What is Blockchain Technology and How Will it Impact Businesses?

The internet, smartphones and other online technologies have helped businesses streamline their supply chains and inventories. However, human error, software incompatibilities between vendors and a lack of transparency can cause even the most efficient operations to experience time-consuming and costly errors.

Online cryptocurrencies like bitcoin depend on a technology called blockchain that can instantly share, secure, verify and store records simultaneously. As a result, many businesses are using blockchain systems to implement efficient and secure recordkeeping systems.

WHAT IS BLOCKCHAIN AND HOW DOES IT WORK?

Blockchain is a new type of shared, encrypted recordkeeping system that can be seen in real time by everyone involved in a supply chain or other business operation. These systems work by recording a separate record, or "block," every time a process is updated.

Essentially, each block in the system serves as a digital puzzle piece that verifies the next record, creating a digital chain. Each block is encrypted and can't be changed, since altering any information in the record would be like taking a piece out of a finished puzzle and trying to change its shape.

ADVANTAGES OF BLOCKCHAIN

Because each stakeholder in an operation keeps a separate copy of blockchain records, the systems allows for a large amount of transparency and communication. Businesses can also customize how users see information in a blockchain system. For example, an online retailer could let a customer view their orders and shipping statuses, but not their full inventory system.

Blockchain technology can give businesses an instant picture of both large and small-scale operations, such as a single product's location or real-time sales figures. And since records can't be altered or viewed without permission, they're extremely safe from cyber attacks and data breaches.

POTENTIAL APPLICATIONS

Here are some of the potential benefits of a blockchain management system:

- **Flexible scalability**—A business can use a blockchain system internally to track projects and other workflows, or multiple organizations can share the platform to organize large-scale operations.

- **Security**—Records that use blockchain are encrypted, verified and shared between all users. As a result, blockchain is very secure against tampering and cyber attacks.

LINDSEY SOLUTIONS

IN THE KNOW

- **Transparency**—Advanced sensors and other tracking technology can update blockchain records to give businesses an ongoing view of a supply chain without fear of human error or biased reporting.

- **Innovation**—New services are beginning to automate complex systems like contractual obligations, employee security credentials and personal data protection using blockchain technology.

- **Detailed analytics**—Businesses can track individual products to gather important information at any time, such as the origin of a dysfunctional product or a food item's expiration date.

Traditional recordkeeping systems rely on data that's stored in one place, then manually sent to others.
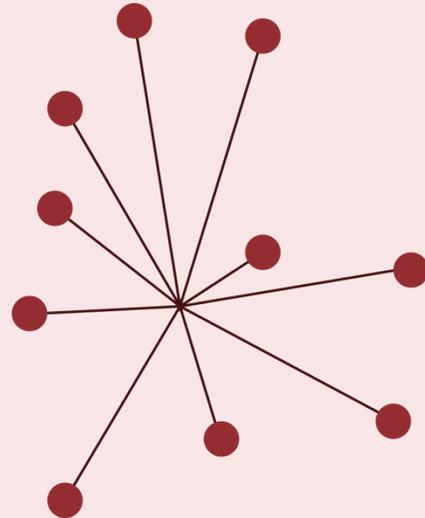
Blockchain systems are simultaneously shared, verified and encrypted across all aspects of an operation.