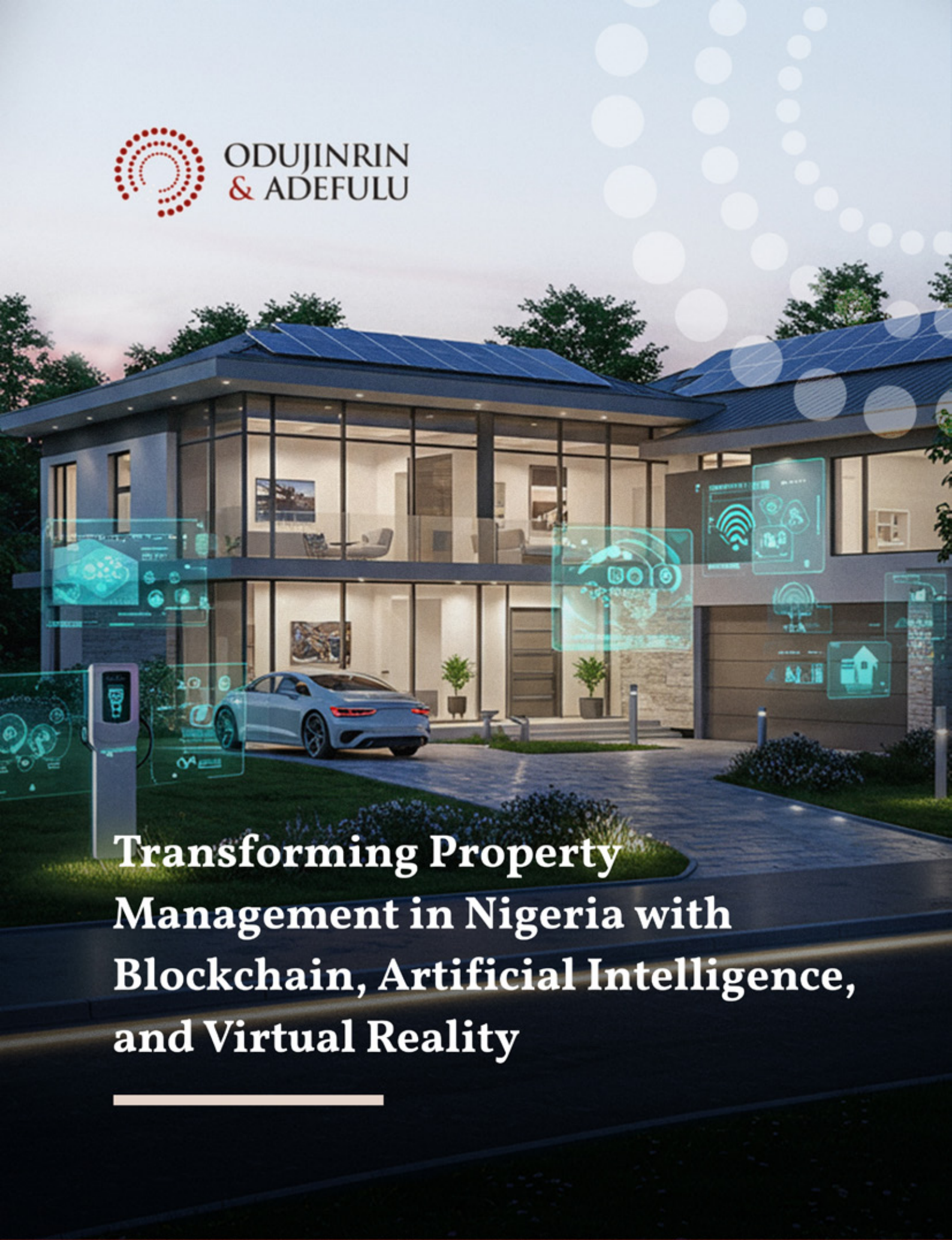
ODUJINRIN & ADEFULU



Transforming Property Management in Nigeria with Blockchain, Artificial Intelligence, and Virtual Reality

Introduction

Technology has undoubtedly transformed our world, offering incredible development in various sectors. Stakeholders in real estate practice worldwide have recognized the value of innovative technology in the real estate sector and embraced its influence in the industry for numerous reasons such as increased efficiency, improved customer experience, security and transparency, among others. Hence, while the technology presents a myriad of negatives, it offers numerous benefits that can transform the Nigerian real estate sector.
In this article, we consider the role of technology (Blockchain, Artificial Intelligence (AI) and Virtual Reality (VR)) vis-à-vis the Nigerian real estate market together with the opportunities and challenges of integrating technology into the Nigerian real estate sector.

Technology and the Nigerian Real Estate Sector

Blockchain in Real Estate

Due to the extensive paperwork and multiple intermediaries involved in real estate transactions, fraud has been a major challenge in the Nigerian real estate sector. However, with the utilisation of blockchain technology, property ownership records can be stored in a secure, tamper-proof ledger, making it easier to verify ownership and transfer titles. For instance, smart contracts[1] can automate the transfer of ownership upon the fulfillment of specific conditions, such as payment completion. This will not only accelerate real estate transactions but also reduce the potential for disputes over land ownership, which is a major cause of civil litigation in Nigeria. The application of blockchain technology to real estate transactions especially in property acquisition and transfer can enhance title searches, ownership verification, digital asset representation, up-to-date development oversight, and property management.

Furthermore, given the immutable nature of blockchain technology, once a transaction has been recorded on blockchain technology, it cannot be altered or deleted. The decentralized nature of blockchain ensures that no single entity has control over the entire database, and transactions are visible to all participants in the network. These capabilities create a robust framework for securing real estate transactions, reducing the risk of fraud, which has plagued the Nigerian market for many years.

Additionally, the tokenization of real estate assets which involves dividing properties into digital tokens that represent fractional ownership can make real estate investments more accessible to a broader audience in Nigeria. Accordingly, investors can purchase tokens representing a share of a property, enabling them to invest in high-value assets and efficiently trade those assets.

Artificial Intelligence in Real Estate

By leveraging advanced algorithms and machine learning techniques, AI can transform property valuation, market predictions, and management practices. This emerged out of

[1] *Smart contracts are digital contracts stored on a blockchain that are automatically executed when predetermined terms and conditions are met.*

the need to derive more value from large sets of data and the use of AI can boost efficiency with the automation of routine or repetitive tasks based on hard facts gathered across board. By its predictive analysis nature, AI can predict future rent or sale prices, identify market trends, new investment opportunities and even make accurate and precise predictions; this is achievable by the enormous data sets already stored on AI vis-à-vis routine answers or solutions proffered to the data. Through the foregoing capabilities, AI can access enormous data to provide accuracy in future predictions. AI can also automate repetitive tasks and processes, thereby reducing the time required to complete them compared to manual efforts.

According to research conducted by Jones Lang LaSalle (JLL)[2], the integration of generative AI within enterprise environments presents a substantial opportunity for the real estate sector.[3] One can only imagine how the ripple effect the advancement of AI in the United States of America (US) will have on the Nigerian real estate industry. Indeed, AI is already being embraced in Nigeria and has been proven useful for property valuation and pricing, predictive analytics for investment, customer services and virtual assistance[4], property management, fraud detection and also for marketing and lead generation.

Virtual Reality in Real Estate

VR technology allows buyers or purchasers to inspect properties from anywhere around the world as though they were physically present at the site of the property. A number of real estate companies in Nigeria[5] have adopted this technology. Consequently, a buyer from thousands of miles away can be virtually present in the property by a computer-generated environment that appears to be real using VR headsets.

In real estate marketing, this VR technology is sometimes used by agents for property inspection by purchasers outside the location of the property. Furthermore, with VR headsets, a real estate project developer can track the progress of the project and manage personnel from a different location. Ultimately, VR technology reduces the cost of inspecting properties and increases property acquisition transactions, which impacts the national economy.

Transformation and Innovation

Globally, technology is drastically changing real estate activities by providing a myriad of options available to buyers. For example, unlike the traditional method of travelling to physically sign a document, parties can now affix electronic signatures on contractual agreements from anywhere across the world without the hassle of transportation. Further, E-signatures have become acceptable by law in Nigeria[6] and some companies have embraced this development by altering their Memorandum and Articles of Association to embrace this flexibility.

In addition, property listings have also been

---

[2] Jones Lang LaSalle Incorporated is a global real estate services company, founded in the United Kingdom with offices in 80 countries

[3] https://www.us.jll.com/en/views/jll-gpt-and-the-new-era-of-ai-for-commercial-real-estate accessed on 26/7/2024

[4] Property listing platforms like PropertyPro.ng and Jiji.ng use AI chatbots to assist users in finding suitable properties, answering common questions, and guiding them through the property buying or renting process.

[5] Examples include Property Pro, Fine and country, Landwey Investment Limited, Megalectrics Real Estate, and others to mention a few. There are also technology companies such as 3DV Technology who specialize in creating 3D virtual tours and work with various real estate companies to o produce high-quality virtual walkthroughs, enhancing the property viewing experience for potential buyers and investors

[6] The Companies and Allied Maters Act, 2020 (As amended), the Evidence Act and Cybercrime Act 2015 and Evidence Act, 2023.

greatly impacted by technology as there are several properties allowing buyers to purchase properties from anywhere across the world, by digitally altering a location using virtual reality technology for property inspection. Also, smart contracts powered by blockchain, being self-executing contracts written into codes with the ability to automatically enforce the contractual terms, ensure that agreed conditions are met before real estate transactions are completed.

The rise of property technology companies (prop-tech) has also resulted in a wave of innovation in the real estate industry. Smart home technology, powered by Internet of Things (IoT) devices, allows homeowners to automate and control various aspects of their properties, from security systems and energy usage to temperature control and entertainment.[7] These features not only enhance the comfort and convenience of homeowners but also contribute to energy efficiency and sustainability. Furthermore, prop-tech startups are developing innovative solutions in areas such as property management, tenant services, and real estate investment platforms, further revolutionizing the industry.

Property management, lease management software solutions help landlords, property managers, and real estate professionals streamline lease administration tasks, track lease terms and obligations, and ensure compliance with legal and regulatory requirements. By centralizing lease data, automating rent collection, and generating reports, lease management systems improve efficiency, accuracy, and transparency in lease management processes, enabling real estate professionals to optimize occupancy rates, maximize rental income, and minimize risks associated with lease agreements.[8]

Opportunities and Challenges of Integrating Technology into the Nigerian Real Estate Industry.

One of the opportunities for growth in the Nigerian real estate sector is educational investment. This involves the creation of awareness and orientation on the use of software and hardware options in real estate transactions. The State Ministries of Lands in Nigeria can conduct intensive training on innovative technological solutions for different stakeholders in the real estate sector. The Government can also invest in real estate technologies and provide these technologies to players in the sector at a discount. As the real estate sector is developed, there will be increased productivity in different states of the country, which will ultimately boost the economy.

To encourage the adoption of technology by players in the Nigerian real estate sector, our property laws need to be revised to: (a) promote the use of technology; (b) create uniformity of laws in different states on the use of technology and (c) incentivize foreign investment in the real estate sector. This will encourage the use of technology in the sector and serve as a tool for economic growth and development in Nigeria.

Some of the anticipated challenges that may be faced in the adoption of technological solutions in the Nigerian real estate sector includes: (a) technological know-how; (b) access to finance for investment in technological and human resources; (c) obstinance in using traditional methods; (d) intellectual property theft; (e) access to stable and adequate internet; and (f) privacy, security and data protection issues.

[7] *https://abrilliantribe.com/how-technology-is-transforming-modern-real-estate-practices/accessed*
[8] *Satendra Bhadoria, May 28, 2024, https://solguruz.com/blog/top-technology-trends-driving-real-estate-innovation/*

Nevertheless, the benefits of integrating technology into the sector outweigh the foregoing challenges. Thus, the stakeholders in the real estate sector are encouraged to collaborate with the Nigerian Government on the adoption of technology in the sector through laws, policies, sensitization programmes and access to finance.

Conclusion

Technology is a potential game changer that can transform the Nigerian real estate sector. Embracing technological solutions will open doors to new possibilities - reduction of land disputes and consequential congestion in Nigerian courts, decreased fraud, and seamless and efficient property transactions. To achieve these giant goals, in addition to collaboration between stakeholders in the industry and the Government, legal practitioners must stay abreast of these technological advancements advise their clients and contribute to the adoption of technology in the Nigerian real estate sector.

Authors

Deborah Onafadeji
Asssociate

E: deborah.oonafadeji@odu-jinrinadefulu.com
T: +234 1 271 4961-2

Rebecca Imagbe
Associate

E: rebecca.imagbe@odujinri-nadefulu.com
T: +234 1 271 4961-2

Contact Address

Lagos Office
No. 1 Ademola Street, Ikoyi
Lagos, Nigeria.
T: +234 127149612,
+234 708 6450 720

Abuja Office
3rd Floor, WAEC Complex
10, Zambezi Crescent Maitama
Abuja, Nigeria
T: +234 805 090 2150

Port Harcourt Office
16A, Manilla Pepple Street, D'Line,
Port Harcourt, Rivers State, Nigeria
T: +234 70 869 53468