

“CAR WASH” THIS!

How the Blockchain could have prevented the biggest corruption case in Brazil’s history

Blockchain for beginners

The Blockchain is the backbone of the Bitcoin protocol. It enables the Bitcoin network to reach consensus on which transactions should be validated or not in a transparent and decentralized fashion.

There is no single entity or individual responsible for overseeing or approving transactions. It is a public ledger and the network oversees itself. Anyone can see the transactions happening in the Blockchain in real time through the Internet.

There is a growing trend to use the Blockchain for much more than just processing bitcoin peer-to-peer transactions. The latest developments in the digital currency space have focused more on the power of the Blockchain technology for things such as data storage, titles, contracts and settlements than on the trade of bitcoin units. This new trend is called Bitcoin 2.0.

Companies from all sectors around the world are currently exploring ways to utilize this innovative technology. The list of companies that have already publicly announced initiatives in this front includes Samsung, IBM, UBS , NASDAQ and the Bank of New York Mellon.

The “Lava-Jato” (Car Wash) Operation

Brazil’s state-run “big-oil” company, Petrobras, was the center stage for the biggest corporate corruption scandal ever put in place in the country’s history. Although investigations are still being conducted by the *Ministério Público* and the *Polícia Federal*, at least US\$ 2.1 billion were diverted from the company just in bribe payments and illegal donations to political parties in the past 10 years, according to statements from Petrobras itself. [A total of US\\$ 17 billion has been written off for related asset impairments as of April this year.](#)

The scheme involved contractors’ executives, Petrobras’ executives, political parties’ treasurers, black market foreign exchange dealers and ghost money laundering companies. The starting point of the “Lava-Jato” operation used to be the auction processes for projects in 5 different oil refineries. Around ten big construction and engineering companies allegedly formed a “club”, a cartel basically, and would stage bidding disputes but in reality they were colluding to inflate each project’s cost and pre-assigning winners in a rotational arrangement. The over budgeted amount would then be used to pay kickback bribes to executives and political parties and ensure the continuity of the scheme.

About FlowBTC:

FlowBTC is Brazil's newest digital currency exchange and blockchain consultancy firm, offering exceptional security and unprecedented ease of use. The company was founded by securities and finance professionals with 20+ years of experience and designed to give Brazilians access to an innovative, transparent Bitcoin trading platform. Its mission is to help traders and institutions understand digital currency and to empower them to embrace its potential.

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Steps in the Car Wah Operation



It is unquestionable that there was wrongdoing in each and every step of the operation but any attempt to prevent it would have to focus mainly in the two first steps: the auction process and the contracts handling and oversight. And that's exactly where the Blockchain technology can be so powerful to make these processes transparent, auditable, yet fully secure.

Throwing light into darkness

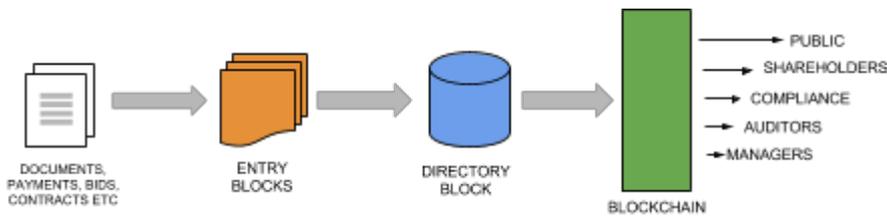
According to recent articles by the press, the contractors organized themselves as a club, the "bribe club". The public tenders budget and the bribes were pre-arranged between the club and Petrobras' executives. The most obvious first step to make this process more legitimate would then be to open it to shareholders and the public.

New Bitcoin 2.0 startups such as Factom (www.factom.org) have created smart and versatile solutions to all sorts of data applications into the Bitcoin Blockchain. Factom actually works as a data layer on top of the Blockchain.

Running Petrobras' public tenders using a solution such as Factom would allow every step of the process to be "hashed" and transformed into entry blocks building a chain of events. From the tender announcement, prospectus, every contractor's bids, documentation, contracts, payments, everything would be securely stored and timestamped. The information would be organized into directory blocks which would allow someone to pull only the data that was available to him/her. These directory blocks would then stored into the Bitcoin Blockchain, which allows for real time auditing and instant verification against rules built in the entry blocks. For example, if one of the contractors was missing a certain required document, it would be detected instantly before the process moved forward.

Most importantly, this would allow different levels of scrutiny and governance. For instance, the general public could be able to see the winning bids, their amounts, the date and time they were submitted and the name of the winning firms. On a higher scrutiny level, shareholders would be able to see all the competing bids but only after a winning bid was declared. On an even higher level, an internal compliance manager would be able to see all competing bids even before there was a winner and check for any potential conflicts of interest. External auditing firms would have access to contracts, payments and approvals in real time. Additionally, multi-signature arrangements could be designed to avoid giving too much discretion to a single executive in deciding the winning bids.

Factom's Simplified Flow



So why this can't be done in a regular private network instead of Bitcoin's public ledger? There are several reasons. The main one is that in this specific case there were empowered internal "bad actors". At least three Petrobras' directors were part of the scheme. If you are running a private and centralized network to perform the governance and record-keeping actions mentioned above, there are good chances that these "bad actors" will have power over the network to backdate, modify, forge, delete documents or audit trails in the private database. This cannot be done once the information is in the Blockchain. It creates immutable audit trails.

While adopting such transparent and auditable business processes wouldn't completely prevent the contractors from colluding and gaming the new system, the chances of them being successful in the long run would be significantly slimmer at the same time that the likelihood of an internal corrupt employee being caught would be dramatically higher.

Implementing a Blockchain solution in any company should not be considered an easy task and in a state-controlled giant firm certainly wouldn't be a walk in the park. In addition to the technology challenges, an immense political effort would be necessary. The Blockchain technology is still a novelty in many ways and a lot of its features still have to be developed, tested and re-tested. However, if we put things into perspective, when you have a fraud case of the magnitude of billions of dollars, in which a total of 97 individuals have already been indicted with charges, including politicians and government officials, then such an investment in transparency and governance starts to make a lot of sense.

Whether this is all utopia or not we will only know in the future. However, the Brazilian people would certainly love to see ways to keep corruption away from their larger state-controlled company and be able to proudly say again: "O petróleo é nosso!" ("The oil is ours!").

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