Use of blockchain beyond cryptocurrencies

Expansive plans:IndiaChain may become the world's largest blockchain programme in governance.GETTYIMAGES/ISTOCKLuckyStep48

With India's digital footsteps gaining significant stride in recent years, blockchain technology has caught the imagination of many. While most of us identify blockchain with cryptocurrencies, bitcoins in particular, tech designers are yet to fully realise its disruptive potential in numerous other sectors. In today's rapidly evolving interconnected digital ecosystem, blockchain can emerge the biggest disrupter.

Blockchain technology has the power to transform business processes and applications across sectors — from financial services to agriculture, from healthcare to education, among others. Blockchain-powered smart contracts, where every piece of information is recorded in a traceable and irreversible manner, can play a revolutionary role in enhancing ease of doing business. It will augment the credibility, accuracy and efficiency of a contract while reducing the risk of frauds, substantially.

Property deals

Property transactions in India are still carried out on paper, making them prone to disputes. Application of blockchain technology would bring revolutionary changes through in-built transparency, traceability and efficiency in the system. State governments are already exploring use of this technology to bring order and efficiency to property transactions.

Financial services has been a pioneer in blockchain-based use cases that are driving significant improvements in operations and client experience. For example, Yes Bank is an early adopter of this technology by implementing a blockchain-based multi-nodal system to fully digitise vendor financing for one of its clients. The system today enables the bank to do timely processing of vendor payments without physical documents and manual intervention, while enabling both parties to track the status of transactions in real time.

Healthcare and pharmaceuticals is one of the best prospective areas where a lot of clinical data is built up and exchanged, which, owing to its sensitive nature, demands a secure and reliable system. Blockchain could play a crucial part in health insurance claims management by reducing the risk of insurance claim frauds. The technology can also be used to prevent the sale of spurious drugs in the country by tracking every step of the supply chain network at every level.

The education sector can benefit from a blockchain-powered, time-stamped repository of pass-outs and job records of students so that it becomes easier for employers to verify the credibility of candidates.

In agriculture too, seasonal data related to crop and climatic cycles and soil testing data can be protected and used by multi-nodal blockchain application for the benefit of insurance companies, researchers, market agencies and even to predict stock prices.

Globally, blockchain technology has proven to be a change-maker. Nasdaq Inc. has successfully tested a blockchain-powered proxy voting system on its Estonian exchange and is gearing up for full-scale implementation. In Russia, blockchain-based systems are being pursued for land registry management as well as for improving the local voting system. The Dubai government, on the other hand, is on its way to implement blockchain-based paperless digital systems in areas such as visa applications, licence renewals and bill payments.

Government as enabler

While the government of India has eliminated the possibility of considering cryptocurrencies as legal tender, it has endorsed the idea of exploring use of blockchain technology for ushering in India's digital economy.

The NITI Aayog is exploring the use of blockchain and AI technologies in diverse areas such as education, healthcare, agriculture, electricity distribution and land records, among others. In this direction, the Think-Tank is reportedly building a platform called 'IndiaChain' — a shared, India-specific blockchain infrastructure that would leverage the trinity of Jan-Dhan-Yojana, Aadhaar and the mobile trinity.

When implemented, this one-of-its-kind initiative will likely be the world's largest blockchain implementation programme in governance.

What may actually work for India is the version Blockchain 2.0 that allows programmable transactions (modified by a condition or a set of conditions), extending its capability from being able to do simple transactions to more complex transactions. It can also address privacy and regulatory needs, complex functions and is not limited to one vendor.

Meanwhile, several State governments including A.P., Telangana, Gujarat, Karnataka and Maharashtra, have started gauging the possibilities, and even implementing in some cases, the distributed ledger technology for their e-governance initiatives. The A.P. government is leading the way in blockchain adoption by executing pilot projects in land records and transport.

For a true digital future

Blockchain's ability to enhance real-time visibility in the functioning of the supply chain offers myriad possibilities across a range of sectors to prevent leakages, and thereby increase efficiency. Realising its genuine potential, a number of leading corporations in India have started investing in Blockchain. At the same time, a number of start-ups are emerging in this space, developing and using the technology for diverse applications.

While baby steps are being taken, it is also crucial to lay our collective focus on identifying and resolving key issues and challenges in implementing this technology, the prime amongst those being data privacy.

A sustainable future for blockchain would also necessitate creation and sustenance of the right kind of ecosystem in the country. *(The writer is a*

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