

From high heels to heirloom tomatoes, blockchain technologies will touch everything

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If you live off the grid, spend only paper money, tune in AM radio for entertainment and pretty much ignore the steamroller unleashed on everyday life by the Silicon Valley, none of what comes next will make sense.

But only a few years ago someone said to be in the proximity of Beijing conjoined the words block and chain into blockchain, a term for an obscure technical feat. Its purpose: provide a digital wallet for cryptocurrency.

Sure this sounds like your foggy brother-in-law describing how rain forms. Bear with me. We're getting to the future of the American greenback, the one piece of cotton and linen you can take to the remotest stretch of desert in the farthest pocket of the poorest land on the planet and everyone there seems to know — that is a United States dollar bill. That's real money.

Someday those folks might feel the same blush of pleasure peering into their digital wallet as they do today seeing the greenback. But that's far off, probably. So let's back up and start here:

Today there is this newish thing on the internet called blockchain technologies. And smart people who understand them say they are the next technical revolution about to burst into our lives, not so much by wiping out the dollar, but by giving you details you didn't know you could quickly get.

"It will change society," said Regina Whitley, executive director of the Greater Memphis Information Technology Council.

"It'll tend to squeeze out the middle man," said Erik Norland, senior economist at CME Inc., formerly known as the Chicago Mercantile Exchange.

"It's going to evolve much more rapidly than the internet did," said Joel Tracy, chief information officer at IMC Companies, a Memphis logistics firm.

That's a lot of weight to hang on blockchain, an idea most folks haven't heard of yet.

So I asked John Gnuschke, a University of Memphis economist with a contrarian way of thinking, a simple question:

"Are blockchains over-hyped?"

"No," Gnuschke replied. "Perhaps under-hyped."

Create trust

Let's say you spot those \$860 Louis Vuitton open-toe leather pumps for sale in the store.

How do you know for certain the shoes were sewn in Italy using fine calf leather?

Today you trust the manufacturer's tag sewn into the shoe. Someday you'll aim your cellphone at the tag.

Your phone will reveal the cobbler's name and, if Louis Vuitton so chooses, the tannery in Vicenza, the calving farm near Innsbruck, the Milan truck line and perhaps the drivers who moved the product and their driving records. If you Google the truck line and find it has a shady record, maybe you won't want to pay \$860 for what might be counterfeit shoes.

It sounds like a lot of paperwork. It's really a string of documents uploaded to the internet. That string is the blockchain.

Blockchain technology could change how everything from shoes and rice to automotive sheet metal and vegetables are produced and shipped.

Someday if you shop the Memphis farmers market and the tag on the tomato tells your phone it was grown in Potts Camp, Miss., from genuine Brandywine beefsteak seeds shipped from California on Feb. 21, 2018, by Baker Creek Heirloom Seeds, you might cheerfully pay \$10 a pound.

The key to making this work is the encryption technology that prevents hackers or anyone else from altering blockchain documents. Nothing like SunTrust Bank, the U.S. Treasury or PayPal intervenes. The blockchain is immutable.

Blockchains rely on the same encryption technology used to create bitcoins and other cryptocurrencies. No government agent oversees bitcoins. But the currency's technology exists on the internet, immutable to hackers.

"The whole purpose of blockchain technology is to create a trusted environment," Tracy said.

'This city needs to get ready'

Potts Camp tomatoes are one thing. So are 10,000 tons of long-grain Stuttgart rice destined for export to Shenzhen, and long-staple Tunica cotton bound for Peru, and container after seagoing container of freight hauled cross-country from the Port of Long Beach.

In the nation, few cities will be as immersed as thoroughly in all things blockchain as Memphis with its outsized logistics industry employing more than 50,000 workers.

We think of Memphis as FedEx, UPS, barge, rail and truck lines and acres of distribution depots. There are also cotton traders, rice shippers, brokers, dispatchers, forwarding agents, account managers, export supervisors, data architects, customs entry writers, air freight pricing analysts, shipping clerks, lawyers, accountants — what Norland calls the middlemen.

Thousands of these men and women work in Memphis, and they move an endless stream of cargo around the country and the world.

“There will be enormous changes if our workforce isn’t ready,” Whitley said. “This city needs to get ready.”

Leading the way

In Memphis, IMC and The Seam, an ag industry venture set up in 2000 as a cotton exchange, are among the organizations leading the way into blockchain technologies.

IMC is an original member of the Blockchain in Trucking Alliance, or BiTA, a new venture co-founded by Chattanooga financial executive Craig Fuller to educate the industry and set up standards.

“Efficiency is the main thing driving it,” Tracy said.

A fair amount of wrangling can accompany the shipment of products around the world. Suppose an Orient Overseas cargo container was unloaded at Long Beach, Calif., attached to a truck and towed to Nike’s Memphis freight depot. There the container sits for 30 days. Orient calls Nike, says it is owed \$100 in fines for each day the container stays at Nike after 15 days.

Orient, Nike, the truck line that hauled the container as well as freight forwarders and lawyers might have to dig up contracts and rehash whether there is a fine stipulated and whether it kicks in after 15 days.

The BiTA alliance would bring the industry together and create a common document — Fuller calls it a “smart contract” — understood by each side and used repeatedly in the blockchain.

“Smart contracts have the most potential” in BiTA, Fuller said.

Less wrangling means more efficiency, less need of middlemen figuring out what has happened, smoother flow of goods and prompt payment.

Dollars and sense

Payment doesn’t have to be carried out in dollars, yen, euros, yuan or any other currency maintained by a government.

What goes hand in hand with blockchain technologies are cryptocurrencies like bitcoin.

“There’s a huge amount of money held outside the United States by those who don’t want scrutiny in our banking system,” Norland said.

Many who favor less scrutiny and the taxation that comes with it could rely on payment in cryptocurrencies that are untraceable by the IRS.

Governments are starting to look into computer technology that would enable public officials to peer into blockchain deals carried out in cryptocurrencies.

“I think that’s coming,” said Norland, who is based in CME’s London office. “China, the U.S. and others are looking at how to do this.”

When that day comes, just about everyone might have a digital wallet.

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