it's all secure, it doesn't need verification. That's where you get to. So I think this is financial ties, and he said the greater adoption of Blockchain technology combined with Big Data Analysis techniques will mean auditors no longer have to undertake sampling, but can instead focus on identifying trends and exceptions that require further scrutiny. So this is the whole idea that we're gonna be taking away part of our job as it gets automated and moving up into higher value activities that involve more strategic thinking, communication, et cetera.

Here's some comments from Ron Quaranta, who's from the Wall Street Blockchain Alliance. He talked a little bit about some of the challenges, or some of the things that we would see there. So he said each audit is a costly exercise, binding company accounts for extended periods of time. Blockchain accounting could dramatically slash the cost of accounting, auditing and compliance, both internal, in the company, and external, through the auditors. It could evolve into the Ardor of Function opinion on reasonables and accuracy of a company's financial statements, just by virtue of the Blockchain.

And transactions are already confirmed as true and accurate with both parties having agreed, third-party reconfirmation and re-audit is not needed. And finally it solves the trust problem. It prevents improper management of financials. No one can cook the books because the transactions can't be altered. Even XPRL is already looking into Blockchain uses for corporate reporting. So back to that triple entry again, here's your ledgers, you get to see how it visually works. Alice is doing some transactions with Bob, so for her it's credits, on his side it's debits, and the public ledger you can actually see every transaction and the fact that they've balanced.

So you know that what you've recorded is what the seller also recorded or vice versa. This is coming from Deloitte, and this gets to their idea of Blockchain and audit innovation. One approach to verify the integrity of records using the Blockchain. So again in the old days, original record, audited record, now you've got a Hash String written into the Blockchain, and you search for the identical Hash String on the other side, and you know you've got a legitimate transaction. So I think that's kind of encouraging, 'cause auditors that actually

understand the technology could find a valid role double-checking, making sure that it didn't get breached.

And this was an interesting article from, I think it was about HP, they said that innovators in a Blockchain are experimenting with ways to use it in business-to-business payments without the usual limits on transaction volume. So if they succeed, this the part I don't like, credit card companies' payment processors, legions of accounting and law firms would be devastated. Interestingly enough, they actually think IRS could be one of those people that gets disrupted, in fact the most disrupted of all.

The point is, this is a disruptive technology and we have to be watching it so that we can actually stay ahead of it and maybe play a role in disruption, and not be the victim of disruption. Here's some potential uses for Blockchain in accounting and auditing, comes from John Barron, the Managing Director at Thomson Reuters. Traceable audit trails, automated audit processes, authentication of transactions, tracking the ownership of assets, smart contracts, a registry and inventory system for any asset ranging from raw materials to intellectual property.

So where to from here? This is an interesting framework that came about an article in Harvard Business Revue, called The Truth About Blockchain. And the took the old Internet, the TCP/IP Protocol, and they created a framework to say how do you think about a big foundational frameworker of technology if you're a company or an end user, and you're trying to say what does this mean to me. So they created this four-box quadrant, every good consultant does that, and bottom left single use, bottom right, localization, in other words, applying it to your own company or use case, upper left, substitution, upper right, transformation.

So the axes are, if you look at the Y axis it's the amount of complexity and coordination required to deal with it. On the bottom is the degree of novelty, so what degree of the kind of complexity, I would say, that goes along with that technology. So in the orange on this chart, are the examples that they believe Bitcoin, I mean, excuse me, Blockchain, could actually be relevant to. So at a single use, if you were just to use a Bitcoin payment for your business, that would be the beginning of understanding this technology in a very easy use case. Localization would be how can I apply it to my business?

So here the idea of private online ledgers to process financial transactions, I've heard examples of some companies that are playing with it to track inventory, or their own internal stuff, and supplement their accounting system. That could be a good way to dip your toe in and potentially get value for your organization from that standpoint. Go to the upper left, and we'll take on a little bit more of that complexity. What could I substitute with this technology? So here, a retailer could take gift cards and base them on Bitcoin, and substitute that, and start to learn their way into how the public would work with that in their transactions.

Again, your gift card, though, would be extremely secure. No one would be able to crack it. And then go to the upper right, transformation would be like self-executing smart contracts. Just imagine if you could create contracts that, once someone agreed to create a Blockchain and that was the end of the contract. Both sides would agree, it was documented, and created in a new Blockchain that you would be able to look at and monitor. So there's a couple of kind of questions for accountancy for you to just kind of think about.

You can read these, I would encourage you to write down some answers, and just give it some thought. But this is a way of thinking about, where does this go? So for instance, in taxation, where do transactions take place? In the Bitcoin world, everything's virtual. Does it take place to buyer, seller, or some neutral spot? Or can you pick? Using Blockchain. So, transactions record in many places simultaneously. What's the identity and location of the counterparty may or may not be known. And what's that implication? You can verify the transaction, but you may not be able to verify the party.

What happens in an online barter situation? What's the taxable value here? And then what's the taxable value of transactions that ultimately get settled using digital currencies? Now that they've calculated a gain on it in the Bitcoin world, it will be interesting to see where that goes. And then here's some other observations for what does this all mean. And again, you can kind of see that and think about it. But there's just a lot to think about as you start to look at that. So I want to wrap up with this notion that, what do you do?

So now you understand this technology a little deeper, I hope, and so the idea here first is you need to get Future Ready. You need to acquire this idea of anticipatory thinking, and start to begin to think differently about how this technology can help you or disrupt you. You have to adopt an exponential mindset. The idea of saying, yeah, the technology is gonna take five more years before it hits mainstream, that doesn't work in an exponential curve way. So I think we have to start anticipating exponential change and adopting the right mindset.

The other one is start with certainty. This technology is part of a hard trend, or a future fact, as our work with Dan Burress would suggest. And so that means it's gonna happen whether you like it or not. And so the corollary to this is if I'm not gonna deal with this hard trend of Blockchain, then what are the predictable problems I might have if I delay doing it? And then finally, it's about re-imagining. So what are the possibilities or the opportunities that having this technology would mean for you?

And that's where I think the key, the opportunity of all this is. Put your antenna up, start thinking about what could this technology mean to my business, my career, my organization. And then begin to dream a little bit. I want to end with this quote from Seth Godin. He says, "The easiest thing is to react. "The second easiest thing is to respond. "But the hardest is to initiate." And I think the key message here is for us to have that antenna up, and looking at this technology, and start to say what if? How could I? What can I do with this kind of technology?

And I think that's the big opportunity for you, to imagine those possibilities and not be disrupted. And that's our goal with this whole idea of Future Ready. So I hope you leave here with little bit more Future Readiness today, and thank you.

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- I'm Tom Hood, CEO of the
Business Learning Institute,

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a learning and innovation affiliate

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So we start with this idea

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I don't know if you've heard that term,

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but it's becoming more and more frequent.

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Davos World Economic Forum in Switzerland

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And that's what we want to

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finance professionals.

43
00:02:05,740 --> 00:02:09,010
And 92% of them said they
weren't Future Ready.

44
00:02:09,010 --> 00:02:12,730
Now he defined Future Ready
as being anticipatory,

45
00:02:12,730 --> 00:02:15,400
having the ability to be
aware, predictive and adaptive

46

00:02:15,400 --> 00:02:16,830
of emerging trends.

47
00:02:16,830 --> 00:02:20,000
Social trends, technology
trends, et cetera.

48
00:02:20,000 --> 00:02:21,320
So when we started looking at that,

49
00:02:21,320 --> 00:02:23,540
we realized that the three key words

50
00:02:23,540 --> 00:02:25,720
actually are petty important.

51
00:02:25,720 --> 00:02:27,870
Aware, predictive and adaptive.

52
00:02:27,870 --> 00:02:29,390
Because just recently,

53
00:02:29,390 --> 00:02:32,810
only about 4% of financial
and accounting professionals

54
00:02:32,810 --> 00:02:34,830
even heard of Blockchain

55
00:02:34,830 --> 00:02:37,040
and had any idea of what it might be.

56

00:02:37,040 --> 00:02:42,040
And contrast that to the CEOs
in many of the major companies

57
00:02:42,140 --> 00:02:44,600
who are saying about two thirds of them

58
00:02:44,600 --> 00:02:46,280
believe Blockchain will have an impact

59
00:02:46,280 --> 00:02:48,550
on their organizations
in the next five years.

60
00:02:48,550 --> 00:02:50,770
So I think that disconnect would say,

61
00:02:50,770 --> 00:02:53,400
what can we be doing to
make sure our profession

62
00:02:53,400 --> 00:02:56,396
is aware of the trends, they
understand, they see them,

63
00:02:56,396 --> 00:02:58,430
and are paying attention.

64
00:02:58,430 --> 00:02:59,830
Secondly, are they predictive?

65
00:02:59,830 --> 00:03:01,590
Can they actually figure

out where that trend

66
00:03:01,590 --> 00:03:02,980
might be going?

67
00:03:02,980 --> 00:03:04,970
And then last, maybe most important,

68
00:03:04,970 --> 00:03:08,133
is can you actually start
thinking about strategies

69
00:03:08,133 --> 00:03:10,040
for you to be in the driver's seat

70
00:03:10,040 --> 00:03:12,738
to help get your organizations to adapt

71
00:03:12,738 --> 00:03:16,403
to these emerging technologies
before they disrupt you?

72
00:03:17,670 --> 00:03:19,730
And so we think the key to this

73
00:03:19,730 --> 00:03:21,520
really kind of starts with this idea

74
00:03:21,520 --> 00:03:23,570
of an anticipatory mindset.

75
00:03:23,570 --> 00:03:25,760

Now we've done some research
with another Futurist,

76
00:03:25,760 --> 00:03:27,480
a guy named Daniel Burress,

77
00:03:27,480 --> 00:03:28,830
who has actually worked to create

78
00:03:28,830 --> 00:03:31,870
an anticipatory organization
learning system.

79
00:03:31,870 --> 00:03:33,960
But Dan says that actually the things

80
00:03:33,960 --> 00:03:35,010
that we have to be thinking about

81
00:03:35,010 --> 00:03:39,460
is can we start to anticipate
aware, predictive, adaptive

82
00:03:39,460 --> 00:03:42,310
of disruptions before they disrupt,

83
00:03:42,310 --> 00:03:44,350
problems before you have them,

84
00:03:44,350 --> 00:03:45,870
and maybe even more importantly,

85

00:03:45,870 --> 00:03:49,180
opportunities before your competition.

86
00:03:49,180 --> 00:03:52,623
And that's what we hope
to empower you with today.

87
00:03:53,780 --> 00:03:55,040
So first to start with,

88
00:03:55,040 --> 00:03:56,880
there's some other research

89
00:03:56,880 --> 00:04:01,550
about what the top trends
facing everybody is,

90
00:04:01,550 --> 00:04:03,010
and you'll have a PDF of that

91
00:04:03,010 --> 00:04:04,960
you can refer to in this lesson,

92
00:04:04,960 --> 00:04:08,010
but there key here is
this is what we surveyed

93
00:04:08,010 --> 00:04:09,880
to a finance and accounting audience,

94
00:04:09,880 --> 00:04:11,459
and these were the top 10

95
00:04:11,459 --> 00:04:14,194
out of the top 20 trends in technology

96
00:04:14,194 --> 00:04:18,610
that were researched by Dan
Burress and his organization.

97
00:04:18,610 --> 00:04:20,841
So you can see the big five

98
00:04:20,841 --> 00:04:25,750
are Big Data, Adaptive and
Predictive Cyber Security,

99
00:04:25,750 --> 00:04:26,910
Artificial Intelligence,

100
00:04:26,910 --> 00:04:30,310
Cognitive Computing in Audit and Tax,

101
00:04:30,310 --> 00:04:31,910
Virtualization and Automation

102
00:04:31,910 --> 00:04:36,650
of Business Processes and
Services, and then Blockchains.

103
00:04:36,650 --> 00:04:38,000
Now interestingly enough,

104
00:04:38,000 --> 00:04:41,360
all of these top five

trends for the most part

105
00:04:41,360 --> 00:04:44,380
are kind of interacting and converging.

106
00:04:44,380 --> 00:04:47,430
And so they are amplifying and speeding up

107
00:04:47,430 --> 00:04:49,800
the impact with which
they're hitting the market.

108
00:04:49,800 --> 00:04:52,880
There's one scary quote I
heard from Ray Kurzweil,

109
00:04:52,880 --> 00:04:55,620
who is the guy who did the
Law of Accelerating Returns,

110
00:04:55,620 --> 00:04:59,110
he said that in the 21st
Century, we'll actually,

111
00:04:59,110 --> 00:05:02,683
instead of seeing 100 years
of change and transformation,

112
00:05:02,683 --> 00:05:06,060
we're more likely to see 20,000 years

113
00:05:06,060 --> 00:05:08,030
worth of change and transformation

114
00:05:08,030 --> 00:05:11,050
because of these exponential technologies.

115
00:05:11,050 --> 00:05:12,410
That's why it's really important for us

116
00:05:12,410 --> 00:05:14,920
to constantly be putting our antennas up

117
00:05:14,920 --> 00:05:16,590
and scanning the horizon

118
00:05:16,590 --> 00:05:19,840
for these kinds of
trends and technologies.

119
00:05:19,840 --> 00:05:22,840
Let's look of this idea
of Bitcoin and Blockchain.

120
00:05:22,840 --> 00:05:24,400
Actually, Blockchain is
what we want to talk about,

121
00:05:24,400 --> 00:05:26,000
but everyone things about Bitcoin,

122
00:05:26,000 --> 00:05:28,270
'cause that was the first
thing that happened.

123

00:05:28,270 --> 00:05:30,930
So now you're gonna have to
get a whole new language.

124
00:05:30,930 --> 00:05:32,680
As you can see on the screen,

125
00:05:32,680 --> 00:05:35,510
there's the Time Magazine Man of the Year

126
00:05:35,510 --> 00:05:40,510
was Satoshi Nakamoto who is
the inventor of Blockchain,

127
00:05:40,560 --> 00:05:41,490
everyone thinks.

128
00:05:41,490 --> 00:05:42,910
Actually, no one really knows.

129
00:05:42,910 --> 00:05:45,230
He authored the White
Paper that founded it,

130
00:05:45,230 --> 00:05:47,270
but no one's ever seen him.

131
00:05:47,270 --> 00:05:49,880
He's not been identified publicly.

132
00:05:49,880 --> 00:05:52,440
And in this idea that he created,

133
00:05:52,440 --> 00:05:55,360
this secure platform, if you will,

134
00:05:55,360 --> 00:05:59,723
of doing transactions
on which Bitcoin runs,

135
00:05:59,723 --> 00:06:01,890
you've got this idea of miners,

136
00:06:01,890 --> 00:06:04,650
these are miners that
actually create the blocks

137
00:06:04,650 --> 00:06:06,290
that could end up becoming the chain,

138
00:06:06,290 --> 00:06:08,260
cryptographic algorithms which are kind of

139
00:06:08,260 --> 00:06:10,190
underlying all this, it's all secure,

140
00:06:10,190 --> 00:06:12,640
it's theoretically immutable,
no one can change it,

141
00:06:12,640 --> 00:06:14,640
and then these ideas of hash functions.

142
00:06:14,640 --> 00:06:17,718
And together that creates

this Blockchain Platform,

143
00:06:17,718 --> 00:06:20,740
compared to Bitcoin, which
is a digital currency.

144
00:06:20,740 --> 00:06:23,890
And we'll talk more
about that as we go on.

145
00:06:23,890 --> 00:06:26,630
So the first thing is why should you care?

146
00:06:26,630 --> 00:06:28,610
Well this article
certainly got my attention.

147
00:06:28,610 --> 00:06:32,550
It says, "Will Blockchain
render accountants irrelevant?"

148
00:06:32,550 --> 00:06:34,662
Accountants do a lot of
transaction processing,

149
00:06:34,662 --> 00:06:36,968
reconciliation and control.

150
00:06:36,968 --> 00:06:39,250
That could change significantly

151
00:06:39,250 --> 00:06:42,940
if this technology gets

adopted on a widespread basis.

152
00:06:42,940 --> 00:06:45,479
The cost savings that the
banks are looking at are huge,

153
00:06:45,479 --> 00:06:50,479
and most of what's saving is
people who do back office.

154
00:06:50,610 --> 00:06:52,710
So whether you view those
as accountants or ledgers,

155
00:06:52,710 --> 00:06:54,870
there's a degree of challenge

156
00:06:54,870 --> 00:06:56,380
to those in accounting professions

157
00:06:56,380 --> 00:06:58,490
who work in any of
those finance functions.

158
00:06:58,490 --> 00:07:03,068
So literally any of the back
office processing functions

159
00:07:03,068 --> 00:07:05,801
could theoretically get
displaced by Blockchain

160
00:07:05,801 --> 00:07:07,743

and then there's also the audit.

161
00:07:09,090 --> 00:07:11,340
So four problems we see
in modern accounting

162
00:07:11,340 --> 00:07:14,630
is that the current regime of accounting

163
00:07:14,630 --> 00:07:18,580
relies on managers to swear
that their books are in order.

164
00:07:18,580 --> 00:07:19,710
You know, the auditor goes in,

165
00:07:19,710 --> 00:07:21,570
you've got this kind of management letter

166
00:07:21,570 --> 00:07:23,230
that says that everything's good.

167
00:07:23,230 --> 00:07:27,020
AIG, Lehman Brothers,
Worldcom Tyco, Toshiba,

168
00:07:27,020 --> 00:07:29,750
all show that management doesn't
always act with integrity.

169
00:07:29,750 --> 00:07:32,700
So that verification from a manager

170
00:07:32,700 --> 00:07:34,450
doesn't give that much assurance.

171
00:07:34,450 --> 00:07:37,270
Human error is a leading
cause of accounting mistakes.

172
00:07:37,270 --> 00:07:40,730
According to Accounting Web,
nearly 28% of professionals

173
00:07:40,730 --> 00:07:43,660
reported that people
plugged incorrect data

174
00:07:43,660 --> 00:07:45,493
into their firm's enterprise system.

175
00:07:46,361 --> 00:07:48,720
So despite all the controls and oversight,

176
00:07:48,720 --> 00:07:50,773
internal controls and external audit,

177
00:07:50,773 --> 00:07:53,270
there's still a risk that transactions

178
00:07:53,270 --> 00:07:56,450
be recorded improperly
and or fraudulently.

179
00:07:56,450 --> 00:07:59,840

And then new rules such as
Sox and Dodd-Frank et cetera

180
00:07:59,840 --> 00:08:02,230
haven't truly stopped the ability

181
00:08:02,230 --> 00:08:05,372
for fraud to be committed
in accounting systems.

182
00:08:05,372 --> 00:08:08,530
Last traditional accounting methods

183
00:08:08,530 --> 00:08:10,812
don't really account for

184
00:08:10,812 --> 00:08:12,980
all the new business
models that are emerging.

185
00:08:12,980 --> 00:08:15,310
Platform Businesses, Subscription Models,

186
00:08:15,310 --> 00:08:16,280
all those kind of things,

187
00:08:16,280 --> 00:08:18,801
and we truly haven't figured out

188
00:08:18,801 --> 00:08:21,153
how to measure and monitor that.

189

00:08:22,320 --> 00:08:24,590
I don't know if you seen
a book by Baruch Lev

190
00:08:24,590 --> 00:08:26,210
called The End of Accounting.

191
00:08:26,210 --> 00:08:27,440
It deals with the fact

192
00:08:27,440 --> 00:08:30,750
that accounting isn't always
measuring the right stuff,

193
00:08:30,750 --> 00:08:33,120
relative to these new business models.

194
00:08:33,120 --> 00:08:36,170
Awhile back, The Economist
did a feature story

195
00:08:36,170 --> 00:08:39,280
on Blockchain, and they described
it kind of interestingly.

196
00:08:39,280 --> 00:08:42,620
They compared it to the
World Wide Web, right,

197
00:08:42,620 --> 00:08:45,020
so the whole beginning of
the Internet if you will,

198

00:08:45,020 --> 00:08:47,800
and that was all about information.

199
00:08:47,800 --> 00:08:52,580
And now they're saying that
this next platform of Blockchain

200
00:08:52,580 --> 00:08:55,220
which they actually
compare to the Internet,

201
00:08:55,220 --> 00:08:57,306
they would say is now the World Wide Web,

202
00:08:57,306 --> 00:09:01,550
World Wide Ledger of value and trust.

203
00:09:01,550 --> 00:09:03,110
We're gonna build on that a little bit,

204
00:09:03,110 --> 00:09:04,983
but I think that's pretty
significant, right,

205
00:09:04,983 --> 00:09:07,810
the Web of Value, and the Web of Trust,

206
00:09:07,810 --> 00:09:09,520
because of the way this works.

207
00:09:09,520 --> 00:09:13,173
So we all are familiar with Luca Pacioli,

209
00:09:16,661 --> 00:09:19,313
who gave us accounting back in the 1490s.

210
00:09:20,570 --> 00:09:21,580
And that was double-entry accounting,

211
00:09:21,580 --> 00:09:23,770
but think about Blockchain,

212
00:09:23,770 --> 00:09:27,370
Blockchain really is
triple-entry accounting.

213
00:09:27,370 --> 00:09:28,230
So you're gonna see

214
00:09:28,230 --> 00:09:32,860
where the buyer and the
seller's books exist,

215
00:09:32,860 --> 00:09:34,770
and obviously those transactions abound,

216
00:09:34,770 --> 00:09:35,970
but there's a third ledger,

217
00:09:35,970 --> 00:09:38,170
called the Public Ledger or Block,

218
00:09:38,170 --> 00:09:40,120
and all the transactions go there.

219
00:09:40,120 --> 00:09:41,840
So you can actually reconcile them,

220
00:09:41,840 --> 00:09:45,630
and you can actually prove that
neither one was manipulated.

221
00:09:45,630 --> 00:09:50,100
So in the instances of accounting
misrepresentation or error

222
00:09:50,100 --> 00:09:52,040
someone records transaction wrong.

223
00:09:52,040 --> 00:09:54,020
So if you had a triple
ledger where you knew

224
00:09:54,020 --> 00:09:59,020
that Tom paid you $1000,
and you've got $1000,

225
00:09:59,250 --> 00:10:03,250
and those two transactions
were identical and connected,

226
00:10:03,250 --> 00:10:05,000
that would certainly take away the need

227

00:10:05,000 --> 00:10:08,203
for a lot of that validation
or potentially audit.

228
00:10:09,337 --> 00:10:11,950
So Blockchain can actually alter

229
00:10:11,950 --> 00:10:14,440
the whole technology landscape
with the way it works.

230
00:10:14,440 --> 00:10:17,150
So if someone, the way
this kind of works through,

231
00:10:17,150 --> 00:10:19,000
someone requests a transaction,

232
00:10:19,000 --> 00:10:21,660
and that transaction is broadcast

233
00:10:21,660 --> 00:10:25,230
to this peer-to-peer network,
which they call Node,

234
00:10:25,230 --> 00:10:27,220
so it just goes out on the Internet,

235
00:10:27,220 --> 00:10:29,340
and that's where they
use these algorithms.

236
00:10:29,340 --> 00:10:31,180

That's where miners actually get involved,

237
00:10:31,180 --> 00:10:32,670
and mine these transactions,

238
00:10:32,670 --> 00:10:35,800
and then begin to create these Blocks.

239
00:10:35,800 --> 00:10:37,109
So after it's verified,

240
00:10:37,109 --> 00:10:40,167
the transactions combine
with other transactions

241
00:10:40,167 --> 00:10:45,167
and create a Block of data
that's added to this ledger.

242
00:10:45,810 --> 00:10:48,400
And the new Block is added
to the existing Blockchain

243
00:10:48,400 --> 00:10:51,220
in a way that's permanent and unalterable.

244
00:10:51,220 --> 00:10:54,340
So thus the security
algorithms has so far held up

245
00:10:54,340 --> 00:10:56,410
and no one's been able to crack them.

246
00:10:56,410 --> 00:10:58,230
And then that gets completed,

247
00:10:58,230 --> 00:11:00,451
and now the Block is
ready to be transmitted,

248
00:11:00,451 --> 00:11:03,170
including both sides of that transaction.

249
00:11:03,170 --> 00:11:07,620
So it's a decentralized,
transparent ledger

250
00:11:07,620 --> 00:11:11,030
of all transactions across
a peer-to-peer network.

251
00:11:11,030 --> 00:11:13,080
So I think you can kind of get the concept

252
00:11:13,080 --> 00:11:16,460
about how this might apply to technology.

253
00:11:16,460 --> 00:11:17,756
The next piece get to

254
00:11:17,756 --> 00:11:21,240
how fast is this Blockchain thing moving.

255
00:11:21,240 --> 00:11:23,380
Well, Gartner has a Hype Curve

256
00:11:23,380 --> 00:11:24,783
and so they would say right now,

257
00:11:24,783 --> 00:11:27,740
Blockchain is at the top of
the Hype Curve, if you will,

258
00:11:27,740 --> 00:11:29,670
it's where expectations are high,

259
00:11:29,670 --> 00:11:33,490
but it hasn't actually been
commercialized or publicly done.

260
00:11:33,490 --> 00:11:35,930
And then oftentimes we get what they call

261
00:11:35,930 --> 00:11:37,690
the Peak of Inflated Expectations,

262
00:11:37,690 --> 00:11:41,020
and then we move to the famous
Trough of Disillusionment.

263
00:11:41,020 --> 00:11:42,550
That's when the transaction, you know,

264
00:11:42,550 --> 00:11:44,170
this whole technology's been hyped,

265
00:11:44,170 --> 00:11:46,853

and it hasn't really produced
anything significant.

266
00:11:48,800 --> 00:11:50,530
And then you move to the
Slope of Enlightenment,

267
00:11:50,530 --> 00:11:53,790
people start to figure it out,
apply it, do things with it,

268
00:11:53,790 --> 00:11:55,560
and obviously then you get to this idea

269
00:11:55,560 --> 00:11:56,680
of Private Productivity.

270
00:11:56,680 --> 00:11:58,840
So you can see other items up there,

271
00:11:58,840 --> 00:12:00,810
Software Service, obviously
that's your Cloud,

272
00:12:00,810 --> 00:12:04,840
that's well over in the
now past the tipping point,

273
00:12:04,840 --> 00:12:07,193
Big Data and Analytics are
kind of in the midst of that,

274
00:12:07,193 --> 00:12:09,300

they're still pretty hyped up

275
00:12:09,300 --> 00:12:13,230
and haven't fully been
disillusioned, if you will.

276
00:12:13,230 --> 00:12:17,820
Cognitive, that's AI, Machine
Learning, and then Blockchain.

277
00:12:17,820 --> 00:12:20,289
I actually thing Blockchain could move,

278
00:12:20,289 --> 00:12:22,596
all these technologies
could actually move faster,

279
00:12:22,596 --> 00:12:24,270
because that's what we're seeing, right,

280
00:12:24,270 --> 00:12:26,280
is this accelerated speed

281
00:12:26,280 --> 00:12:28,593
with which things are
moving into the market.

282
00:12:29,620 --> 00:12:31,630
So here's a couple great definitions,

283
00:12:31,630 --> 00:12:35,550
this all compliments of Melanie Swan

284
00:12:35,550 --> 00:12:38,450
and the Blockchain Studies Organization.

285
00:12:38,450 --> 00:12:40,690
And this gets to what Bitcoin is,

286
00:12:40,690 --> 00:12:44,020
just to differentiate that
so you're not confused.

287
00:12:44,020 --> 00:12:46,330
Digital Currency Payment System,

288
00:12:46,330 --> 00:12:48,930
it combined what was called
Bit Torrent technology,

289
00:12:48,930 --> 00:12:51,090
which is peer-to-peer file sharing,

290
00:12:51,090 --> 00:12:53,050
and then Public Key Cryptography,

291
00:12:53,050 --> 00:12:55,240
which is the security component,

292
00:12:55,240 --> 00:12:58,080
to create that idea of a
secure digital currency.

293
00:12:58,080 --> 00:13:01,150
And the thing about this

currency is it's agnostic.

294
00:13:01,150 --> 00:13:03,437
It's not tied to dollars
or any other currency.

295
00:13:03,437 --> 00:13:06,270
It does have the potential
to dis-intermediate

296
00:13:06,270 --> 00:13:09,790
even World Currencies
from that perspective.

297
00:13:09,790 --> 00:13:11,020
Now, Blockchain.

298
00:13:11,020 --> 00:13:13,300
So Blockchain is a lot of things, right?

299
00:13:13,300 --> 00:13:16,330
It's concept, it is a
transaction database,

300
00:13:16,330 --> 00:13:20,360
a ledger, a decentralized public ledger,

301
00:13:20,360 --> 00:13:23,200
a technology layer, like TCP/IP.

302
00:13:23,200 --> 00:13:25,550
So it literally is a protocol

303
00:13:25,550 --> 00:13:26,970
that sits on top of the Internet

304
00:13:26,970 --> 00:13:30,240
and works on all those
other Internet services.

305
00:13:30,240 --> 00:13:31,851
It's an information technology,

306
00:13:31,851 --> 00:13:35,010
it's an asset administration tool,

307
00:13:35,010 --> 00:13:36,680
we'll talk about that more,

308
00:13:36,680 --> 00:13:38,100
and the application areas,

309
00:13:38,100 --> 00:13:41,470
finance, economics,
payments, asset exchange,

310
00:13:41,470 --> 00:13:43,350
exchange of all assets, right?

311
00:13:43,350 --> 00:13:46,180
The Internet of Value, if you will.

312
00:13:46,180 --> 00:13:50,110
A registry, inventory, a listing
of all the world's stuff.

313
00:13:50,110 --> 00:13:53,970
And all built, obviously,
on Cloud as well.

314
00:13:53,970 --> 00:13:56,340
Here's some other kind of deeper thoughts

315
00:13:56,340 --> 00:13:58,010
about what it is.

316
00:13:58,010 --> 00:14:00,573
It's all the transactions
owned an monitored by everyone

317
00:14:00,573 --> 00:14:04,260
and controlled by no one.

318
00:14:04,260 --> 00:14:05,980
It's like a giant interactive spreadsheet

319
00:14:05,980 --> 00:14:07,700
that everyone has access to,

320
00:14:07,700 --> 00:14:10,550
updates to confirm that
each digital credit

321
00:14:10,550 --> 00:14:13,420
is unique and secure.

322
00:14:13,420 --> 00:14:15,700

Literally blocks of
transactions in a chain,

323
00:14:15,700 --> 00:14:20,700
sequential ledger of Bitcoin
transactions, a digital wallet,

324
00:14:20,970 --> 00:14:24,460
it actually stores your
keys, your Blockchain keys,

325
00:14:24,460 --> 00:14:26,440
and Bitcoin's public ledger was started

326
00:14:26,440 --> 00:14:29,413
on January 3rd, 2009,

327
00:14:30,903 --> 00:14:32,910
at 18:15 UTC

328
00:14:32,910 --> 00:14:34,850
by Satoshi Nakamoto.

329
00:14:34,850 --> 00:14:38,210
First Block is known as the Genesis Block.

330
00:14:38,210 --> 00:14:40,733
The first transaction
recorded in the first block

331
00:14:40,733 --> 00:14:43,400
was a single transaction paying the reward

332
00:14:43,400 --> 00:14:47,420
of 50 new Bitcoins to its creator.

333
00:14:47,420 --> 00:14:50,120
And then all these miners
worked for Bitcoins, by the way,

334
00:14:50,120 --> 00:14:53,930
so they are still tied from
a technology standpoint.

335
00:14:53,930 --> 00:14:57,070
So, Melanie kind of wraps
up her thoughts about this

336
00:14:57,070 --> 00:14:59,103
by saying we should think
about the Blockchain

337
00:14:59,103 --> 00:15:03,750
as another class of
thing, like the Internet.

338
00:15:03,750 --> 00:15:06,260
A comprehensive information technology

339
00:15:06,260 --> 00:15:07,920
with tiered technical levels

340
00:15:07,920 --> 00:15:10,010
and multiple classes of applications

341

00:15:10,010 --> 00:15:15,010
for any form of asset registry,
inventory and exchange.

342
00:15:15,160 --> 00:15:18,310
Including every area,
finance, economics and money,

343
00:15:18,310 --> 00:15:20,140
hard assets, physical property,

344
00:15:20,140 --> 00:15:25,140
intangible assets, votes,
ideas, reputation, intention,

345
00:15:25,230 --> 00:15:28,070
health data, information, et cetera.

346
00:15:28,070 --> 00:15:30,670
So it's a pretty big concept.

347
00:15:30,670 --> 00:15:32,470
We're gonna try and break it down a bit

348
00:15:32,470 --> 00:15:35,480
to say what does it mean from
an accounting standpoint?

349
00:15:35,480 --> 00:15:37,990
Now Mark Anderson, he likes
to say we're confident

350
00:15:37,990 --> 00:15:40,310

that when we're sitting here in 20 years,

351
00:15:40,310 --> 00:15:42,020
we'll be talking about Blockchain

352
00:15:42,020 --> 00:15:44,290
the way we talk about the Internet today.

353
00:15:44,290 --> 00:15:45,600
So id you remember way back then,

354
00:15:45,600 --> 00:15:47,700
you had no idea what it was,

355
00:15:47,700 --> 00:15:50,053
an now everybody, it's kind of ubiquitous.

356
00:15:51,565 --> 00:15:55,080
One more piece from Mark Anderson,

357
00:15:55,080 --> 00:15:58,610
he says we want a whole
sequence of companies,

358
00:15:58,610 --> 00:16:01,210
digital title, digital media assets,

359
00:16:01,210 --> 00:16:04,520
digital stocks and bonds,
digital crowd funding,

360
00:16:04,520 --> 00:16:08,080

digital insurance, I'd add
to that digital auditing.

361
00:16:08,080 --> 00:16:12,080
If you have online trust,
like the Blockchain provides,

362
00:16:12,080 --> 00:16:16,320
you can reinvent field
after field after field.

363
00:16:16,320 --> 00:16:19,680
Now you can substitute
disrupt for reinvent, too,

364
00:16:19,680 --> 00:16:22,400
because if you're not involved in it,

365
00:16:22,400 --> 00:16:24,270
it's gonna feel rather disruptive

366
00:16:24,270 --> 00:16:26,760
as you have to react to that change.

367
00:16:26,760 --> 00:16:28,720
Now here's a couple of
areas that they're seeing it

368
00:16:28,720 --> 00:16:32,119
already gaining adoption in.

369
00:16:32,119 --> 00:16:34,950
Fintech is absolutely number one.

370
00:16:34,950 --> 00:16:38,051
Lots of investment by
banks, insurance companies,

371
00:16:38,051 --> 00:16:42,200
Big Four CPA firms, all
working in that space,

372
00:16:42,200 --> 00:16:43,650
are beginning to spend money there.

373
00:16:43,650 --> 00:16:46,000
Identity is another key area.

374
00:16:46,000 --> 00:16:48,470
Obviously, titles, they
say Title Industries

375
00:16:48,470 --> 00:16:50,013
could be be dis-intermediated.

376
00:16:51,310 --> 00:16:53,456
Communications, the thing about this

377
00:16:53,456 --> 00:16:54,289
is it's machine-to-machine.

378
00:16:54,289 --> 00:16:57,280
It does not require anyone
to enter or key transactions.

379

00:16:57,280 --> 00:17:00,070
So it does eliminate a lot of that cost,

380
00:17:00,070 --> 00:17:03,320
and obviously the other
side of that could be jobs.

381
00:17:03,320 --> 00:17:05,330
And then it's decentralized coordination,

382
00:17:05,330 --> 00:17:07,540
so you can use it for things like voting

383
00:17:09,380 --> 00:17:11,040
to actually make a secure environment

384
00:17:11,040 --> 00:17:13,040
that probably we would all like to see.

385
00:17:13,040 --> 00:17:16,170
Privacy and some other
things are also in that area.

386
00:17:16,170 --> 00:17:17,520
So here's a perfect example.

387
00:17:17,520 --> 00:17:21,015
The State of Delaware
has already passed a law

388
00:17:21,015 --> 00:17:24,180
to seek legal classification
for Blockchain Shares.

389
00:17:24,180 --> 00:17:28,400
So they expect to begin to use Blockchain.

390
00:17:28,400 --> 00:17:31,140
They handle registry of companies
in the State of Delaware

391
00:17:31,140 --> 00:17:33,480
and connect at that perspective.

392
00:17:33,480 --> 00:17:37,030
And you can see distributed
ledger shares hold the promise

393
00:17:37,030 --> 00:17:40,110
of immediate clearance,
immediate settlement,

394
00:17:40,110 --> 00:17:44,760
and bring about dramatic
increases in efficiency and speed

395
00:17:44,760 --> 00:17:47,003
and an increase in commercial transactions

396
00:17:47,003 --> 00:17:50,283
for which Delaware is known.

397
00:17:53,010 --> 00:17:54,510
The other thing that makes me think

398

00:17:54,510 --> 00:17:57,120
this technology is gonna
show up a little faster

399
00:17:57,120 --> 00:17:58,430
than we might think

400
00:17:58,430 --> 00:18:00,310
is because it's kind of an extension

401
00:18:00,310 --> 00:18:03,580
of the Internet of Content
to the Internet of People,

402
00:18:03,580 --> 00:18:06,820
the Social of Web, all the way
up to the Internet of Things

403
00:18:06,820 --> 00:18:08,130
with these connected devices.

404
00:18:08,130 --> 00:18:12,013
75 billion, probably way
more than that by now.

405
00:18:12,013 --> 00:18:14,520
The point is, that when
everything's connected,

406
00:18:14,520 --> 00:18:17,112
this kind of technology
can start to allow for

407

00:18:17,112 --> 00:18:22,112
speed and actually reduce
resistance in terms of friction

408
00:18:22,540 --> 00:18:23,850
in all those transactions.

409
00:18:23,850 --> 00:18:25,840
And that's why we'd say

410
00:18:25,840 --> 00:18:28,883
it's an opportunity as well as a threat.

411
00:18:30,090 --> 00:18:31,722
Another example of this,

412
00:18:31,722 --> 00:18:34,680
our friend Daniel Burress says

413
00:18:34,680 --> 00:18:37,120
in the next five years, we will transform

414
00:18:37,120 --> 00:18:40,730
how we market, sell, communicate,

415
00:18:40,730 --> 00:18:44,350
collaborate, innovate, and educate,

416
00:18:44,350 --> 00:18:47,330
due to these hard trends
coming at an exponential pace.

417

00:18:47,330 --> 00:18:48,470
The one message I think

418
00:18:48,470 --> 00:18:49,860
is really important to take away here,

419
00:18:49,860 --> 00:18:52,760
is I want you to put your antennas up.

420
00:18:52,760 --> 00:18:54,500
Once you hear about this technology

421
00:18:54,500 --> 00:18:56,930
don't just say oh it sounds interesting,

422
00:18:56,930 --> 00:18:59,180
and then go back to the work and get busy.

423
00:18:59,180 --> 00:19:01,686
Just maybe take a minute
or two, or savor it,

424
00:19:01,686 --> 00:19:05,280
or better yet, take that hour a week

425
00:19:05,280 --> 00:19:07,160
we think you should be
spending on the future,

426
00:19:07,160 --> 00:19:10,750
and curate a couple of
articles that you've got saved

427
00:19:10,750 --> 00:19:12,380
that you can then identify,

428
00:19:12,380 --> 00:19:15,320
and keep that research
going so you pay attention

429
00:19:15,320 --> 00:19:17,110
to where this technology is going.

430
00:19:17,110 --> 00:19:19,258
Because it's one of those
things that when you blink,

431
00:19:19,258 --> 00:19:21,240
you can certainly see a big difference.

432
00:19:21,240 --> 00:19:23,950
So keep you eyes on what's going on there.

433
00:19:23,950 --> 00:19:24,930
So here's some examples,

434
00:19:24,930 --> 00:19:26,190
like what does it really look like.

435
00:19:26,190 --> 00:19:30,470
So it is, truly, like a
big Excel spreadsheet.

436
00:19:30,470 --> 00:19:34,000
Transaction of anything can be recorded,

437
00:19:34,000 --> 00:19:35,740
anything that's digital, right?

438
00:19:35,740 --> 00:19:39,770
And it's recorded, and
then it's assigned a Block.

439
00:19:39,770 --> 00:19:42,077
And that gets transmitted
in the Blockchain.

440
00:19:42,077 --> 00:19:44,160
So why is it called Blockchain?

441
00:19:44,160 --> 00:19:46,710
It's because of how this system works,

442
00:19:46,710 --> 00:19:50,220
from this both cryptography,
obviously the security,

443
00:19:50,220 --> 00:19:52,653
and the ledger part of it.

444
00:19:53,770 --> 00:19:55,900
So every 10 minutes, the latest Block,

445
00:19:55,900 --> 00:20:00,170
whatever transaction then
created into a Block,

446

00:20:00,170 --> 00:20:05,170
is validated, that's what
these cryptographic miners do,

447
00:20:05,220 --> 00:20:07,600
and then they post it to
the distributed ledger

448
00:20:07,600 --> 00:20:10,148
and create a set of Blocks.

449
00:20:10,148 --> 00:20:12,310
And then each new block of transactions,

450
00:20:12,310 --> 00:20:15,372
numbered and labeled,
is aggregated together,

451
00:20:15,372 --> 00:20:18,623
chained, if you will, and
that becomes the Blockchain.

452
00:20:19,480 --> 00:20:22,731
And that's how this data is
actually linked and locked

453
00:20:22,731 --> 00:20:25,810
and transmitted around the Internet.

454
00:20:25,810 --> 00:20:29,440
So that's how the public ledger
gets to be a public ledger.

455

00:20:29,440 --> 00:20:30,370
Here's another graphic.

456
00:20:30,370 --> 00:20:32,530
This one's from The Economist.

457
00:20:32,530 --> 00:20:35,660
But it does give you
that notion of the Hash.

458
00:20:35,660 --> 00:20:38,110
So a Hash is the number of the Block,

459
00:20:38,110 --> 00:20:39,697
so you're getting all
kinds of new technology,

460
00:20:39,697 --> 00:20:42,920
so you could say input the transaction A,

461
00:20:42,920 --> 00:20:45,734
any digital length of data,

462
00:20:45,734 --> 00:20:50,734
it then gets mined, turned
into a Block, a Hash value,

463
00:20:51,010 --> 00:20:53,070
and that's the output you see there,

464
00:20:53,070 --> 00:20:55,530
each transaction that makes up a Block

465
00:20:55,530 --> 00:20:59,120
fed through the program that
creates that encrypted code,

466
00:20:59,120 --> 00:21:01,410
which is that secure hash value,

467
00:21:01,410 --> 00:21:03,150
and that's how you can identify that.

468
00:21:03,150 --> 00:21:05,330
We'll talk some more
about some of that stuff

469
00:21:05,330 --> 00:21:08,853
that goes on once these
Blockchains are actually created.

470
00:21:10,180 --> 00:21:11,430
This Don Tapscott,

471
00:21:11,430 --> 00:21:13,670
he wrote a book called
The Blockchain Revolution

472
00:21:13,670 --> 00:21:17,250
and this is his idea of
the Internet of Value.

473
00:21:17,250 --> 00:21:19,840
The point is literally anything

474

00:21:19,840 --> 00:21:21,840
that you could transmit electronically,

475
00:21:21,840 --> 00:21:24,920
which is almost everything today,

476
00:21:24,920 --> 00:21:29,920
can be securely done and
accounted for with Blockchain.

477
00:21:31,058 --> 00:21:35,283
So deeds for mortgages, stocks
like Delaware's trying to do,

478
00:21:35,283 --> 00:21:36,217
any kind of transaction.

479
00:21:36,217 --> 00:21:38,770
You could record inventory,

480
00:21:38,770 --> 00:21:42,290
all those pieces would actually be ripe

481
00:21:42,290 --> 00:21:43,740
for this idea of Blockchain.

482
00:21:43,740 --> 00:21:46,420
So that's why it's called
the Internet of Value,

483
00:21:46,420 --> 00:21:49,620
and The Economist added
the Internet of Trust.

484
00:21:49,620 --> 00:21:51,690
Se here's some other examples

485
00:21:51,690 --> 00:21:55,690
of things that could be
handled through Blockchain.

486
00:21:55,690 --> 00:21:58,250
So you can see obviously digital content,

487
00:21:58,250 --> 00:22:01,410
there's a school of thought
about protecting digital assets,

488
00:22:01,410 --> 00:22:04,080
like artists, you know copy music,

489
00:22:04,080 --> 00:22:06,670
all those kind of things
would prevent copyright

490
00:22:06,670 --> 00:22:08,480
or from people stealing it,

491
00:22:08,480 --> 00:22:11,266
any authentication or validation.

492
00:22:11,266 --> 00:22:14,180
Digital identities, health
records is another one.

493

00:22:14,180 --> 00:22:17,693
The marketplace, real
estate, gold, diamonds,

494
00:22:17,693 --> 00:22:20,990
supply chain things you'll see,

495
00:22:20,990 --> 00:22:24,100
any kind of financial uses
are all parts of examples

496
00:22:24,100 --> 00:22:28,070
where this technology could
become pretty significant.

497
00:22:28,070 --> 00:22:29,230
Now here's where you can see

498
00:22:29,230 --> 00:22:33,080
this idea of validation or trust

499
00:22:33,080 --> 00:22:35,830
without a third party or a trusted party.

500
00:22:35,830 --> 00:22:39,400
So again, this shows how both ledgers,

501
00:22:39,400 --> 00:22:42,300
the buyer, the seller or
the transacting people,

502
00:22:42,300 --> 00:22:46,290
can actually match that

transaction and see it publicly,

503
00:22:46,290 --> 00:22:49,403
that both sides recorded
it the proper way.

504
00:22:51,060 --> 00:22:53,170
So I'm gonna give you a quick example

505
00:22:53,170 --> 00:22:54,800
of how Blockchain could be used

506
00:22:54,800 --> 00:22:56,630
in a supply chain environment.

507
00:22:56,630 --> 00:22:58,870
So everyone wants sustainable tuna.

508
00:22:58,870 --> 00:23:01,630
So you can see there's
two Malaysian Fishermen.

509
00:23:01,630 --> 00:23:02,870
So right now if you wanted to know,

510
00:23:02,870 --> 00:23:04,820
I want to know that it's line-caught tuna

511
00:23:04,820 --> 00:23:08,020
if I'm buying and paying
for that extra quality

512

00:23:08,020 --> 00:23:10,190
that it's sustainably done,

513
00:23:10,190 --> 00:23:14,360
I don't want someone defrauding
it on the supply side.

514
00:23:14,360 --> 00:23:16,930
So these guys, actually
though digital technology,

515
00:23:16,930 --> 00:23:18,870
or Smartphone, they take
a picture of the fish

516
00:23:18,870 --> 00:23:21,470
when they catch it, and
create a Block out of it.

517
00:23:21,470 --> 00:23:23,240
So they take that
picture, create the Block,

518
00:23:23,240 --> 00:23:26,620
then when they row into the
group to drop the fish off,

519
00:23:26,620 --> 00:23:28,640
they record it again,
then they hand it off

520
00:23:28,640 --> 00:23:30,650
and create another
piece of the Blockchain,

521
00:23:30,650 --> 00:23:31,810
with a digital, you know,

522
00:23:31,810 --> 00:23:34,310
it's got the time, the
date stamp, geolocation,

523
00:23:34,310 --> 00:23:36,260
all that information is in there,

524
00:23:36,260 --> 00:23:38,390
thanks to today's mobile technology.

525
00:23:38,390 --> 00:23:40,412
It goes from the processing house,

526
00:23:40,412 --> 00:23:45,412
shipped to probably a
freezer or a packaging shop,

527
00:23:45,660 --> 00:23:48,560
and again the Blockchain's
recorded on that,

528
00:23:48,560 --> 00:23:49,980
all the way to the can of tuna.

529
00:23:49,980 --> 00:23:53,480
So when you go to your Trader
Joe's and pick up your tuna,

530

00:23:53,480 --> 00:23:55,420
you can actually, if you wanted to,

531
00:23:55,420 --> 00:23:57,440
you could theoretically
trace that transaction

532
00:23:57,440 --> 00:23:59,770
all the way back through the supply chain,

533
00:23:59,770 --> 00:24:00,960
to actually see what happened.

534
00:24:00,960 --> 00:24:02,780
So it's got tons of uses

535
00:24:02,780 --> 00:24:05,020
for things like the
sustainability that we're doing

536
00:24:05,020 --> 00:24:07,083
on wood and coffee, and you name it.

537
00:24:08,050 --> 00:24:09,990
Here's a diagram of that.

538
00:24:09,990 --> 00:24:13,860
Rachel Botsman, who's been
doing some of this work,

539
00:24:13,860 --> 00:24:15,270
as showed how this could work.

540
00:24:15,270 --> 00:24:17,330
But you can see how the data

541
00:24:17,330 --> 00:24:19,530
actually moves through
a whole supply chain

542
00:24:19,530 --> 00:24:22,786
and gives the final user
the comfort and trust

543
00:24:22,786 --> 00:24:24,290
that what they're getting

544
00:24:24,290 --> 00:24:26,193
is really what they are paying for.

545
00:24:27,040 --> 00:24:28,410
So now I want to talk a little bit about

546
00:24:28,410 --> 00:24:31,480
Blockchain and accounting,
and Blockchain and auditing.

547
00:24:31,480 --> 00:24:33,367
And I think the significant concept here,

548
00:24:33,367 --> 00:24:37,350
and this comes from Ed
Kless, by the way, at Sage.

549
00:24:37,350 --> 00:24:39,200

He says the significant piece about here

550
00:24:39,200 --> 00:24:41,320
is that N equals awe.

551
00:24:41,320 --> 00:24:42,880
Almost everything we do in accounting,

552
00:24:42,880 --> 00:24:46,130
and especially in the auditing
or internal auditing area,

553
00:24:46,130 --> 00:24:47,450
is based on sampling.

554
00:24:47,450 --> 00:24:49,360
Because we can't possibly go do

555
00:24:49,360 --> 00:24:51,800
all the transactions over again.

556
00:24:51,800 --> 00:24:53,621
But in a Blockchain world,

557
00:24:53,621 --> 00:24:57,013
actually every transaction
could be looked at

558
00:24:57,013 --> 00:24:59,510
with the power of machines today.

559
00:24:59,510 --> 00:25:02,890

Between Artificial Intelligence
and Big Data applications.

560
00:25:02,890 --> 00:25:05,600
So if it's all digital, it's all secure,

561
00:25:05,600 --> 00:25:07,820
it doesn't need verification.

562
00:25:07,820 --> 00:25:09,240
That's where you get to.

563
00:25:09,240 --> 00:25:10,720
So I think this is financial ties,

564
00:25:10,720 --> 00:25:13,621
and he said the greater adoption
of Blockchain technology

565
00:25:13,621 --> 00:25:16,530
combined with Big Data Analysis techniques

566
00:25:16,530 --> 00:25:20,190
will mean auditors no longer
have to undertake sampling,

567
00:25:20,190 --> 00:25:23,814
but can instead focus on
identifying trends and exceptions

568
00:25:23,814 --> 00:25:26,150
that require further scrutiny.

569
00:25:26,150 --> 00:25:28,500
So this is the whole
idea that we're gonna be

570
00:25:28,500 --> 00:25:32,460
taking away part of our
job as it gets automated

571
00:25:32,460 --> 00:25:35,390
and moving up into higher value activities

572
00:25:35,390 --> 00:25:38,340
that involve more strategic
thinking, communication,

573
00:25:38,340 --> 00:25:39,173
et cetera.

574
00:25:40,410 --> 00:25:43,480
Here's some comments from Ron Quaranta,

575
00:25:43,480 --> 00:25:46,820
who's from the Wall Street
Blockchain Alliance.

576
00:25:46,820 --> 00:25:49,140
He talked a little bit about
some of the challenges,

577
00:25:49,140 --> 00:25:50,410
or some of the things
that we would see there.

578
00:25:50,410 --> 00:25:53,921
So he said each audit
is a costly exercise,

579
00:25:53,921 --> 00:25:56,483
binding company accounts for
extended periods of time.

580
00:25:56,483 --> 00:25:59,380
Blockchain accounting
could dramatically slash

581
00:25:59,380 --> 00:26:02,200
the cost of accounting,
auditing and compliance,

582
00:26:02,200 --> 00:26:04,460
both internal, in the company,

583
00:26:04,460 --> 00:26:06,460
and external, through the auditors.

584
00:26:06,460 --> 00:26:08,670
It could evolve into the Ardor of Function

585
00:26:08,670 --> 00:26:11,230
opinion on reasonables and accuracy

586
00:26:11,230 --> 00:26:13,110
of a company's financial statements,

587
00:26:13,110 --> 00:26:15,210

just by virtue of the Blockchain.

588
00:26:15,210 --> 00:26:18,400
And transactions are already
confirmed as true and accurate

589
00:26:18,400 --> 00:26:21,430
with both parties having agreed,

590
00:26:21,430 --> 00:26:25,500
third-party reconfirmation and re-audit

591
00:26:25,500 --> 00:26:27,000
is not needed.

592
00:26:27,000 --> 00:26:28,780
And finally it solves the trust problem.

593
00:26:28,780 --> 00:26:31,660
It prevents improper
management of financials.

594
00:26:31,660 --> 00:26:33,670
No one can cook the books

595
00:26:33,670 --> 00:26:36,387
because the transactions can't be altered.

596
00:26:36,387 --> 00:26:41,280
Even XPRL is already
looking into Blockchain uses

597

00:26:41,280 --> 00:26:42,480
for corporate reporting.

598
00:26:43,360 --> 00:26:45,130
So back to that triple entry again,

599
00:26:45,130 --> 00:26:48,580
here's your ledgers, you get
to see how it visually works.

600
00:26:48,580 --> 00:26:51,290
Alice is doing some transactions with Bob,

601
00:26:51,290 --> 00:26:53,970
so for her it's credits,
on his side it's debits,

602
00:26:53,970 --> 00:26:57,180
and the public ledger you can
actually see every transaction

603
00:26:57,180 --> 00:26:59,000
and the fact that they've balanced.

604
00:26:59,000 --> 00:27:00,710
So you know that what you've recorded

605
00:27:00,710 --> 00:27:04,273
is what the seller also
recorded or vice versa.

606
00:27:07,880 --> 00:27:09,630
This is coming from Deloitte,

607
00:27:09,630 --> 00:27:11,440
and this gets to their idea

608
00:27:11,440 --> 00:27:13,230
of Blockchain and audit innovation.

609
00:27:13,230 --> 00:27:16,068
One approach to verify
the integrity of records

610
00:27:16,068 --> 00:27:17,910
using the Blockchain.

611
00:27:17,910 --> 00:27:22,400
So again in the old days,
original record, audited record,

612
00:27:22,400 --> 00:27:26,240
now you've got a Hash String
written into the Blockchain,

613
00:27:26,240 --> 00:27:29,800
and you search for the
identical Hash String

614
00:27:29,800 --> 00:27:30,633
on the other side,

615
00:27:30,633 --> 00:27:32,390
and you know you've got
a legitimate transaction.

616
00:27:32,390 --> 00:27:34,850
So I think that's kind of encouraging,

617
00:27:34,850 --> 00:27:38,320
'cause auditors that actually
understand the technology

618
00:27:38,320 --> 00:27:41,480
could find a valid role double-checking,

619
00:27:41,480 --> 00:27:44,463
making sure that it didn't get breached.

620
00:27:45,935 --> 00:27:49,920
And this was an interesting article from,

621
00:27:49,920 --> 00:27:52,180
I think it was about HP,

622
00:27:52,180 --> 00:27:54,170
they said that innovators in a Blockchain

623
00:27:54,170 --> 00:27:55,990
are experimenting with ways to use it

624
00:27:55,990 --> 00:27:57,980
in business-to-business payments

625
00:27:57,980 --> 00:28:01,180
without the usual limits
on transaction volume.

626
00:28:01,180 --> 00:28:04,070
So if they succeed, this
the part I don't like,

627
00:28:04,070 --> 00:28:06,260
credit card companies' payment processors,

628
00:28:06,260 --> 00:28:10,563
legions of accounting and law
firms would be devastated.

629
00:28:12,830 --> 00:28:15,366
Interestingly enough,
they actually think IRS

630
00:28:15,366 --> 00:28:16,199
could be one of those
people that gets disrupted,

631
00:28:16,199 --> 00:28:18,810
in fact the most disrupted of all.

632
00:28:18,810 --> 00:28:21,220
The point is, this is
a disruptive technology

633
00:28:21,220 --> 00:28:23,130
and we have to be watching it

634
00:28:23,130 --> 00:28:25,300
so that we can actually stay ahead of it

635

00:28:25,300 --> 00:28:27,120
and maybe play a role in disruption,

636
00:28:27,120 --> 00:28:30,180
and not be the victim of disruption.

637
00:28:30,180 --> 00:28:32,150
Here's some potential uses for Blockchain

638
00:28:32,150 --> 00:28:33,140
in accounting and auditing,

639
00:28:33,140 --> 00:28:34,300
comes from John Barron,

640
00:28:34,300 --> 00:28:36,680
the Managing Director at Thomson Reuters.

641
00:28:36,680 --> 00:28:40,020
Traceable audit trails,
automated audit processes,

642
00:28:40,020 --> 00:28:42,112
authentication of transactions,

643
00:28:42,112 --> 00:28:44,854
tracking the ownership of
assets, smart contracts,

644
00:28:44,854 --> 00:28:48,040
a registry and inventory
system for any asset

645
00:28:48,040 --> 00:28:51,163
ranging from raw materials
to intellectual property.

646
00:28:53,900 --> 00:28:55,640
So where to from here?

647
00:28:55,640 --> 00:28:57,070
This is an interesting framework

648
00:28:57,070 --> 00:29:00,310
that came about an article
in Harvard Business Revue,

649
00:29:00,310 --> 00:29:03,030
called The Truth About Blockchain.

650
00:29:03,030 --> 00:29:07,800
And the took the old
Internet, the TCP/IP Protocol,

651
00:29:07,800 --> 00:29:10,260
and they created a framework to say

652
00:29:10,260 --> 00:29:11,460
how do you think about

653
00:29:11,460 --> 00:29:14,630
a big foundational
frameworker of technology

654
00:29:14,630 --> 00:29:16,670

if you're a company or an end user,

655
00:29:16,670 --> 00:29:19,150
and you're trying to say
what does this mean to me.

656
00:29:19,150 --> 00:29:21,250
So they created this four-box quadrant,

657
00:29:21,250 --> 00:29:23,530
every good consultant does that,

658
00:29:23,530 --> 00:29:27,350
and bottom left single use,

659
00:29:27,350 --> 00:29:29,670
bottom right, localization,
in other words,

660
00:29:29,670 --> 00:29:31,907
applying it to your own
company or use case,

661
00:29:31,907 --> 00:29:34,246
upper left, substitution,

662
00:29:34,246 --> 00:29:35,900
upper right, transformation.

663
00:29:35,900 --> 00:29:37,500
So the axes are,

664

00:29:37,500 --> 00:29:38,980
if you look at the Y axis

665
00:29:38,980 --> 00:29:41,630
it's the amount of
complexity and coordination

666
00:29:41,630 --> 00:29:43,850
required to deal with it.

667
00:29:43,850 --> 00:29:46,180
On the bottom is the degree of novelty,

668
00:29:46,180 --> 00:29:49,663
so what degree of the kind
of complexity, I would say,

669
00:29:49,663 --> 00:29:52,300
that goes along with that technology.

670
00:29:52,300 --> 00:29:56,300
So in the orange on this chart,

671
00:29:56,300 --> 00:29:59,830
are the examples that
they believe Bitcoin,

672
00:29:59,830 --> 00:30:01,650
I mean, excuse me, Blockchain,

673
00:30:01,650 --> 00:30:04,050
could actually be relevant to.

674
00:30:04,050 --> 00:30:05,470
So at a single use,

675
00:30:05,470 --> 00:30:08,246
if you were just to use a Bitcoin
payment for your business,

676
00:30:08,246 --> 00:30:11,470
that would be the beginning of
understanding this technology

677
00:30:11,470 --> 00:30:15,080
in a very easy use case.

678
00:30:15,080 --> 00:30:17,890
Localization would be how can
I apply it to my business?

679
00:30:17,890 --> 00:30:20,960
So here the idea of private online ledgers

680
00:30:20,960 --> 00:30:22,751
to process financial transactions,

681
00:30:22,751 --> 00:30:24,920
I've heard examples of some companies

682
00:30:24,920 --> 00:30:27,650
that are playing with
it to track inventory,

683
00:30:27,650 --> 00:30:28,960

or their own internal stuff,

684
00:30:28,960 --> 00:30:31,370
and supplement their accounting system.

685
00:30:31,370 --> 00:30:33,750
That could be a good
way to dip your toe in

686
00:30:33,750 --> 00:30:36,380
and potentially get value
for your organization

687
00:30:36,380 --> 00:30:37,890
from that standpoint.

688
00:30:37,890 --> 00:30:39,480
Go to the upper left,

689
00:30:39,480 --> 00:30:42,270
and we'll take on a little
bit more of that complexity.

690
00:30:42,270 --> 00:30:45,660
What could I substitute
with this technology?

691
00:30:45,660 --> 00:30:49,820
So here, a retailer could take gift cards

692
00:30:49,820 --> 00:30:52,724
and base them on Bitcoin,
and substitute that,

693
00:30:52,724 --> 00:30:54,580
and start to learn their way into how

694
00:30:54,580 --> 00:30:57,430
the public would work with
that in their transactions.

695
00:30:57,430 --> 00:31:01,030
Again, your gift card, though,
would be extremely secure.

696
00:31:01,030 --> 00:31:02,800
No one would be able to crack it.

697
00:31:02,800 --> 00:31:04,320
And then go to the upper right,

698
00:31:04,320 --> 00:31:07,600
transformation would be like
self-executing smart contracts.

699
00:31:07,600 --> 00:31:10,430
Just imagine if you could
create contracts that,

700
00:31:10,430 --> 00:31:12,277
once someone agreed to create a Blockchain

701
00:31:12,277 --> 00:31:13,790
and that was the end of the contract.

702

00:31:13,790 --> 00:31:16,270
Both sides would agree, it was documented,

703
00:31:16,270 --> 00:31:18,150
and created in a new Blockchain

704
00:31:18,150 --> 00:31:21,053
that you would be able
to look at and monitor.

705
00:31:23,490 --> 00:31:26,074
So there's a couple of kind of questions

706
00:31:26,074 --> 00:31:30,179
for accountancy for you to
just kind of think about.

707
00:31:30,179 --> 00:31:32,060
You can read these, I would encourage you

708
00:31:32,060 --> 00:31:34,130
to write down some answers,
and just give it some thought.

709
00:31:34,130 --> 00:31:36,670
But this is a way of thinking
about, where does this go?

710
00:31:36,670 --> 00:31:38,240
So for instance, in taxation,

711
00:31:38,240 --> 00:31:39,970
where do transactions take place?

712
00:31:39,970 --> 00:31:43,050
In the Bitcoin world,
everything's virtual.

713
00:31:43,050 --> 00:31:46,350
Does it take place to buyer,
seller, or some neutral spot?

714
00:31:46,350 --> 00:31:47,423
Or can you pick?

715
00:31:48,367 --> 00:31:50,110
Using Blockchain.

716
00:31:50,110 --> 00:31:53,950
So, transactions record in
many places simultaneously.

717
00:31:53,950 --> 00:31:56,280
What's the identity and
location of the counterparty

718
00:31:56,280 --> 00:31:57,460
may or may not be known.

719
00:31:57,460 --> 00:31:59,178
And what's that implication?

720
00:31:59,178 --> 00:32:01,090
You can verify the transaction,

721

00:32:01,090 --> 00:32:04,360
but you may not be able
to verify the party.

722
00:32:04,360 --> 00:32:06,280
What happens in an
online barter situation?

723
00:32:06,280 --> 00:32:08,329
What's the taxable value here?

724
00:32:08,329 --> 00:32:11,440
And then what's the taxable
value of transactions

725
00:32:11,440 --> 00:32:14,820
that ultimately get settled
using digital currencies?

726
00:32:14,820 --> 00:32:17,530
Now that they've calculated a gain on it

727
00:32:17,530 --> 00:32:19,540
in the Bitcoin world,

728
00:32:19,540 --> 00:32:21,830
it will be interesting
to see where that goes.

729
00:32:21,830 --> 00:32:24,320
And then here's some other observations

730
00:32:24,320 --> 00:32:26,724

for what does this all mean.

731
00:32:26,724 --> 00:32:30,050
And again, you can kind of
see that and think about it.

732
00:32:30,050 --> 00:32:32,530
But there's just a lot to think about

733
00:32:32,530 --> 00:32:33,980
as you start to look at that.

734
00:32:35,010 --> 00:32:37,640
So I want to wrap up
with this notion that,

735
00:32:37,640 --> 00:32:39,300
what do you do?

736
00:32:39,300 --> 00:32:40,970
So now you understand this technology

737
00:32:40,970 --> 00:32:42,400
a little deeper, I hope,

738
00:32:42,400 --> 00:32:46,310
and so the idea here first is
you need to get Future Ready.

739
00:32:46,310 --> 00:32:50,370
You need to acquire this idea
of anticipatory thinking,

740
00:32:50,370 --> 00:32:52,230
and start to begin to think differently

741
00:32:52,230 --> 00:32:56,870
about how this technology
can help you or disrupt you.

742
00:32:56,870 --> 00:32:59,060
You have to adopt an exponential mindset.

743
00:32:59,060 --> 00:33:00,930
The idea of saying, yeah, the technology

744
00:33:00,930 --> 00:33:03,350
is gonna take five more years
before it hits mainstream,

745
00:33:03,350 --> 00:33:06,820
that doesn't work in an
exponential curve way.

746
00:33:06,820 --> 00:33:08,990
So I think we have to start anticipating

747
00:33:08,990 --> 00:33:12,760
exponential change and
adopting the right mindset.

748
00:33:12,760 --> 00:33:14,850
The other one is start with certainty.

749
00:33:14,850 --> 00:33:18,977

This technology is part of a
hard trend, or a future fact,

750
00:33:18,977 --> 00:33:22,220
as our work with Dan
Burress would suggest.

751
00:33:22,220 --> 00:33:24,680
And so that means it's gonna happen

752
00:33:24,680 --> 00:33:26,350
whether you like it or not.

753
00:33:26,350 --> 00:33:28,120
And so the corollary to this is

754
00:33:28,120 --> 00:33:32,420
if I'm not gonna deal with
this hard trend of Blockchain,

755
00:33:32,420 --> 00:33:35,407
then what are the predictable
problems I might have

756
00:33:35,407 --> 00:33:37,203
if I delay doing it?

757
00:33:38,300 --> 00:33:40,370
And then finally, it's about re-imagining.

758
00:33:40,370 --> 00:33:44,500
So what are the possibilities
or the opportunities

759
00:33:44,500 --> 00:33:47,710
that having this technology
would mean for you?

760
00:33:47,710 --> 00:33:48,990
And that's where I think the key,

761
00:33:48,990 --> 00:33:50,180
the opportunity of all this is.

762
00:33:50,180 --> 00:33:51,660
Put your antenna up,

763
00:33:51,660 --> 00:33:53,960
start thinking about what
could this technology

764
00:33:53,960 --> 00:33:57,680
mean to my business, my
career, my organization.

765
00:33:57,680 --> 00:34:00,580
And then begin to dream a little bit.

766
00:34:00,580 --> 00:34:03,800
I want to end with this
quote from Seth Godin.

767
00:34:03,800 --> 00:34:06,055
He says, "The easiest thing is to react.

768

00:34:06,055 --> 00:34:10,847
"The second easiest thing is to respond.

769
00:34:10,847 --> 00:34:13,277
"But the hardest is to initiate."

770
00:34:14,140 --> 00:34:15,820
And I think the key message here

771
00:34:15,820 --> 00:34:18,930
is for us to have that antenna up,

772
00:34:18,930 --> 00:34:20,450
and looking at this technology,

773
00:34:20,450 --> 00:34:23,780
and start to say what if?

774
00:34:23,780 --> 00:34:25,440
How could I?

775
00:34:25,440 --> 00:34:27,250
What can I do with this
kind of technology?

776
00:34:27,250 --> 00:34:29,250
And I think that's the
big opportunity for you,

777
00:34:29,250 --> 00:34:32,150
to imagine those possibilities

778

00:34:33,439 --> 00:34:35,580
and not be disrupted.

779
00:34:35,580 --> 00:34:39,152
And that's our goal with this
whole idea of Future Ready.

780
00:34:39,152 --> 00:34:42,870
So I hope you leave here
with little bit more

781
00:34:42,870 --> 00:34:45,740
Future Readiness today, and thank you.

782
00:34:45,740 --> 00:34:48,323
(upbeat music)