



Brazil's beginning blockchain business

Author: Ernst-Jan Bakker, Holland Innovation Network Brazil. February 2018.

Blockchain in Brazil is still in its early stages. Private and public sector are experimenting with the new solutions that this technology enables, as this article aims to show. Solutions of the evolutionary kind, where operations are improved upon, and solutions of the (potentially) more revolutionary kind, with the aim to include millions of Brazilians in services that so far were unattainable to them.

Bitcoin and blockchain growing fast

While Brazil is rapidly growing as cryptocurrency trader (September 2017: 4th largest in the world), the Brazilian government is debating regulations for this new sector. So far, the debate seems to lean towards caution and restrictions due to potential risks of cryptocurrencies and its yet undetermined legal and economic status. In fact, in January 2018 Brazil's Securities and Exchange Commission (CVM) announced its decision that it doesn't consider cryptocurrencies to be financial assets, thereby effectively barring local investment funds from directly acquiring virtual coins.

Meanwhile the blockchain technology behind cryptocurrencies is quickly gaining attention in Brazil and several companies are developing blockchain-based applications. Most initiatives are focused on the financial sector, but other sectors also see opportunities for blockchain or Distributed Ledger Technology (DLT). This article provides several examples, based on announced pilot projects (Note: It's not always clear what the actual status is). While some of these initiatives aim to optimize current operations for today's users (e.g. data protection in the health sector), others aim to include millions of Brazilians in operations that so far were unattainable to them, due to for example cost or bureaucracy. The latter category of applications is facilitated by the very fast adoption of smart phones in Brazil.

Blockchain in Brazil is still in its early stages of adoption, as was also indicated by a small online questionnaire from TI Inside, a Brazilian news site for IT-related companies. Only 8% of the 100 respondents confirmed to have "profound knowledge" of blockchain technology. The questionnaire also concluded that the top 5 of best-known applications are virtual coins, financial services, ID verification, contract management and registration of documents and assets. And the best-known suppliers of blockchain technology are IBM (70% of respondents), Microsoft (42%) and Oracle (22%).

Next to new applications and start-ups mentioned below, the growing attention for blockchain is also reflected by the emerging of

- many workshops on this theme in 2017 and events such as the Blockchain Summit 2017,
- organizations to promote blockchain, such as Blockchain Hub Brasil; a non-profit organization with the mission to disseminate ideas and applications based on blockchain,
- courses and webinars, such as the 2017 webinar series by CPqD, a national R&D center on Information and Communication Technologies, showcasing their blockchain "white papers".

Most applications in the financial sector

The Central Bank of Brazil is currently looking into 4 different blockchain platforms to analyze the possibilities the technology offers. One of the applications under consideration is the creation of a back-up of the central bank's current real-time gross settlement system (RTGS; a system used to allow banks to settle their large-value debits immediately as they occur). The federation of banks FEBRABAN created a blockchain working group to assess impacts of DLT on the sector and has run tests on the exchange of client information between banks. And several of Brazil's major banks, such as Itaú and Bradesco, have recently joined the R3 consortium, consisting of about 80 of the world's largest financial institutions jointly developing DLT, and are testing blockchain-based solutions.

An example of such a solution is a digital wallet, developed by Bradesco and the Brazilian start-up eWally. This digital wallet, a mobile app, targets the more than 50 million people in Brazil who do not have a bank account today, including millions of micro-entrepreneurs. Users of the digital wallet can transform cash into digital money and then deposit, transfer, pay bills, withdraw or top-up prepaid debit cards or mobile phones. Furthermore, the app allows the user to deposit and withdraw money through any of their contacts.

Brazil's largest (public) provider of IT solutions to the public sector, SERPRO, recently presented its blockchain-based solutions. These will be piloted in a project with the National Treasury. The aim is to enable all citizens to invest in public bonds by eliminating the need for a bank account or intermediary.

Online currency exchange brokers, such as Brazil's BeeTech and Câmbio Store, are also looking into blockchain technology to further decrease their operational costs (deemed essential in the highly competitive exchange market) and increase transparency on financial operations (for regulatory bodies).

Brazil's national development bank (BNDES) is experimenting with blockchain technology in its internal innovation program IdeaLab, looking at the possibilities to make the bank's actions completely transparent. The proof-of-concept will take place in the Amazon Fund, which receives donations from e.g. Norway and Germany for non-reimbursable investments in efforts to prevent, monitor and combat deforestation.

Blockchain to replace traditional notary services

The Brazilian start-up OriginalMy.com uses blockchain technology to register documents and verify authenticity/identity. The application aims to replace traditional notary services. This company authenticates among others diplomas issued by the education platform of Foxbit, one of the largest bitcoin exchanges in Brazil.

This start-up also provided a customized engine for the Mudamos+ platform. This platform, winner of the 2016 Google Social Impact Challenge, allows the Brazilian population to sign, with verified authenticity, so-called popular initiative bills (or petitions), which are then submitted to the government. Such petitions are an integral part of the current democratic system: if 1% of voters in Brazil sign a petition, it must be heard in congress. Blockchain technology could help overcome the practical issues of this instrument, i.e. the logistics of getting millions of voters to sign a document in a country of continental size and the verification of signature authenticity. This potential is also being considered by Brazilian legislators, who are working on electoral reforms.

The Brazilian Ministry of Planning, Budget, and Management (MP) has successfully completed a proof-of-concept with the American companies Microsoft and ConsenSys to provide services to citizens with certified ID and documents.

The Delaware-based start-up Ubitquity and Brazil's notary public office of real estate registration (private entity supervised by Brazil's judiciary power) are running a pilot in two Brazilian cities with registration of land ownership. For this pilot the bitcoin blockchain technology is being used to register the owner's name and the property details.

Blockchain also emerging in agriculture and food industry

Through its Innovative Research in Small Business program (PIPE), the São Paulo Science Foundation FAPESP is supporting the company Complplied Computação Aplicada to develop a blockchain system for tracking and intermediation of agricultural operations and transactions (e.g. credits and warrants, transports and exports).

Using IBM's Agritech platform, the Brazilian company Belagricola is developing a system to track the origin and quality of soy and corn. Blockchain technology will be used to document all data, from harvest to industry. The project is mainly driven by demands from their foreign customers who require such transparency.

A similar initiative has been taken by Brazilian food company BRF and retailer Carrefour, who are conducting an experiment to track food products (mainly meat products) through the full production chain. This tracking system should provide information about the food's origin and properties to the consumer and should prevent any fraudulent actions during production and distribution.

Blockchain not a special focus in research and policy

With the exception of aforementioned R&D center CPqD, research institutes and universities seem in general not to have a special focus on blockchain. In databases for scientific publications, like SciELO and FAPESP's virtual library, the term hardly appears.

And although several branches of government are involved in pilot projects using blockchain, the technology is not a specific focus (at this moment) in national policies or funding programs. However, the Brazilian ministry of Science, Technology, Innovation and Communication (MCTIC), in collaboration with other ministries, is developing a "Brazilian strategy for the digital transformation" which considers all digital technologies that could potentially provide gain to Brazil's economy and society. MCTIC's Funding Authority for Studies and Projects (FINEP) created a funding program for start-ups, contemplating a range of so-called enabling technologies, including blockchain technology. It's unclear how many blockchain-related projects are currently supported by this program.

More information

Ernst-Jan Bakker

Email: SAO-IA@minbuza.nl

Brazil

Sources and further reading:

- [1] CVM decision on bitcoins <http://www1.folha.uol.com.br/mercado/2018/01/1949958-cvm-proibe-fundos-de-investir-em-bitcoin-e-criptomoedas.shtml>
- [2] TI Inside questionnaire <http://tiinside.com.br/tiinside/home/internet/13/11/2017/pesquisa-exclusiva-revela-estaqio-da-adocao-de-blockchain-no-brasil/>
- [3] Brazil's Central Bank and blockchain: <https://www.coindesk.com/immature-no-longer-brazils-central-bank-is-ramping-up-its-blockchain-work/>
- [4] The major banks: <http://techfoliance.com/fintech-corner/blockchain-brazil-top-blockchain-initiatives-in-brazil-part-i/>
- [5] eWally <https://medium.com/@alexandradehaan/fintech-company-ewally-launches-a-full-service-blockchain-based-digital-wallet-aimed-at-unbanked-84dc97d3511>
- [6] SERPRO http://www.serpro.gov.br/menu/noticias/noticias_2017/serpro-lanca-plataforma-blockchain-2
- [7] Currency exchange <https://gomedici.com/fintech-startups-leveraging-automation-blockchain-to-reach-lower-exchange-rates-brazil/>
- [8] BNDES <http://www.mobiletime.com.br/15/12/2017/bndes-usara-blockchain-para-rastrear-parte-de-doacao-para-fundo-amazonia/482962/news.aspx>
- [9] Mudamos+ <https://www.mudamos.org/quem-somos>
- [10] Electoral reforms <https://qz.com/1163660/brazil-may-write-new-laws-based-on-data-stored-on-the-ethereum-blockchain/>
- [11] Ministry of Planning <http://fintechlab.com.br/index.php/2017/08/25/brasil-e-o-1o-governo-sul-americano-a-fazer-poc-em-blockchain-com-projeto-do-ministerio-do-planejamento/>
- [12] Ubitquity <https://thebitcoinnews.com/land-registry-blockchain-testing-starts-in-brazil/>
- [13] Complied <https://blog.scicrop.com/projeto-de-blockchain-em-transacoes-agricolas-e-aprovado-pela-fapesp/>
- [14] Belagricola <https://www.ibm.com/blogs/robertoa/2017/10/belagricola-adota-iot-e-blockchain-na-cadeia-de-graos-de-soja-e-milho/>
- [15] CPqD white papers <https://www.cpqd.com.br/blockchain/>
- [16] Brazilian strategy for digital transformation (under public consultation): http://convergecom.com.br/wp-content/uploads/2017/08/EDB_Relatorio_Consulta.pdf
- [17] MCTIC presentation on blockchain: <https://www.youtube.com/watch?v=SZAeLTAtXMc&t=3034s> (starting 18m:20s)