Streamlining citizen services delivery using blockchain

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IN recent years, there has been a lot of discussion around the advantages of blockchain. Along with the financial services industry, other industries are also expected to benefit from its adoption.

But what exactly is blockchain? By definition, it is a single, shared, immutable write-only ledger of transactions that is updated when multiple, decentralised actors achieve consensus on the validity of a participant's new entries. Blockchain is not regulated by a central authority, making it the single, self-sustaining source of truth and thus removing the possibilities of bottlenecks in overall process flows. This can bring significant transformation opportunities for citizen services delivery in Bangladesh.

Blockchain combines four different elements that define its way of functioning: participating nodes, unavailability of transaction deletion feature, consensus ledger, and strong encryption technique. It offers many advantages, some of which include decentralised systems, automated audit trails, consensus ledgers, robust cryptographic algorithms and low risk of data duplicity.

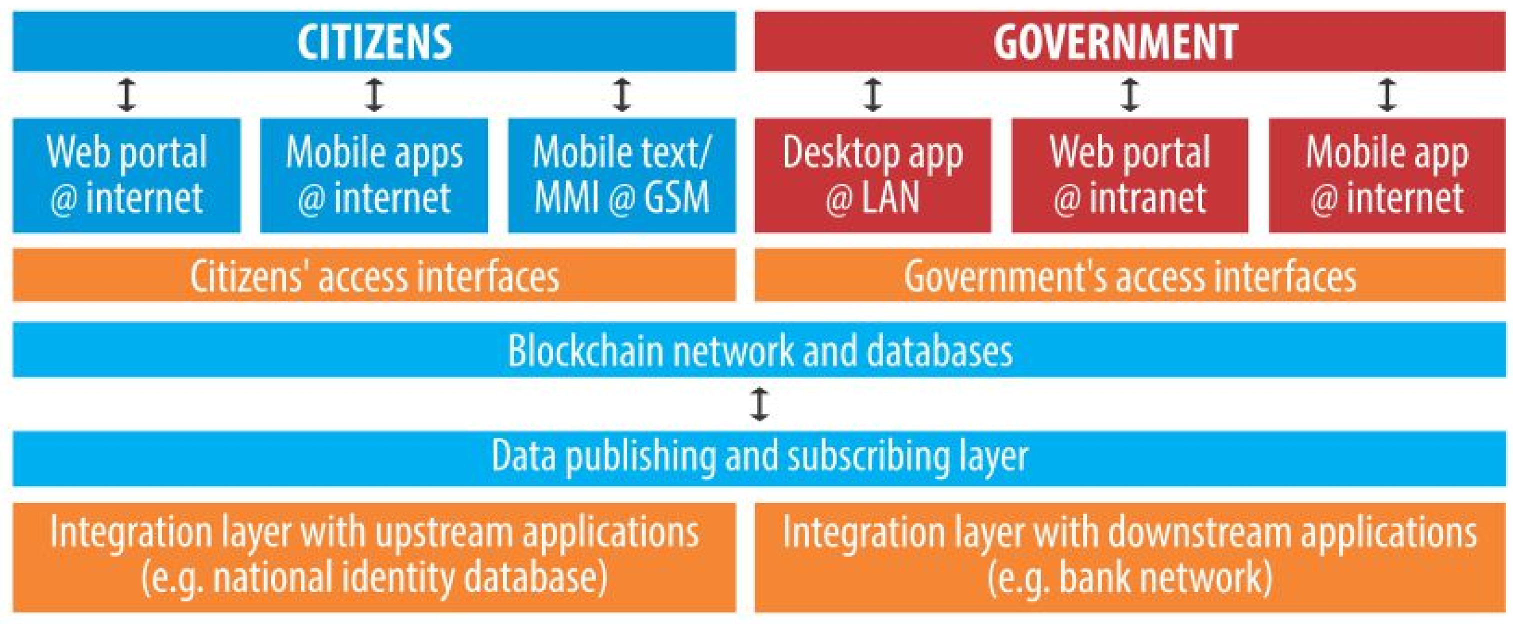
This technology allows participating nodes to interact and transact with each other without referring to a central system. This eliminates the need for building a central transaction processing system with overheads in order to keep blockchain available at all times.

Blockchain technology does not permit the deletion of any transaction; it only allows the appending of the next set of activities into the created transaction. As a result, an entire set of activities can be found in a particular blockchain transaction, even after the expiry of the same. This ensures non-repudiation of any transaction in the system.

The technology builds a shared ledger using a distributed database system called a 'consensus ledger'. The consensus ledger is managed by a network of independent validation servers by using an accepted consensus process. This helps in building proof of work.

Blockchain offers strong encryption of data even while it is being exchanged between participating nodes. The technology also keeps decentralised databases encrypted, thereby securing data. Altering a transaction is prohibitively expensive since data gets stored in multiple participating nodes within the network.

The risk of creating duplicate data is also mitigated through distributed implementation. Each blockchain is assigned a unique chain name and chain ID. Since the chain name is distributed across participating nodes, the probability of having multiple records with identical chain names is miniscule.



With constant advancements in this technology, coupled with its low cost of transaction processing, several opportunities are arising to leverage it for serving citizens. Government agencies in many countries are considering building citizen services of the future using blockchain. As an emerging nation, relevant agencies in Bangladesh can also start exploring opportunities and identifying the most suitable cases for blockchain adoption. The relevant areas of blockchain technology adoption would be transferring ownership, issuing certificates, delivering financial benefits and managing financial transactions.

The ownership of any registrable asset can be implemented using blockchain. Typical examples of assets are land, houses and vehicles. Usually, respective government departments store their records in paper-based files across their offices in all districts.

While some of them may already have computer-based systems for storing records, conducting transactions might require multi-step offline processes. With the help of blockchain, the transfer of ownership can be recorded through the distributed systems of the respective departments. Other related transactions, including the mortgaging of assets for loans, can also be recorded through this system, thereby providing the most recent status of the asset. The system would also act as the reference database for affirming the present ownership of the asset and issuing titles.

Departments that are responsible for issuing birth certificates, education certificates, drivers' licences and death certificates to citizens can take advantage of blockchain. Further, recording the associated events on a blockchain technology-based platform will prevent errors and fraudulent data entries. It will also create an opportunity to connect municipal records that are spread across the country through a standardised technology. If this technology is implemented, it will become easy for other systems to access public-domain information for data verification purposes.

Using blockchain and digital identities of citizens will help in the efficient distribution of benefits. Since blockchain retains transactions once they are created, it would help in eliminating non-repudiation of benefits delivered up to the end beneficiary. This will provide an opportunity for effective tracking and monitoring of all benefit distribution programmes undertaken by different departments, including public distribution system for food distribution, seed funding for technology start-up companies and scholarship programmes for students.

The different departments of the government of Bangladesh collectively stand to be the biggest buyers of goods and services from private businesses. Ministries in Bangladesh have been implementing nation-wide frameworks for the efficient procurement of goods and services for all of their departments. As the technology of the future, blockchain may help in implementing a cost-effective electronic platform to process payments and keep records of full transactions, similar to an enterprise-wide procure-to-pay process.

Blockchain promises numerous benefits. At the same time, there are some risks that adopters should be aware of. The technology is quite complex and is still emerging. Moreover, knowledge of requisite software and hardware is limited, thereby increasing the risks that come with its implementation. To address the risks of cyber attacks, there is a need to devise appropriate mitigation plans. However, a pragmatic approach towards new technology adoption will help in reaping the potential benefits of an efficient citizen services delivery platform using blockchain while mitigating the challenges.

Blockchain can have a positive and transformational impact in an emerging country like Bangladesh. Steps taken in this direction may turn out to be pioneering and set an example for the rest of the world.

The writer is a partner at PwC. The views expressed here are personal.

Germany gives big boost to 2017 growth outlook

AFP, *Berlin*

The German government on Wednesday gave a substantial lift to its economic growth forecast for 2017, saying it now expects 2.0 percent expansion rather than the 1.5 percent predicted in April.

Berlin's sunnier outlook for the remainder of the year was based on "a broad-based recovery with a solid foundation in the domestic economy", the Economy Ministry said in a statement.

And faster growth in the world economy and international trade should favour export powerhouse Germany, it added.

Looking ahead to 2018, the ministry lifted its growth projection to 1.9 percent, up from 1.6 percent.

The government economists see little slack in the German economy, with companies using a high proportion of their capacity, unemployment remaining at historic lows and inflation stable.

Wednesday's expectations upgrade from Berlin comes hard on the heels of a similar boost from the International Monetary Fund, which also predicted the German economy would expand 2.0 percent.

India investors eye GST impact on corporate earnings in Jul-Sep

REUTERS/FILE

A vendor hangs shoes for sale at his stall under a flyover in Kolkata.

REUTERS, *Mumbai/Bengaluru*

PROFITS from India's top firms are expected to have swung back to growth in July-September from a decline in the previous quarter, though economic headwinds are likely to have kept the pace of growth sluggish.

The latest results are critical for investors, marking the first quarter since the rollout of a national goods and services tax (GST) on July 1 and coming amid a wider retreat in share markets on investor concern about stocks being overvalued.

Forecasts compiled by Reuters show net profits are expected to rise 12.8 percent in the latest quarter for members of the main NSE index, known as Nifty, marking a recovery from the 1 percent fall in net profits in April-June.

That would be less than half the 33 percent increase posted in the January-March quarter and lag the 17.7 percent rise in October-December last year.

Profits are expected to be driven by energy and metals firms benefiting from stronger commodity prices, while telecoms are expected to post weak results due to aggressive competition. Drug makers profits are also likely to have suffered, mostly from regulatory challenges in the key US market.

However, the impact of India's new GST on earnings remains the biggest unknown for investors positioning themselves for the earnings season.

Uncertainty caused by companies rushing to prepare for the new tax and cutting production dented profits in the April-June quarter more than analysts had initially expected.

Fund managers now warn another disappointing set of results could hurt India's recent bull run.

Nilesh Shah, managing director at Kotak Mahindra Asset Management, said markets were pricing in a recovery in earnings in the next 3-5 quarters.

He said markets would correct if earnings don't show a solid recovery.

Meanwhile, operating profits are expected to rise 11.5 percent from a year earlier, while revenues are expected to advance 6.5 percent.

The results come at a time of deep uncertainty for markets. The Nifty has fallen about 1.9 percent since hitting a record high on Sept. 19, amid heavy foreign selling and rising worries as economic growth slows to its weakest pace in three years.

The Nifty is trading at a price to current fiscal year's earnings (PE) ratio of 21.3, a healthy premium over the historic five-year average of 16.8.

Investors say the GST's impact is hard to measure given it can affect virtually every aspect of the economy from consumer purchases to industrial production. Some manufacturers are expected to have restored inventory levels in the latest quarter.

"We had seen an uptick in terms of restock in July, which was positively received by the markets," said Sunil Sharma, chief investment officer at Sanctum Wealth Management.

EU revises plan on banking safety net to win over Germany

REUTERS, *Brussels*

THE European Commission proposed on Wednesday new measures to strengthen the EU banking sector against future crisis after two years of fruitless talks among the 28 EU states on more ambitious plans.

The softer measures are designed to win over Germany, the largest economy of the bloc and the staunchest opponent of sharing banking risks among EU states.

Germany's outgoing Finance Minister Wolfgang Schaeuble has repeatedly raised concerns that sharing risks would mean richer German banks propping up weaker rivals in other EU countries, such as Italy, Portugal or Greece.

To convince Germany, whose new finance minister may be equally resistant, the Commission has put forward a watered-down plan, which reduces the sharing of banking risks than initially envisaged two years ago.

It also proposes stricter conditions that states must meet before their banking sectors can access safety nets funded at EU level. The plan should be agreed by next year, the Commission said.

The plan, revealed by Reuters last week,, discards earlier proposals for full EU-sharing of savers' protection in cases of bank failure and leaves the financial burden largely with individual member states.

EU rules guarantee all deposits up to 100,000 euros ($118,000), a provision meant to strengthen confidence in the banking sector after a decade-long crisis that has seen the bailout of several top banks in the bloc.

But existing national schemes to insure depositors are considered insufficient in the event of a major banking crisis.

The Commission sees an EU backstop, funded by all banks in the bloc, as the best guarantee to protect savers and increase market confidence.

Under the new proposals, a European Deposit Insurance Scheme (EDIS) would intervene only after national insurance schemes have fully used their resources to rescue depositors.

REUTERS

European Commission President Jean-Claude Juncker addresses the European Parliament during a debate on the State of the European Union in France.

BMW eyes China joint venture with Great Wall

REUTERS, *Shanghai/Beijing*

GERMAN luxury automaker BMW is looking to form a joint venture with Great Wall Motor, a source familiar with the matter said, sending shares in the Chinese automaker up by nearly a fifth on Wednesday.

The automakers are considering the possibility of opening an assembly plant in the eastern Chinese city of Changshu, a BMW executive said, while declining to say what type of vehicles would be put together there.

A venture with Great Wall would be BMW's second in China, the world's largest auto market. It has a joint venture with local carmaker Brilliance China Automotive Holdings. Foreign carmakers have to operate in the market with local partners.

"We are in discussions with Great Wall about setting up a JV to produce cars in Changshu," said the executive, who was not authorised to speak on the matter and declined to be identified.

"I don't know how far along we have gone nailing this deal," or whether the two companies have official central government approval for the venture, the person said.

A BMW spokesman said the company will not comment on speculation.

"Our business development with the joint venture BMW Brilliance Automotive will continue as planned, and we will carry on to invest and develop our joint venture."

A Great Wall official declined to comment.

BMW's China sales grew 11.3 percent last year and it is the country's second-largest premium brand after Volkswagen AG's Audi AG. BMW is trying to stay ahead of third-place Daimler's Mercedes-Benz, which recorded 26.6 percent growth in China sales in 2016 thanks to a fresher model lineup.

Foreign automakers have recently announced a raft of investments and tie-ups in China, especially in electric vehicles.

China wants electric and hybrid cars to make up at least a fifth of the country's auto sales by 2025 and plans to loosen joint-venture regulations in the market.

Tesla, Ford Motor Co, Daimler AG, and General Motors are among firms that have already announced plans for making electric vehicles in China.

Great Wall, which in August expressed an interest in the Jeep brand of Italian-American automaker Fiat Chrysler Automobiles NV's, is one of China's largest car makers.

Last month it struck a deal to secure supplies of lithium, a mineral key for developing electric vehicles.