Hybrid Blockchains: A Catalyst for Financial Growth in East Africa

Introduction

“Blockchain technology” and “Cryptocurrency” have become the most researched financial topics in the world, garnering attention from the biggest news outlets in the world all the way to the African parent sitting on a reclined chair chatting about bitcoin scams via AI-generated videos in their family whatsapp groups. What the African public fails to notice, however, is just how powerful the technology is and how it could solidify Africa’s influence in the global economy. The type of blockchain technology popularized in the content also matters when it comes to inducing rapid economic development in the region, and while most retail investors focus on public blockchains, they fail to realize the hidden gem amongst the various types of blockchains, hybrid blockchains. Hybrid blockchains are blockchain systems that combine private and public blockchain elements to create a robust and secure blockchain system that bridges the gap amongst institutions, and the gap between institutions and retail investors. This type of blockchain would flourish in Africa as governments and private institutions lack data pipelines to implement data-driven policies, and aid local and foreign investors to scout for better business opportunities in the region. The African Union together with other institutions in the continent such as Central Banks, Commercial Banks, Investment Banks, Securities Commissions, Policy think tanks, and Venture Capital firms can collaborate with continuously tested hybrid blockchain ledgers such as the XDC foundation to shape a golden age economic system in the region to catalyze the continent’s economic development.

All about hybrid blockchains

Hybrid blockchains combine the best features of both public and private blockchains, offering a flexible and scalable solution for various industries. These systems allow for controlled access to certain data while maintaining transparency where needed. The XDC Network, for instance, exemplifies the power of hybrid blockchains in real-world applications.

XDC Network's hybrid architecture enables secure, transparent, and efficient platforms for transactions and trade documentation. Its ability to process 2,000 transactions per second makes it well-suited for facilitating cross-border payments and settlements in real-time. Recent partnerships highlight the practical applications of hybrid blockchains:

- Archax and XDC Network's collaboration aims to drive innovation in real-world asset (RWA) tokenization, combining a regulated digital asset platform with innovative blockchain solutions.
- The partnership between Plug and Play and XDC Network focuses on accelerating the development of RWA tokenization and Web3 payment solutions.
- XDC Network's launch of money market fund tokens with Archax, including major players like Abrdn, State Street, Fidelity, and BlackRock, demonstrates the potential for tokenizing traditional financial instruments on hybrid blockchains6.

These cases illustrate how hybrid blockchains can bridge the gap between traditional finance and blockchain innovation, potentially revolutionizing global financial markets.

Current financial challenges in East Africa

To further explore the benefits of a hybrid blockchain and its positive impact on the economy, we can use the East African region as a case study to test the validity of a hybrid blockchain's economic value. There is a silent economic disparity among the East African countries, compounded by political unrest, which has not reflected the true economic powerhouse of the region. All East African countries are blessed with minerals and arable land, but these resources are primarily used for tourism purposes, which has decelerated the development and use of these resources to rapidly develop the region to its true economic value. Given the current global political and economic state, commodities are in demand, and countries in North and South America, Europe, and Asia require these commodities to safeguard their economies, which in turn helps stabilize the overall global economy.

Moreover, the securitization of these commodities differs from country to country in the East African region, signifying that some countries are far more economically healthy compared to the rest, dragging down the economic development of the whole region. In Tanzania, only 28 companies are listed on the Dar es Salaam Stock Exchange, 61 companies on the Nairobi Securities Exchange, 16 on the Ugandan Stock Exchange, 10 on the Rwandan Stock Exchange, and non-existent stock exchanges in Burundi and South Sudan. Additionally, the world consensus has agreed that the internet is the new electricity, and that it has become the foundation of globalization in all industries. Sadly, this is not the reality for most African countries. In East Africa, the production and supply of energy and the internet varies from country to country, and as mentioned above, the countries with the best internet and energy infrastructure tend to have better stock exchanges or economic activity.

Furthermore, most African countries tend to leap into the next technological development, like the transition from flip phones to smartphones, without developing infrastructures that can help them adapt to the rapid shift of technological developments in the world. It is most ideal to solve recurring problems by embedding strong infrastructures or systems that can help the continent bridge the economic gap between African countries and the world.

Hybrid blockchains as a solution for East Africa: Improving Liquidity, Capital Markets, and Accessibility

Hybrid blockchains can be the right solution to alleviating the aggregate East African region economy, and the African region as a whole. Fintech companies in the East African region are addressing money movement via remittances, and while that will alleviate a significant portion of the East African region, there still needs to be systems that can completely solve the economic disparity amongst the countries in the region within the next 5 to 10 years. Speed has become the selling factor for businesses, and blockchains like the XDC foundation can execute 2000 transactions per second, which is faster than most traditional fintech companies and banks.

Hybrid blockchains like XDC can improve liquidity amongst the East African regions if banks and securities commissions partner together to invest in each other's capital markets.

To improve liquidity in the East African region, countries must prioritize regional integration and collaboration in their capital markets. By fostering cross-border investments and harmonizing financial regulations, nations like Kenya, Tanzania, and Uganda can create a more interconnected financial ecosystem. Establishing regional investment funds or cross-listing companies on multiple stock exchanges could enhance access to capital and promote economic interdependence. This would enable countries to pool resources for large-scale infrastructure projects and attract foreign direct investment (FDI) to the region.

Hybrid blockchains like XDC Network could play a transformative role in this process by providing a secure, transparent, and efficient platform for transactions and trade documentation. For instance, securities commissions in Kenya, Tanzania, and Uganda could leverage XDC's blockchain to share trade documents, contracts, and regulatory information securely. This would drastically reduce the time required for negotiations and approvals while minimizing security concerns associated with traditional methods of information exchange. By digitizing trade documents such as bills of lading or letters of credit on a blockchain, transaction times could be cut from days to minutes. Additionally, smart contracts on XDC could automate compliance checks and payment settlements, further streamlining cross-border investments.

The integration of hybrid blockchains into East Africa's financial systems would not only enhance liquidity but also strengthen trust between institutions. By enabling seamless data sharing and faster transaction processing, these technologies can help bridge the economic disparities within the region. Over time, this approach can foster a more unified East African economy capable of competing on a global scale, and a more unified African region.

Tokenization of assets

The tokenization of assets via the hybrid blockchain would also increase FDI investments across the region. The tokenization of assets such as real estate, commodities, private and public securities facilitate investor confidence as the hybrid blockchain allows investors to test different markets by purchasing incremental units of assets whilst analyzing the political atmosphere in the region. Additionally, the tokenization of assets allows local investment funds to also expand their investment horizon beyond their country, playing an impactful role in alleviating the economy of neighboring countries for mutual benefits. East African countries can be viewed as a “division of labor and economical resources by country”, as some countries perform better in other industries than others. The tokenization of assets allows feasibility in trading each other's securities, improving weak industries in each other's countries and in turn improves data driven cross-border policies. This allows local investment firms, venture capital firms, foreign investment vehicles, and banks to collaborate and assess capital needs in regions given the real-time data they have access to in the blockchain. In addition to that, regional policy think tanks and communities can access this data (as public nodes in the system) and prune their economic needs ensuring that their capital demands align with them.

The Bigger Picture

Africa's size as a continent means that there needs to be regional governing bodies which fall under the African Union. While most countries overlap and participate in two or more regional governing bodies, there is a challenge in cohesive policy making that mutually benefit all countries in these regional governing bodies. Hybrid blockchains implemented in these regional governing bodies spark efficient policy formulation and evaluation given the real-time access to data provided by these hybrid blockchains. Additionally, since a hybrid blockchain requires a central authority or multiple stakeholders and has both elements of a private and public blockchain, the African Union Summit can be a productive meeting ground for all countries to improve trade, liquidity, and capital market investment all via collaborative communities built within these hybrid blockchain networks. Regional data driven policies and analyses can create better policy formulation amongst African countries, increasing the flow of capital amongst each other and in turn alleviating the socioeconomic standards in each country since there will be increasing job opportunities and increasing business opportunities.

Challenges of hybrid blockchain implementation in Africa

Although hybrid blockchains can revolutionize the African economy, there are still limitations that would need to be addressed to ensure the successful deployment of this technology. The challenges and limitations stem from the architecture of the hybrid blockchain and external factors that could slow down the deployment of this system. Hybrid Blockchains have two major limitations: complexity of the structure and sacrificing elements of decentralization. Combining private and public blockchain elements can pose security threats depending on what side of the architecture leans in more too. If the hybrid blockchain system adopts more public blockchain elements, then as the number of nodes increase in the network, the slower it will be. If the hybrid blockchain adopts more private blockchain mechanisms, then we limit access to the number of nodes allowed to participate which could discourage other countries and FDI investment vehicles within the network from participating since information is limited, and not as transparent. Additionally, hybrid blockchains also risk the trait of “trustlessness” since there needs to be a central authority or multiple stakeholders. The African public has long resented the state of their local economies, and this has led them to invest more into cryptocurrencies as a medium of exchange and store of value to hedge against the increasing risk of local currency and investments. The governing stakeholders of this hybrid blockchain face the challenge of gaining the trust of the African youth to ensure that they have implemented systems that can improve the African economy as a whole.

Adding on to that, there are two major external factors that will slow down the implementation of the hybrid blockchain and they are: Energy Infrastructure and Affordable Internet. These two external factors have long been the reason why Africa is not as technologically advanced as other continents in the world. As of 2023, only 37% of Africa's population has access to the internet, and in Sub-Saharan Africa, only about 40% of people have access to electricity. The benefits of hybrid blockchain will rapidly improve the economies of countries with better energy and internet infrastructure whilst leaving behind countries that still face poor infrastructure in these industries. This also means it will take longer for the positive economic impact of hybrid blockchain systems to trickle down to local communities that do not have access to energy and internet. Coupled with lack of education in Computer science, IT Management, and any technology related, there will be a shortage in labor to maintain and administer these hybrid blockchain systems in countries with low literacy rates.

Closing remarks

Despite the challenges and limitations facing hybrid blockchain implementations, Africa's future is brighter than ever. The increase of technical skills from the African and African diaspora complemented with FDI and local investment in education and technology, delineates that this implementation is possible. Nigeria and Kenya have been great examples of paving the way for the continent into the fintech realm and advanced supply chain mechanisms. Multinational companies are opening branches in Africa and bringing increasing capital with them because of the potential they see in the continent. Increased collaboration within the continent will close the technical skills gap and encourage nation state resources to address the basic human needs to improve Africa's economy and transition it into the fourth digital revolution. African leaders will be forced to wake up to the new reality of rapid blockchain development across the world and settle for systems that will alleviate the socioeconomic conditions of their countries, as these pose political pressures to political parties within the region. Hybrid blockchain systems could be the catalyst to bringing African leaders to focus on data-driven policy formulations to create an African Utopia, rather than qualitative data driven political decisions.