



A Distributed Ledger of Tax Process Using Blockchain Technology

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Our belief in the system tells us that future Morocco is undoubtedly more cohesive, stronger, less unequal and more inclusive. In 2019, the nation's supreme authority King Mohammed VI outlined the dire need for a new development model in his Throne Day speech and again in the King and People's Revolution speech on August 20th, it was a determined and empowering pact to open gates for new opportunities where genuine democracy and social justice are taking the right place. No more malicious conducts if we hope to reach a multi-prosperity disciplines. To this end, Innovation and Digitalization are giving us the keys to shape the appropriate inputs whilst respecting the fundamentals of a good governance and rational decisions. That statement sound so brutal when we realize how primitive and conservative our technology, restricting the emergence of Moroccan e-government.

In this world, nothing is more pragmatic, real and controversial than taxes and fiscality. This bubble merits a deep understanding and the complete attention to keep up with our perspectives. As we know, governments require resources to cover their expenditures, in another way that means delivering public services to citizens. Maybe it looks like a basic function at first sight but it is more complex than we can absorb from our reading of those two lines. All that matters is the attitudes, process and mechanics that can save, maintain or destroy the balance of the entire landscape. Taxes collection represent a vital means of state financing, that is why reforming our national tax system is necessary to strengthen the autonomy of the Moroccan government and regional institutions involved for the good ends, and that cannot be fulfilled in an unjust, unfair and chaotic tax system. Therefore, the promotion of the sustainable development program is still far away from our hands.

During the third edition of national conference held in Skhirat (3rd & 4th Mai), the Minister of Economy, Finance and Administrative Reform of the Kingdom of Morocco M.Mohamed Benchaâboun, pointed out that only 140 of the companies who pay 50% of value-add tax (VAT), yet 80% of corporate tax revenues come from 1% of the companies, and he stated that 33% of firms declare the profits along with 67% report their losses¹. The easiest way to escape from the negative calculations is that these imbalances goes straightforward to the pockets of the public sector employees and the final customers of the middle-class, which leads to a cloud of mistrust in the relationship between the citizen and the government's organs, besides expanding the bottom of the pyramid, with a clear language the gap between the rich and the poor goes from earth to heaven. That broken and dysfunctional system, surely injures

¹ <https://www.lesiteinfo.com/economie/evasion-fiscale>

the stability of our economy, social life, the behaviour of the entities and direct the national economy. After many harsh reasons we must say that the coming development model should not miss the opportunity given by the Technology nowadays to fix the accumulations of human errors.

We are living in a tech-revolution that is not quiet anymore; China is a relevant example, They understand that an ambitious development model needs solid IT mechanics.

The Economic, Social and Environmental Council bet on taxation as the backbone of this development model. Each project stands on two phases: the preparation and the implementation of new policies, from our analyses both need a bold technology that can govern, protect and stimulate new prototypes.

So what is the best Technology that can reform and amend this multi-dimensional injustice? From fintech, Regtech, to the Taxtech, Blockchain is the encrypted equation that combines all; it holds continuous variables of solutions. The World Economic Forum identified Blockchain technology as one of its six mega-trends to a more digital and connected world. In 2016, 816 observers and technology specialists were asked when Governments would begin to collect taxes using Blockchain, showing that on average the expectation is that it will happen in 2023 or 2025².

This paper, we attempt to explain and giving strict propositions about the suitability of Blockchain to the tax system. The properties and benefits of the technology are discussed in the coming sections. First Blockchain's general benefits, secondly the field of smart-contract than the solution proposal.

Back in 2008, a new payment system protocol with no intermediation borders was the big gossip in the financial sector, written by a person or persons under the pseudonym Satoshi Nakamoto. A peer-to-peer network called Bitcoin under the nickname of digital gold, a solution to the problem of double spending via distributed databases. Behind the shiny coins and the buzz around it, there is a much bigger, fascinating but most of all trusted Technology named Blockchain. The logical concept of Blockchain "the truth machine" was first mentioned in 1991 in an article entitled "How to Time-Stamp a Digital Document Block," which was written by Stuart Haber and W. Scott Stornetta. The architecture traces a fabric that is more ingenious than other distributed ledgers in term of encryption, data integrity, storage, verify audit trails, register

² Retrieved : <https://www.coindesk.com/world-economic-forum-governments-blockchain> ,consulted(9mai);

digital assets and transactions performing. Blockchain as Data structure is a tree of blocks; each one is hashed and linked to the previous block. The encryption nature of Blockchain makes it safe and credible. Once the block is verified and being validated, the inability to modify or change the element is impossible, so here we can insure the immutability of the structure plus the tamper proof quality, so no place for fraudulent actions. The validation part is crucial, and here comes the role of consensus among all the participants; this action deletes the threat of data abuse. In Blockchain, there is no secure point of failure or a central server that can be hacked, even the most secure financial institutions can be scammed. In contrast, within the Blockchain, there is a distributed network of nodes that controls the authenticity of identities and transactions without intermediation services; however, a single node cannot control the entire database, this decentralization gives a sort of a financial freedom. The traceability of the software maps a total transparency.

In general, Blockchain is not the matter of decentralization or centralization monopole, it varies on the necessity, the solution and compliance. Like Bitcoin, Ethereum promotes full public access but what makes it unique the ranking of the interoperability index. Conversely, private Blockchain or consortium restricts the public connectivity like Hyperledger. Between all the types, there is an inter-networking model; it forges links between the Blockchains, like Cosmos.

In the name of Ethereum, the ecosystem is 100 % focused on smart contracts (SC). In 1997, Szabo has introduced the term “smart contract”. A multiparty agreement in the form of computer code that are designed to self-execute whenever terms and conditions are met. SC are the most well-known hypes of automation. The purpose of a Smart-Contract is to eliminate litigation, increase the speed of a wide variety of business processes, accuracy, lower execution risk, reducing cost and time consuming and enabling new business logic.

SC can be either public or private contracts; they are very effective in establishing mutual trust between tax regulators and corporations. Beginning with the tax imposed to employees or employers “payroll tax”. Blockchain puts a strict control by embedding employers from the traditional intermediation, allow the calculation of the correct tax amount, faster transaction, history tracking, and managing real-time cash flow, all that provides a secure environment of payments and beneficial for all the parties involved .

For the value added tax (VAT), an indirect tax of consumption, the largest contributor to the governmental budgets. The VAT aggregation goes from production to the sales, the

extensive process of supply chain makes the tax raising and administration onerous and heavy. Blockchain smart contract remedies the system by two stages: One, is that when the customer pays for the service, SC calculate the VAT and divide it into the non-VAT and VAT parts. The VAT is paid directly to the tax authority by smart contracts, and the non-VAT part is transferred to the company's account using a smart contract. Two, the enterprise pays the suppliers' bills through a SC. Simultaneously, the due sum is sent to the supplier, and the smart contract calculates the VAT and sends it to the tax authorities. At present, over 7,600 companies in Shenzhen (China) have access to the Blockchain invoicing system, which has processed over 7 billion yuan (\$994 million) since its launch in 2018³. Now imagine if a similar thing can be done here in Morocco, how many intricacies do you think will be fixed!?

Blockchain is transforming the world of auditing and accounting for the better. Data is highly protected in a peer-to-peer network as we already described, the money sending and receiving entries are verified and recorded in a virtual book that is impossible to tamper it. Auditors and accountants would earn more time to concentrate on additional classifications.

The development of information and communication technologies (ICT) is finally putting an end to corruption and the corrupted people with the real Democratization. Blockchain technology represents a new approach to taxation that goes hand in hand with the vision of Morocco of Tomorrow. As Blockchain matures, it empowers more people by bringing them dignity, justice and social responsibility in a variety of areas, from health to finance, real estate and many others.

Morocco should invest in this multi-solutionist Technology to be Africa's hub in the nearest future Insha'Allah.

³ Retrieved from: <https://www.ledgerinsights.com/china-shenzhen-blockchain-tax-invoices/>, consulted in 12 Mai2019

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