

**SECURING INTRA-AFRICAN COMMERCIAL TRANSACTIONS THROUGH
BLOCKCHAIN: THE CASE OF OCP GROUP**

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ABSTRACT

Block Chain technology has increasingly been recognized as a transformative tool for trade finance, offering enhanced transparency, security, and efficiency. In the context of intra-African commerce, traditional transactions often face delays, complex documentation, and heightened risks of errors or fraud. This case comment examines the innovative use of block chain by the Moroccan multinational, OCP Group, in collaboration with the Trade and Development Bank (TDB), to execute a \$400 million fertilizer transaction between Morocco and Ethiopia. The block chain-enabled platform allowed for faster processing, real-time tracking, and improved trust among stakeholders, demonstrating the potential of distributed ledger technologies to streamline cross-border trade. While this project did not explicitly employ smart contracts, the case provides a foundation to discuss their potential role in automating contractual obligations, ensuring conditional payments, and further enhancing transaction security and efficiency. By analysing this example, the article highlights both the practical benefits of block chain adoption in African trade and the prospective integration of smart contracts to support more sophisticated and self-executing commercial agreements in the future.

Keywords: *Block Chain - Intra-African Trade - OCP Group - Trade Finance - Smart Contracts*

INTRODUCTION

Intra-African trade has long faced structural challenges that slow commercial exchanges, including lengthy documentation processes, manual verification practices, and elevated risks of errors or fraud due to fragmented supply chains and traditional paper-based systems. These limitations often result in transactions taking several weeks or even months to complete, undermining efficiency and economic integration on the continent. Block chain technology has emerged as a promising solution to these issues by enabling secure, transparent, and real-time sharing of transactional data among multiple parties.

The Moroccan multinational OCP Group, a global leader in phosphate mining and fertilizer production, recently partnered with the Eastern and Southern African Trade and Development Bank (TDB) to pioneer the use of block chain in intra-African trade. Through this collaboration, OCP executed nearly USD 400 million worth of fertilizer trade finance transactions between Morocco and Ethiopia using a block chain platform, marking the first large-scale intra-African commercial transaction conducted via block chain. The initiative aimed to streamline import-export documentation, reduce processing times from weeks to a matter of hours, and enhance trust among stakeholders by facilitating simultaneous access to secure and immutable transaction records.¹

This case comment examines how block chain technology was applied to secure these commercial transactions and analyses its implications on trade finance in Africa. It also explores the future potential role of smart contracts in automating contractual conditions, further improving efficiency and reducing transactional risk in similar cross-border deals.

BACKGROUND

Block chain technology has emerged as a transformative digital infrastructure capable of enhancing transparency, security, and efficiency in commercial transactions. As a decentralized distributed ledger system, block chain enables multiple participants to access and verify

¹ Trade and Development Bank, 'OCP Group and dltledgers Drive Intra-African Trade via Block chain Amidst the COVID-19 Pandemic, OCP Group & TDB press release' (2021) <https://www.ocpgroup.ma/sites/default/files/media/2025-01/CP_OCP_OCP-TDB-DLT_29032021_vUK.pdf> accessed 26 march 2026.

transaction data simultaneously without relying on a central intermediary. Once recorded, information stored on a block chain becomes immutable and traceable, thereby reducing the risks of manipulation, fraud, or duplication of records. These characteristics make block chain particularly suitable for trade finance operations that traditionally depend on complex documentation and multiple verification stages².

Closely related to block chain technology are smart contracts, which consist of self-executing digital protocols designed to automatically perform contractual obligations once predefined conditions are satisfied. By enabling automated verification and execution mechanisms, smart contracts can reduce transaction costs, limit reliance on intermediaries, and improve contractual certainty in cross-border commercial exchanges. Their integration into block chain-based trade platforms is increasingly considered a promising development for international trade finance systems³.

In the African context, cross-border trade transactions continue to face structural constraints linked to documentation requirements, limited digital infrastructure in certain regions, and coordination challenges between financial institutions and commercial actors. These factors often contribute to delays, increased operational costs, and reduced efficiency in intra-African trade flows. As a result, digital trade solutions such as block chain technologies are increasingly explored as mechanisms to facilitate regional economic integration and support the objectives of the African Continental Free Trade Area (AfCFTA)⁴.

Within this evolving landscape, the Moroccan multinational OCP Group plays a strategic role as a leading global exporter of phosphate-based fertilizers and a major contributor to agricultural development across the African continent. Through its partnerships with regional financial institutions and digital trade platforms, OCP has actively participated in initiatives aimed at modernizing trade finance mechanisms and strengthening intra-African commercial exchanges through the adoption of block chain-based solutions.

1. Case Description

² UNCITRAL, 'UNCITRAL Model Law on Electronic Transferable Records with Guide to Enactment' (United Nations 2017).

³ Nick Szabo, 'Smart Contracts: Building Blocks for Digital Markets' (1996)

<<https://www.truevaluemetrics.org/DBpdfs/BlockChain/Nick-Szabo-Smart-Contracts-Building-Blocks-for-Digital-Markets-1996-14591.pdf>> accessed 26 March 2026.

⁴ African Export-Import Bank (Afreximbank), African Trade Report, 2020 (Afreximbank 2020).

A significant illustration of the practical application of block chain technology in intra- African trade finance can be observed in the landmark transaction conducted between OCP Group and Ethiopian commercial stakeholders with the financial support of the Trade and Development Bank through the enterprise block chain platform developed by dltledgers. This transaction involved the financing and shipment of several thousand tons of phosphate-based fertilizers from Morocco to Ethiopia and represented approximately USD 400 million in trade finance operations executed through distributed ledger technology⁵.

The transaction formed part of a broader digitalization strategy adopted by OCP Group to modernize its commercial operations across the African continent and to contribute to reducing the persistent trade finance gap affecting regional markets. In practical terms, the block chain platform enabled all participating stakeholders, including exporters, banks, and importers, to access and validate trade documentation simultaneously within a shared digital environment. This represented a significant departure from traditional paper-based trade finance mechanisms, which typically require sequential verification procedures involving multiple intermediaries and extended processing timelines⁶.

A central feature of the transaction was the replacement of conventional document circulation processes with real-time digital verification supported by distributed ledger infrastructure. Under traditional trade finance procedures, the exchange of shipping documents between exporters, financial institutions, and importers may take several weeks due to reliance on physical transmission through banking channels. By contrast, the block chain-based platform enabled the completion of documentation procedures in less than two hours, thereby significantly accelerating the execution of cross-border commercial operations.

The involvement of the Trade and Development Bank was particularly important in structuring and facilitating the financing component of the transaction. As a regional development finance institution supporting economic integration across Eastern and Southern Africa, the bank ensured liquidity support while coordinating with participating stakeholders through the block chain

⁵ Trade and Development Bank and OCP Group, 'Trade and Development Bank, OCP Group and dltledgers Drive Intra-African Trade via Block chain Amidst the COVID-19 Pandemic' (Press Release, 30 March 2021) <<https://www.tdbgroup.org/trade-and-development-bank-ocp-group-and-dltledgers-drive-intra-african-trade-via-blockchain-amidst-the-covid-19-pandemic/>> accessed 23 March 2026.

⁶ African Business, 'OCP Group Executes Ground-Breaking Intra-African Trade Transaction Through Block chain', (31 March 2021) <<https://african.business/2021/03/resources/ocp-group-executes-groundbreaking-intra-african-trade-transaction-through-blockchain>> accessed 26 March 2026.

platform. This cooperation contributed to improving transactional certainty and strengthening institutional trust between commercial partners operating in different jurisdictions⁷.

Another important outcome of the initiative concerned the enhancement of transparency and traceability in trade documentation. Through the shared block chain environment, stakeholders were able to upload, review, modify, and validate contractual and shipping records simultaneously in real time. This reduced the risks traditionally associated with document duplication, administrative errors, or fraudulent alterations of trade documentation. In addition, the encryption mechanisms embedded within the distributed ledger system contributed to strengthening the security of sensitive commercial information exchanged during the transaction process⁸.

Beyond operational efficiency gains, the transaction also carried broader economic implications for intra-African agricultural cooperation. Ethiopia remains heavily dependent on fertilizer imports to support agricultural productivity and food security, and OCP Group has historically played a central role in supplying phosphate-based fertilizers to the Ethiopian market. The adoption of block chain-supported trade finance mechanisms therefore contributed not only to accelerating a single commercial operation but also to strengthening long-term supply chain reliability between African partners engaged in strategic agricultural sectors⁹.

Taken together, these developments illustrate how distributed ledger technologies can enhance coordination among financial institutions, exporters, and importing partners while reducing transaction delays and improving trust in cross-border trade environments. The case therefore provides a concrete example of how block chain-based infrastructure may support the broader objectives of digital trade facilitation and regional economic integration within the African continent¹⁰.

2. Analysis and Discussion

⁷ Morocco World News, 'OCP Group, TDB Complete First Intra-African Block chain-Based Transaction' (1 April 2021) < <https://www.moroccoworldnews.com/2021/04/60347/ocp-group-tdb-complete-first-intra-african-blockchain-based-transaction/> > accessed 26 March 2026.

⁸ Gerhardt DR and Thaw D, 'Bot Contracts' (2020) 62(4) Arizona Law Review 877, 887–888.

⁹ African Business, 'OCP Group Executes Ground-Breaking Intra-African Trade Transaction through Block chain' (30 March 2021).

¹⁰ Primavera De Filippi and Aaron Wright, 'Block chain et cryptomonnaies' (2e édn, Presses Universitaires de France 2022) 66.

The OCP–Trade and Development Bank block chain-based transaction illustrates the growing potential of distributed ledger technologies to transform trade finance mechanisms within the African continent. One of the most significant advantages observed in this case concerns the substantial reduction in transaction processing time. By replacing sequential paper-based verification procedures with real-time digital validation through a shared platform, the block chain infrastructure enabled documentation workflows to be completed within hours rather than weeks. Such improvements demonstrate how distributed ledger technologies may address persistent inefficiencies affecting cross-border commercial transactions in intra-African trade environments¹¹.

Another important benefit relates to enhanced transparency and traceability throughout the transaction lifecycle. Block chain-based platforms allow authorized participants to access synchronized documentation records in real time, thereby reducing information asymmetry between contractual parties and financial intermediaries. This feature contributes to strengthening institutional trust while limiting risks associated with document duplication, administrative error, or unauthorized modification of trade documentation. In regions where cross-border trade operations frequently involve multiple intermediaries operating across different legal systems, such transparency improvements may significantly enhance transactional reliability¹².

In addition, the use of distributed ledger infrastructure has reduced counterparty risk by ensuring that transaction records remain tamper-resistant and verifiable throughout the execution process. The ability to maintain a shared and immutable record of contractual documentation strengthens confidence between exporters, importers, and financial institutions and may facilitate access to trade finance services for African commercial actors operating in markets traditionally characterized by higher perceived risk levels¹³.

Despite these advantages, several structural challenges continue to limit the broader adoption of block chain technologies across African trade finance ecosystems. One major

¹¹ Trade and Development Bank and OCP Group, 'Trade and Development Bank, OCP Group and dltledgers Drive Intra-African Trade via Block chain Amidst the COVID-19 Pandemic' (Press Release, 30 March 2021) <<https://www.tdbgroup.org/trade-and-development-bank-ocp-group-and-dltledgers-drive-intra-african-trade-via-blockchain-amidst-the-covid-19-pandemic/>> accessed 23 March 2026

¹² Simone Rigazio, 'Lost in the Web: The Dark Sides of Smart Contracts. Except There Is Still Hope' (2023) 1(1) *Opinio Juris in Comparatione* 698.

¹³ Aurélien Favreau (dir), 'Smart Contracts – La première librairie européenne et ouverte de smart contracts à destination des professionnels du droit et de la justice' (Larcier 2023) 12.

obstacle is the regulatory uncertainty surrounding the legal recognition of block chain-based documentation and digitally executed trade instruments in several African jurisdictions. The absence of harmonized regulatory frameworks governing electronic transferable records and digital trade documentation may create legal uncertainty for financial institutions seeking to rely on distributed ledger technologies in cross-border transactions.

Technical constraints are also relevant in certain contexts, particularly with respect to digital infrastructure gaps, interoperability challenges between trade platforms, and limited access to specialized technological expertise among commercial actors. These factors may slow the large-scale deployment of block chain-based trade finance solutions despite their demonstrated efficiency advantages¹⁴.

From a forward-looking perspective, the integration of smart contracts into block chain-supported trade finance systems could further enhance the efficiency of intra-African commercial transactions. Smart contracts may enable the automatic execution of payment obligations once predefined contractual conditions, such as shipment confirmation or document verification, are satisfied. Such automation mechanisms could reduce reliance on intermediaries while strengthening contractual certainty and accelerating transaction settlement processes. However, the adoption of smart contracts also raises legal questions concerning enforceability, liability allocation, and the compatibility of automated execution mechanisms with existing contract law frameworks across African jurisdictions¹⁵.

Taken together, these observations suggest that while block chain technology already demonstrates significant potential for improving trade finance coordination within Africa, the effective integration of smart contracts into regional commercial ecosystems will depend on parallel regulatory development, institutional cooperation, and technological capacity-building initiatives.

The successful execution of the OCP–TDB block chain transaction offers several lessons for Morocco and other African countries seeking to modernize intra-continental trade finance. First, it demonstrates the potential of distributed ledger technologies to reduce transaction times, enhance transparency, and strengthen trust among commercial and financial stakeholders. By replacing sequential, paper-based procedures with a shared digital platform,

¹⁴ Hannes Treiblmaier, 'What's Next in Block chain Research? – An Identification of Key Topics Using a Multidisciplinary Perspective' (2021) 52(1) *ACM SIGMIS Database: The DATABASE for Advances in Information Systems* 5–6.

¹⁵ Arno Janssen, 'The United Nations Convention on Contracts for the International Sale of Goods (CISG) and the Emergence of Smart Contracts and Cryptocurrencies: Should We Try to Teach an Old Dog Some New Tricks?' (2022) 14 *Tsinghua China Law Review* 7.

Morocco has provided a practical example of how block chain can improve efficiency and reliability in cross-border trade¹⁶.

Second, the case illustrates the scalability of block chain-based trade solutions across African markets. Similar frameworks could be applied to other strategic sectors, including agricultural exports, manufacturing, and regional logistics networks. Widespread adoption would require coordination among regional financial institutions, exporters, and importers, as well as the development of interoperable digital infrastructures that allow real-time validation and verification of trade documents.

Third, the transaction highlights the need for harmonized policy and regulatory frameworks to support digital trade initiatives. Legal recognition of electronic trade documentation, digital signatures, and smart contracts is essential to provide certainty to financial institutions and commercial actors. African countries may benefit from adopting model laws and guidelines such as the UNCITRAL Model Law on Electronic Transferable Records, which establishes principles for the legal enforceability of block chain-based trade instruments¹⁷.

Finally, capacity-building initiatives are critical to ensure that stakeholders understand and can effectively interact with digital trade platforms. Training programs, awareness campaigns, and public-private partnerships can enhance the skills required to operate block chain solutions and foster trust in emerging technologies. Collectively, these lessons suggest that with supportive policies, robust infrastructure, and targeted capacity-building, block chain-enabled trade finance solutions could contribute substantially to regional economic integration and the modernization of intra-African trade¹⁸.

Conclusion

The OCP Group's block chain-enabled transaction between Morocco and Ethiopia

¹⁶ Trade and Development Bank and OCP Group, 'Trade and Development Bank, OCP Group and dtledgers Drive Intra-African Trade via Block chain Amidst the COVID-19 Pandemic, (Press Release, 30 March 2021), <<https://www.tdbgroup.org/trade-and-development-bank-ocp-group-and-dtledgers-drive-intra-african-trade-via-blockchain-amidst-the-covid-19-pandemic/>> accessed 23 March 2026.

¹⁷ UNCITRAL, 'Model Law on Electronic Transferable Records with Guide to Enactment' (United Nations 2017).

¹⁸ Commission économique pour l'Afrique (ECA), 'ECA and Partners to Strengthen Digital Trade Capacity for Governments and the Private Sector, Including Women-Led MSMEs under the AfCFTA' (18 November 2025) <<https://www.uneca.org/stories/eca-and-partners-to-strengthen-digital-trade-capacity-for-governments-and-the-private-sector>> accessed 26 March 2026.

demonstrates the practical benefits of digitalizing intra-African trade. By streamlining documentation, reducing processing times, and increasing transparency, the initiative illustrates how block chain can enhance trust and efficiency in cross-border commerce.

The case also highlights the potential for scaling similar solutions across Africa, particularly in strategic sectors such as agriculture and logistics. Moving forward, the integration of smart contracts could further automate payments, enforce contractual conditions, and strengthen trade security.

Overall, the OCP experience provides a clear example of how emerging technologies can support regional economic integration and modernize trade finance, offering valuable lessons for policymakers, financial institutions, and commercial actors across the continent.

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