THE IMPACT OF TECHNOLOGY ON PROPERTY MARKETING AND SALES IN AWKA, ANAMBRA STATE, NIGERIA

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ABSTRACT

This study investigates the impact of technology on property marketing and sales in Awka, with a focus on key locational factors, weak cyber security which includes cybercrimes, identity theft, financial fraud, hacking, cloning of websites, and fake listings. The objectives of the study are to; examine the role of digital platforms in enhancing property marketing and sales in Awka.; assess how technology has improved accessibility to real estate information for buyers and investors; and identify the challenges associated with technological adoption in property transactions, including fraud, cyber security risks, and digital illiteracy. The research adopted a descriptive approach using structured questionnaires administered to a sample of 63 respondents, out of which 62 were duly completed and analyzed. Descriptive statistics was employed to interpret the data. Findings reveal that advent of technology such as the launch of mobile friendly websites, virtual realities and tours, etc. are valid for online marketing and sales of real estate investments in Awka. Real estate practitioners in Awka also engage in offline marketing modes such as direct mail, billboards, radio and television to market and sell their properties. The study concludes that a robust online presence is imperative for real estate investors and buyers to harness the full potential of digital marketing and propel their business forward.

Keywords: technology, property marketing and sales, ICT, cyber security, Awka

1.0 INTRODUCTION

The world is now controlled by the revolution of Information and Communication Technology (ICT) and internet revolution as countries are no longer ruled by the natural resources in their land but what they can do with ideas and knowledge to move their country forward (Uzoh, 2012).Technology has revolutionized many aspects of business operations worldwide, providing digital solutions that enhance communication, connectivity, and efficiency (Kotler and Armstrong, 2012). One of the most transformative changes has been in marketing, where digital networks have reshaped how businesses interact with consumers. According to Gulbahara and Yildirima (2015), marketing concepts and marketing trends are changing over time with the environmental effects. Usually, companies are adapting their selves to this change. The emergency of the internet has significantly influenced marketing strategies across various industries such as banking, education, media, including real estate industry. Through digital platforms, businesses can now engage customers in real-time, promote their products, and facilitate seamless transactions. The property market which is a key sector in the economic landscape, has also evolved due to technological advancements, influencing how properties are marketed and sold.

Property marketing and sales have traditionally relied on offline strategies such as newspaper advertisements, billboards, television commercials, and direct agent-client interactions. These methods, while effective to some extent, come with significant limitations, including high costs, time constraints, and restricted audience reach (Olukolajo, Ojo and Akinwamide, 2015).The internet which is an offshoot of technology, however, has introduced an alternative approach by providing platforms where real estate professionals and potential buyers can connect more efficiently. Online property marketing has become an indispensable tool, allowing for global outreach, real-time updates, and cost-effective transactions (Rodriguez, 2011).With the emergence of online listing services, property transactions have become more streamlined. Buyers no longer have to rely solely on newspaper ads or physical visits to real estate offices to find available properties. Instead, online platforms such as property listing websites and social media pages provide instant access to property details, including location, pricing, and virtual tours (Jejelola and Ogungbe, 2020).The convenience of digital property marketing, courtesy of technology has improved market transparency and accessibility, making it easier for property seekers to make informed decisions.

Awka, the capital of Anambra State, has witnessed rapid urbanization and population growth in recent years. As the city expands, the demand for real estate properties has increased significantly, necessitating more effective marketing strategies. According to Onyejiaka (2020), the increased relative political influence of Awka as a state capital is responsible for its vast expansion as it is the seat of most federal establishment in the state. Real estate professionals in Awka have begun leveraging technology to enhance property sales and maximize client engagement. Online platforms have become a critical component of property marketing in Awka, allowing agents and property owners to reach a broader audience beyond traditional offline methods (Nwogu and Ifekanandu, 2021).Social media networks, property listing websites, and real estate mobile applications have emerged as powerful tools in the property market. These platforms provide interactive and visually

appealing property listings that attract potential buyers and tenants. The ability to upload high-quality images, videos, and virtual tours has improved the way properties are showcased, giving clients a better understanding of available options before making a physical visit (Joel, 2015). Additionally, digital marketing tools such as search engine optimization (SEO) and targeted online advertising help real estate companies in Awka improve visibility and reach the right audience. The increased internet penetration in Awka has influenced consumer behavior in the real estate market. More individuals now rely on online searches before making property purchase decisions. The availability of real-time property updates and online customer reviews has improved consumer confidence in online real estate transactions. Unlike the traditional system, where buyers had restricted or fettered access to property information or data, technology has provided an open marketplace where customers can compare different property options, negotiate prices, and make inquiries directly from real estate agents

Statement of the problems

The adoption of technology in property marketing and sales in Awka has brought significant benefits, including improved accessibility, transparency, and efficiency in real estate transactions Okeshola and Adeta (2013). However, several challenges forestall the full realization of these benefits, creating obstacles for real estate professionals and property buyers. In spite of the convenience and efficiency of online property transactions, the rise of fraudulent activities presents a major public concern. Many property buyers in Awka fall victim to fake listings where scammers post non-existent properties and deceive unsuspecting clients into making payments. Weak cyber security measures further predisposes real estate companies and buyers to risks such as hacking, identity theft, and financial fraud. Studies have shown that cybercrime in Nigeria has significantly affected e-commerce transactions, including real estate, leading to loss of confidence in online platforms. The lack of strict regulations and inadequate verification processes for online property listings compounds these fraudulent activities, making buyers more vulnerable

The real estate market in Awka faces a critical issue of the absence of a reliable and publicly accessible database for verified property listings. This deficiency of a centralized system creates significant difficulties for buyers, who often struggle to verify property ownership and authenticity before making transactions. As a result, cases of fraudulent sales, multiple claims on the same property, and land disputes have become common occurrences, culminating into loss of confidence and trust in the real estate sector. Without a transparent and standardized system for tracking property ownership, many buyers rely solely on information provided by real estate agents or sellers, leaving them vulnerable to deception.

Ultimately, the real estate sector in Awka is experiencing a gradual shift towards digital platforms, but significant obstacles remain, particularly due to the digital divide and a strong resistance to change. While technology has revolutionized property marketing and sales in many parts of the world, the extent of its adoption in Awka remains limited. Internet connectivity, digital literacy, and financial constraints pose serious obstacles to the full integration of digital tools into real estate transactions. Many real estate professionals struggle with the intricacies of online marketing, relying

instead on traditional methods such as word-of-mouth referrals, physical site visits, and direct negotiations.

Research hypotheses

H_{o1}: Digital platforms have no significant influence on property marketing and sales in Awka.

H_{o2}: Technology has not significantly improved accessibility to real estate information for buyers and investors in Awka.

H_{o3}: There are no significant challenges associated with technological adoption in property transactions in Awka.

2.0 REVIEW OF RELATED LITERATURE

Technology

According to Okafor and Umeh (2023), technology in the contemporary business environment refers not just to physical tools but also digital innovations such as online marketing channels, mobile applications, and e-commerce platforms that businesses in regions like Awka, Anambra State, increasingly leverage to expand their reach and improve operational performance. Their study found that businesses adopting digital tools, especially social media and online payment systems, experienced measurable improvements in visibility, customer interaction, and overall sales performance.

Following the global technology boom of the late 20th century, Nigeria began to embrace digital innovations across multiple sectors, including commerce, finance, and real estate. The use of technology to facilitate real estate transactions in Nigeria gained momentum in the early 2000s with the proliferation of the internet, mobile telephony, and digital payment systems (Cynthia, Nwosu and Okoro, 2022). Initially, technology use was limited to basic online property listings and email communications between agents and prospective buyers. However, the rise of dedicated property websites such as PrivateProperty.com.ng and PropertyPro.ng in the late 2000s marked a significant shift—making property information more accessible, improving transparency, and reducing transaction time. By 2010, the Nigerian real estate sector increasingly leveraged technology for; online property advertisements, Virtual property tours, Mobile payment integrations, Customer relationship management (CRM) software, Geolocation services for property searches.

Offshoots of technology

In the context of this study, technology refers to the application of digital innovations, internet-based platforms, and electronic communication tools that enhance the marketing, promotion, customer engagement, and sales processes in the real estate industry.

It encompasses the use of internet services, mobile applications, social media platforms, digital marketing strategies, online listing websites, and electronic payment systems that enable real estate firms in Awka to market properties more efficiently, reach wider audiences, and facilitate faster transactions. Offshoots of technology refer to the specific innovations, tools, and developments that have emerged as technology has advanced. In the context of this study, several offshoots of technology have emerged as central to real estate practices in Awka, Anambra State. These offshoots include:

I. Online Property Marketing / Digital Property marketing: According to Cynthia, Nwosu and Okoro, (2022). The

internet is the network of computers all over the world, which allows communication and sharing of information among users. This connection is occasioned through different internet platforms. Social media are internet sites or platform which facilitates free interaction among people; receiving, sharing and discussion of issues of interest; use of personal words, videos, pictures, and audio multimedia (Olukolajo, Ojo and Akinwamide 2015). Almost any information can be accessed from the internet, as all the user has to do is to connect his computer to the internet. This activity is what is called 'going online'. By going online, the user connects his computer to the activities of other interconnected computers on the internet. This, however, forms the basis for Online Marketing. Marketing, according to Investopedia, refers to "the activities a company undertakes to promote the buying or selling of a product or service. It includes advertising, selling, and delivering products to consumers or other businesses". Therefore, Online Marketing entails communicating and sharing of relevant information among users of connected computers, for the purpose of promoting products and/or services through the internet. Simply put, Online Marketing means promoting buying and selling using the internet.

Because of the need for laser-sharp strategies for reaching out to consumers and securing great opportunities for transactions, real estate properties have, today, saturated the online market, attracting the benefits of real estate online marketing. In this study, the researcher is interested in providing information on the influence of online marketing on real estate properties in Awka, Anambra State. Being the capital city of Anambra state, Awka is fast-developing and is currently in an era where the people, who are the potential consumers of real estate properties, have positioned themselves to be easily demographically targeted because of their ever-increasing online presence and activities, using several available technical and creative tools. Also, these consumers want to be kept abreast with trends and information relating to the property market in Awka, maintaining minimum risk and maximum effectiveness. The internet provides such opportunities, encouraging a shortened and more convenient sales cycle. Online marketing enables the real estate practitioners to market real estate products globally (Nwogu and Ifekanandu, 2021). On the other hand, because the information about real estate properties is readily available and constantly updated online by real estate companies, the long line-up of intermediate real estate brokers is constantly shortened, as the public becomes more aware of the internet and responds to its beckon for engagements. The level of online marketing on real estate disposal awareness amongst real estate professionals in Nigeria is quite low (Kakulu, 2018, as cited in Nwogu and Ifekanandu, 2021). However, traditional modes of marketing have not been completely phased out because a healthy co-existence of both is needed for the transaction of real estate properties. After a thorough search online, clients must contact the concerned real estate agent to finalize deals before kicking off with the transaction procedures. The real estate industry with its diverse activities has also been seen participating in this new trend; but with diverse responses from practitioners. In Nigeria, the adoption of information technology for real estate transactions began with property website where property information was published; however, challenges such as failure of the sites to effectively meet the customer's need, unfulfilled promises on services, links to pages that are non-functional or nonexistent, has discredited this medium before their clients (Chukwuemeka, 2012).

Digital Property Marketing Platforms

Several national-level real estate websites (Property Listing Websites) provide local demographic or financial data for user-selected properties. These real estate websites include: NPDC, Jll Africa, Jumia House, Nigerian Property: Nigerian property market, PropertyPro.ng (formerly known as Tolet.com.ng), Nigeria Property Centre, Zoomek, Private Property, Property Deal Zone, One inkproperties.com, www.rentnow.com, Porch integrated services www.porchintegrated.com, Village head Master.com, www.nairarent.com, http://nigeriaads.com/real-estate, www.finbuyorrent.com, Lamudi.com.ng, www.nigergardencity.com, www.House-era.com, www.naijavillas.com, www.monselho.com, www.evilla.com.ng, Property 24, Hutbay, Castle Nigeria, Property Index, Land.ng to mention but a few (Jejelola and Ogungbe, 2020). Other online platforms, apart from the website, that can be leveraged by the Real Estate professionals include; Social Media (such as Facebook, YouTube, Whatsapp, Instagram, Twitter and LinkedIn), blogs, Video Hosting websites

The review above aligns with the objective reality as rapid urban growth in the last two decades in Awka has fueled a significant increase in the demand for residential and commercial properties. As a result, property developers, estate surveyors, and real estate agents in Awka have increasingly turned towards digital platforms to market and sell properties. This has engendered a noticeable shift from traditional real estate marketing methods — such as newspapers, physical signboards, and radio jingles — toward online and digital marketing strategies. Young professionals, returnees, business people, and even students searching for properties now largely rely on internet-based platforms. Platforms like Facebook Marketplace, WhatsApp groups, Instagram property pages, and popular Nigerian classified websites such as Jiji.ng have become go-to avenues for property searches within Awka. Many real estate agents in Awka actively use their WhatsApp status updates to advertise available properties, often creating short videos or slideshows to better showcase houses, plots of land, or commercial spaces. Simple property websites owned by estate firms operating within the city, although not always highly professional, also contribute to the expanding digital property market. Estate agencies like Awka Properties and Anambra Realty Services now attempt to maintain an online presence, albeit with varying levels of digital marketing skill. The digital transformation in property marketing in Awka is further encouraged by the increased accessibility to internet services provided by network companies like MTN, Airtel, and Glo all of which have expanded their 4G services in the city. The population's growing online engagement means that potential buyers and tenants now prefer to browse online listings first, make comparisons, and then proceed to physical inspections, thereby shortening the sales cycle and reducing marketing costs — just as the cited scholars in the original argument asserted.

Virtual Reality Technology: Real estate is one of the industries where the integration of virtual reality (VR) technology is currently amassing significant attention (Nieradka, 2019). In 2018, the industry ranked fourth (with 21%) among industries where the technology is adopted (Perkins Cole, 2018), and given its enormous benefits, Goldman Sachs (2016) projected that its investment would worth $2.6bn by 2025. VR is a digital technology that allows clients to interact

with a computer simulated environment of a real or imaginary object (Patare and Pharande, 2019). With VR, an object appears in the form of 3608 videos, photos and product demos on devices such as connected TVs, headsets, laptops/desktops and mobile phones. The technology also has the potential to provide the property attributes that clients consider to be very important (Nieradka, 2019). It also enhances clients' understanding of a project's perceived usefulness as well as increases their purchase intention (Juan et al., 2018).

The need for VR technology is more pronounced with the current outbreak of the Covid-19 pandemic which has brought a new norm of social distancing. Before the pandemic, a physical inspection of properties was prevalent for letting/sale of a property. However, Coldwell Banker Virtual Reality (VR) technology, though still relatively new in the real estate marketing space globally, is gradually making its mark in Nigeria — and Awka, as a rapidly urbanizing city, is not entirely left out of this trend. While the full deployment of high-end VR technology (such as complete 3D property tours with VR headsets) is still in its infancy in Awka, some elements of VR and its associated technologies are beginning to be adapted by progressive real estate marketers and developers in the city. In Awka today, a few forward-looking property firms and agents are experimenting with virtual property tours, albeit in basic formats. Some agencies create 360-degree photo tours or video walkthroughs of houses, which they share via WhatsApp, Instagram, YouTube, and Facebook platforms. These virtual experiences allow prospective buyers and tenants to have a relatively immersive view of a property without physically visiting the location first — a significant shift from the traditional reliance on still photographs or mere verbal descriptions. **Financial Technology (Online Payment Systems):** The rise of technology has significantly transformed real estate transactions processes, particularly through the incorporation of financial technology (fintech). Financial technology serves as a tool that safeguards financial transactions and assets by enabling digital exchanges of goods and services without the need for face-to-face meetings (Freedman, 2006; Baum, 2017). Within the real estate sector, fintech has introduced innovations that simplify and expedite marketing, sales, insurance, asset management, and financial reporting activities. At its core, financial technology refers to a subset of technology used to facilitate financial procedures, transaction activities, and asset movements via distributed databases, eliminating the need for traditional intermediaries (Baum, 2017). Freedman (2006) identifies fintech as a critical driver in the digital transformation of the financial sector, facilitating quick, affordable, and flexible financial services.

In Awka today, the way property sales are carried out has revolutionized, mainly because of the rise of online payment systems. In the past, selling property was a very slow and stressful process. Buyers had to come physically to inspect the property, negotiate face-to-face, and then make payments either with cash or by visiting the bank to deposit money. Payments were slow, sometimes insecure, and this often delayed or even ruined property sales. Prior to the advent of fintech it was difficult to close property deals quickly. The stress of handling large sums of cash, the long waiting times at the bank, and the risks involved made property transactions very tedious. Buyers from outside the country found it even harder to purchase properties because making payments from abroad was a herculean task. Today, however, technology has changed everything. With

the help of online payment systems like mobile banking apps, USSD codes, POS machines, and fintech platforms such as Opay, Paystack, and PalmPay, flutter wave, paypal, apple pay, cash app and other digital wallets , property sales have become much faster, easier, and safer. A buyer can now inspect a property virtually, agree on a price, and send payment immediately from anywhere in Nigeria or even abroad. Within minutes, sellers receive alerts and can confirm transactions without having to go through the stress of handling physical cash. This easy and secure flow of money has made it possible for property owners and real estate agents in Awka to sell more properties in less time. It has also built more trust between buyers and sellers, because payments can be tracked, confirmed, and recorded instantly. Today, a person living in Lagos or London can easily pay for a house or land in Awka without fear, all because online payment systems have made the process smooth and reliable.

Impact of technology on accessibility to real estate information

The real estate sector in Awka, Anambra State, Nigeria, has experienced a significant transformation with the integration of Information and Communication Technology (ICT). According to Egolum, Nwosu, Oladejo (2024), mobile technology (MT) has become an essential tool in making real estate information more accessible to buyers, investors, and other stakeholders. With over 3.0 billion smartphone users globally (Technostacks, 2019), mobile technology is no longer just a luxury but a necessity in modern real estate practice, particularly in developing countries like Nigeria.

In recent years, mobile technology has enhanced the way real estate professionals in Awka collect, manage, and disseminate property information. Mobile technology encompasses a range of applications and software programs designed for use on mobile devices, providing instant access to services like property search, listings, price comparisons, and virtual inspections (Cradduck, 2013; Oyetunji, Ojo, and Oyetunji, 2018). These technological innovations are reshaping the real estate industry by offering a more flexible and efficient environment for professionals and consumers alike.

One of the key benefits of mobile technology in real estate is its ability to offer location-centric features that allow users to search for properties based on specific locations or proximity to key landmarks. In Awka, buyers and investors can now access detailed property information on their smartphones from the comfort of their homes or offices. Mobile apps like Jiji.com, ToLet.com, PropertyPro.ng, and Kobo Rent have made real estate more accessible by listing properties with relevant information such as price, size, and location. This enhanced accessibility has significantly reduced the barriers to property discovery, enabling buyers to make informed decisions quickly and efficiently (Aihie 2019).

Mobile technology has introduced the advantage of instant notifications, which keep buyers and investors updated on new listings, price changes, or important real estate news in real-time. These notifications are sent directly to users' mobile devices, allowing them to react promptly to changes in the market. In the past, buyers in Awka had to rely on physical visits or outdated information, which often led to delays and missed opportunities. Today, however, technology ensures that individuals receive timely and accurate updates about properties, allowing for quicker decision-

making and increased engagement with the market.

Property marketing and Sales

Property marketing is one of the important elements in the success of property development and sales (Hendriyanto, Purwono, Madyawati and Suhariawadi, 2024; Ndungu, Kinyanjui, and Adebayo, 2020; Reed, 2021). In the highly competitive property industry, an effective marketing strategy is key to attracting consumer attention and increasing sales. Along with technological advances and changes in consumer behavior, the way property marketing has also undergone a significant transformation. Property marketing is no longer limited to conventional methods such as brochures, banners, and property exhibitions, but is increasingly moving towards digital marketing that is more dynamic, efficient, and measurable (Aulia and Briliana, 2017). This creates both challenges and opportunities for property marketers in creating the right marketing strategy to meet the needs of the growing market. Conventional marketing that has been used in the property industry, such as print ads, banners, brochures, and property exhibitions, still has a place in the hearts of consumers, especially among the more traditional and less tech-connected audiences (Briandana and Dwityas, 2020; Lim and Mohd Suki, 2020). Nonetheless, conventional marketing has its limitations, both in terms of market reach and effectiveness in measuring results. According to Kotler, Armstrong and Opresnik (2017), conventional marketing is still considered effective in building long-term relationships with clients, especially in a property market that requires a personal touch. However, with changes in consumer trends that are increasingly leading to the use of technology, property marketing strategies are now increasingly leading to the use of digital platforms. On the other hand, digital marketing, which involves the use of social media, SEO (Search Engine Optimization), paid advertising, and email marketing, allows property companies to reach a wider and more technologically connected audience. Digital marketing provides flexibility in reaching audiences in various locations and increases the ability to target consumers based on demographics and interests. According to Chaffey (2019), digital marketing enables more efficient measurement and provides more detailed data regarding consumer behavior, which can be used to optimize marketing campaigns. Therefore, more and more property companies are starting to combine conventional and digital marketing to create a more holistic and efficient strategy. Although many property companies are starting to combine conventional and digital marketing, there has not been much in-depth research on how this integration is carried out effectively and the challenges that arise in its implementation (Caliskan, Ozkan, Ozen, Ozturkorglu, 2021; Javaid, Haleem, Singh and Sinha, 2024). Conventional marketing that has been used in the property industry, such as print ads, banners, brochures, and property exhibitions, still has a place in the hearts of consumers, especially among more traditional and less technologically connected audiences. However, conventional marketing has limitations in terms of market reach and effectiveness in measuring results. On the other hand, digital marketing, which involves the use of social media, SEO (Search Engine Optimization), paid advertising, and email marketing, allows property companies to reach a wider and more technologically connected audience.

Property marketing and sales in Awka, the capital of Anambra State, have experienced

remarkable transformation over the past two decades. Previously characterized by informal land transactions and word-of-mouth marketing, the real estate sector in Awka is now structured, dynamic, and increasingly driven by technology. In the past, families sold off ancestral lands without proper documentation, and property deals were often sealed verbally or with handwritten agreements. This exposed buyers to land disputes, double allocations, and fraud. There were few, if any, organized housing estates, and the concept of estate development was almost non-existent in most parts of Awka. Areas like Ifite, Umuokpu, and Agu Awka were dotted with unplanned individual structures and lacked essential infrastructure such as good road networks, drainage, and electricity. However, with increased urbanization, the influx of new residents, and rising demand for structured residential environments, estate development in Awka has grown rapidly. Modern estates have emerged across various parts of the city, offering planned layouts, infrastructural amenities, and secure environments. Notable among these are the prestigious Ngozika Housing Estate Phases I and II, located near the Government House, known for its top-tier infrastructure, 24/7 security, and high property value. Rockland Estate in Agu Awka, developed by Rockville Homes, offers a more contemporary housing model targeting middle-income earners, with flexible payment options and access to essential services. Other estates like Hill View Estate in Isiagu and Divine Mercy Estate in Ifite are designed to meet the housing needs of professionals, students, and investors looking for long-term value. Choice City Estate in Amansea, developed by the Pwan Group, further illustrates how private developers are reshaping the property landscape by introducing organized and affordable housing solutions.

Marketing strategies have evolved alongside estate development. While traditional methods such as roadside billboards, banners, and local radio adverts are still in use, digital technology now dominates property promotion and sales. Real estate agents or realtors and developers in Awka actively use social media platforms like Facebook, WhatsApp, Instagram, and YouTube to reach a broader audience. These platforms allow for real-time engagement, property walkthroughs, and testimonials, which boost credibility and attract prospective buyers. WhatsApp, in particular, has become a vital tool for real-time communication, follow-ups, and dissemination of promotional videos and brochures. Online real estate platforms such as Nigeria Property Centre, PropertyPro.ng, and Jiji.ng have expanded the reach of Awka-based properties to a national and international audience. Properties are listed with high-resolution images, detailed descriptions, pricing, and location maps, making it easier for buyers, especially those in the diaspora, to make informed decisions without physical presence. Developers now also use drone technology to capture aerial views of estates and surrounding environments, providing a better perspective to buyers who may not be able to visit the site. Some companies have gone further to offer virtual tours and 3D architectural visualizations that allow potential clients to explore properties digitally.

Challenges in the adoption of technology in property transactions

The real estate sector has seen a growing adoption of digital technologies in recent years. However, despite the advantages of modern tools such as online property listings, customer relationship management (CRM), blockchain for secure transactions, significant challenges persist in many

markets. Notably, these challenges hinder the widespread integration of such technologies in the property sector. Scholars such as Oni (2013), Aihie (2019), Barillas (2020), Forbes Business Council (2022), Olapade and Olaleye (2019), Onwuanyi (2020), and others have identified key barriers to the successful adoption of technology.

I. Resistance to the Adoption of Modern Technologies: One of the most significant obstacles to adopting new technologies is resistance to change. This is common across various sectors, but the property industry faces unique challenges due to the deeply entrenched traditional methods of operation. Oni (2013), Aihie (2019), and Barillas (2020) note that many real estate professionals, especially in developing markets, are hesitant to adopt modern technologies. This resistance is driven by several factors, including a lack of understanding of how technology can improve efficiency, fears of technology failure, and the perceived high costs of adoption. In a study by the Forbes Business Council (2022), it was highlighted that cultural inertia in real estate firms is a major barrier to digital transformation. Many property professionals prefer face-to-face interactions and paper-based systems that they have used for decades. The fear of the unknown and skepticism about the reliability of new tools contribute to this reluctance. Moreover, some property managers view technology as a threat to their existing business models rather than an enhancement.

Furthermore, Oni (2013) and Aihie (2019) suggest that resistance is not only about reluctance from real estate agents and property managers but also from clients who may have a preference for traditional, in-person property searches and transactions. This reluctance can be particularly strong among older generations who are not as familiar with digital tools.

II. Limited Skilled Human Resources to Operate Modern Technologies: Another major challenge to adopting modern technologies is the lack of skilled human resources in the real estate industry. According to, Oyetunji, Ojo, and Oyetunji-Olakunmi (2018), there is a severe shortage of trained professionals who can effectively operate modern property technologies. Technologies such as artificial intelligence (AI) for property valuation, virtual reality (VR) for property tours, and big data analytics for customer insights require a specialized skill set that many property companies do not have in-house. Furthermore, as Aihie (2019) points out, the real estate industry often lacks the educational infrastructure to train professionals who can operate and manage these technologies. Training programs and capacity-building initiatives are essential to upskill existing staff and attract new talent to the sector. However, many real estate companies, particularly smaller firms, struggle to allocate the financial resources required for such training. This lack of skilled labor contributes to the inefficient utilization of available technologies, ultimately preventing companies from realizing the full potential of digital transformation.

III. Lack of Financial Resources: The financial investment required to adopt modern technologies is another substantial barrier. According to Babajide, Oyetunji, and Oyetunji (2018), capital constraints prevent many real estate firms from adopting new technologies. The initial cost of implementing technological tools such as CRM systems, AI-based property valuation software, and automated marketing

platforms can be prohibitive for small and medium-sized enterprises (SMEs).In many developing economies, the lack of access to affordable financing options also limits the ability of real estate businesses to invest in technology. Oni (2013) and Aihie (2019) further suggest that even when funds are available, real estate businesses often prioritize more immediate concerns, such as maintaining cash flow, over long-term investments in technology. As a result, many companies continue to rely on traditional methods of property marketing and sales, missing out on the efficiency and profitability that modern technologies can provide.

IV. Low Level of Awareness of Modern Technologies: The low level of awareness about modern technologies in the property sector is another challenge, as noted by Akeju, Olapade, and Babatunde (2021). Many property professionals are not fully aware of the tools available to them or how they can significantly improve their business operations. This lack of awareness is not limited to the industry players but extends to consumers as well. Akpeju, Olapade, and Babatunde (2021) emphasize that awareness campaigns are critical to educating both property agents and clients about the benefits of adopting technologies such as virtual property tours, blockchain for secure transactions, and online property search platforms. Without this awareness, even the most advanced technologies may not be utilized effectively, and real estate businesses may struggle to stay competitive.

V. Fraud and Cyber security Risks

As the real estate sector moves toward digital platforms, cyber security and fraud have become significant concerns. The rise of online property listings and digital transactions has exposed the industry to cyber-attacks, data breaches, and fraudulent activities. According to Aihie (2019), the real estate industry is increasingly becoming a target for cybercriminals, especially in regions where digital adoption has been rapid but cyber security measures remain underdeveloped. Fraud in the property market, including identity theft and fake property listings, is another major risk associated with digital transformation. Fraudulent agents may use technology to mislead potential buyers or tenants, resulting in financial losses. As more transactions are conducted online, the need for robust security protocols, data encryption, and identity verification systems becomes paramount. Without these protections, the integrity of digital property platforms will be compromised, reducing consumer confidence and hindering the adoption of technology in the sector.

3.0 RESEARCH METHODOLOGY

Population of the Study

Table 3.3.1 Population of the Study

S/N	Respondent	Number
1.	Estate Surveyors and Valuers	63
2.	TOTAL	63

Sample size

Given the small size of the study population, the researcher opted to include the entire population in the analysis. Consequently, 63 registered estate surveyors and valuers from the study area were selected for consideration. The information was gotten from Nigerian Institution of Estate Surveyors and Valuers (NIESVS), Secretariat in Anambra state branch located at Aroma Awka.

4.0 DATA PRESENTATION AND ANALYSIS

Presentation of Research Objectives

Objective One: To examine the influence of digital platforms in enhancing property marketing and sales in Awka.

Table 4.3.1: Locational factors that influence residential property values

S/N	Item	1	2	3	4	5	Mean	Remark
1	Digital platforms (e.g., websites, social media) have increased property visibility.	1	3	4	15	39	4.42	Agree
2	Technology has made it easier to close property sales in Awka.	1	3	11	19	28	4.13	Agree
3	Digital marketing attracts more potential clients than traditional methods.	1	0	7	20	34	4.39	Agree
4	Online listings reduce the time required to sell properties.	4	5	5	18	30	4.05	Agree
5	The use of drones and virtual tours improves property presentation.	1	3	9	20	29	4.18	Agree

From table 4.3.1 it can be observed that the mean responses of the respondents to the issues raised are all greater than 3.0, which is the mean cutoff mark. It therefore implies that the factors that influence residential property values are

1. Digital platforms (e.g., websites, social media) have increased property visibility,
3. Digital marketing attracts more potential clients than traditional methods,
4. Online listings reduce the time required to sell properties,
5. The use of drones and virtual tours improves property presentation.
2. Technology has made it easier to close property sales in Awka,

Objective Two: To assess how technology has improved accessibility to real estate information for buyers and investors.

Table 4.3.2: How technology has improved accessibility to real estate information for buyers and investors

S/N	Item	1	2	3	4	5	Mean	Remark
1	Technology has improved access to property information for buyers and investors.	2	1	7	26	26	4.18	Agree
2	Mobile apps and websites provide accurate and up-to-date property listings.	1	4	17	20	20	3.87	Agree
3	Buyers can now easily compare multiple properties online.	1	1	9	24	27	4.21	Agree
4	Real estate information is more transparent due to digital tools.	1	9	10	20	22	3.85	Agree
5	Digital communication tools (e.g., WhatsApp, email) facilitate better interaction with clients.	3	2	7	22	28	4.13	Agree

From table 4.3.2, it can be deduced that the following are how technology has improved accessibility to real estate information for buyers and investors:

1. Technology has improved access to property information for buyers and investors
2. Mobile apps and websites provide accurate and up-to-date property listings
3. Buyers can now easily compare multiple properties online
4. Real estate information is more transparent due to digital tools
5. Digital communication tools (e.g., WhatsApp, email) facilitate better interaction with clients

Objective Three: To identify the challenges associated with technological adoption in property transactions, including fraud, cyber security risks, and digital illiteracy.

Table 4.3.3: Challenges associated with technological adoption in property transactions, including fraud, cyber security risks, and digital illiteracy

S/N	Item	1	2	3	4	5	Mean	Remark
1	Limited internet access affects effective use of technology.	3	4	8	27	20	3.92	Agree
2	Lack of training limits digital adoption among real estate professionals.	3	3	11	21	24	3.97	Agree
3	Clients' preference for traditional methods is a challenge.	5	8	15	18	16	3.52	Agree
4	Cyber security concerns hinder the use of digital tools.	3	9	12	16	22	3.73	Agree
5	The cost of digital platforms discourages their use among small firms.	6	8	11	14	23	3.65	Agree

The challenges associated with technological adoption in property transactions, including fraud, cyber security risks, and digital illiteracy as seen in table 4.3.3 are

1. Limited internet access affects effective use of technology
2. Lack of training limits digital adoption among real estate professionals
3. Clients' preference for traditional methods is a challenge
4. Cyber security concerns hinder the use of digital tools
5. The cost of digital platforms discourages their use among small firms

Presentation of Research Hypotheses

Hypothesis One: Digital platforms have no significant influence on property marketing and sales in Awka.

Statistical Tool Used: One Sample T–Test

Reason for choice of Tool: One level of observation was compared to a known standard.

Degrees of Freedom: 61.

Decision Rule: Accept the null hypothesis if the p–value is greater than or equal to 0.05.

Test Proper: The result (output) of test is presented in tables 4.4.1a and 4.4.1b.

Table 4.4.1a: One-Sample Statistics for hypothesis one

	N	Mean	Std. Deviation	Std. Error Mean
Influence of Digital Platforms on Property Marketing and Sales	62	4.2323	.80098	.10172

Source: Researcher's Statistical Computation, 2025

Table 4.4.1b: One-Sample Test for hypothesis one

	Test Value = 3.0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Influence of Digital Platforms on Property Marketing and Sales	12.114	61	.000	1.23226	1.0288	1.4357

Source: Researcher's Statistical Computation, 2025

From table 4.4.1b, with t=12.114, mean difference=1.23226 and p–value=0.000, it can be concluded that Digital platforms have significant influence on property marketing and sales in Awka. This further implies that the identified influence of digital platforms in enhancing property marketing and sales in Awka are significant. Therefore, we reject the null hypothesis and accept the alternative hypothesis.

Hypothesis Two: Technology has not significantly improved accessibility to real estate information for buyers and investors in Awka.

Statistical Tool Used: One Sample T–Test

Reason for choice of Tool: One level of observation was compared to a known standard.

Degrees of Freedom: 61.

Decision Rule: Accept the null hypothesis if the p–value is greater than or equal to 0.05.

Test Proper: The result (output) of test is presented in tables 4.4.2a and 4.4.2b.

Table 4.4.2a: One-Sample Statistics for hypothesis two

	N	Mean	Std. Deviation	Std. Error Mean
Accessibility to Real Estate Information	62	4.0484	.88387	.11225

Source: Researcher's Statistical Computation, 2025

Table 4.4.2b: One-Sample Test for hypothesis two

	Test Value = 3.0					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Accessibility to Real Estate Information	9.340	61	.000	1.04839	.8239	1.2728

Source: Researcher's Statistical Computation, 2025

It can be seen that from table 4.4.2b, technology has significantly improved accessibility to real estate information for buyers and investors in Awka. This is because t=9.34, mean difference=1.04839 and p–value=0.000 shows that the test is significant and therefore leads to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

Hypothesis Three: Cyber security risks, fraud, digital illiteracy and other challenges do not pose significant challenges to the adoption of technology in property transactions in Awka.

Statistical Tool Used: One Sample T–Test

Reason for choice of Tool: One level of observation was compared to a known standard.

Degrees of Freedom: 61.

Decision Rule: Accept the null hypothesis if the p–value is greater than or equal to 0.05.

Test Proper: The result (output) of test is presented in tables 4.4.3a and 4.4.3b.

Table 4.4.3a: One-Sample Statistics for hypothesis three

	N	Mean	Std. Deviation	Std. Error Mean
Challenges Associated with Technological Adoption	62	3.7548	.92571	.11757

Source: Researcher's Statistical Computation, 2025

Table 4.4.3b: One-Sample Test for hypothesis three

	Test Value = 3.0					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Challenges Associated with Technological Adoption	6.421	61	.000	.75484	.5198	.9899

Source: Researcher's Statistical Computation, 2025

Looking at table 4.4.3b, it can be observed that t=6.421, mead difference=0.75484 and p–value 0.000, which is less than 0.05. The implication is that Cyber security risks, fraud, digital illiteracy and other challenges do pose significant challenges to the adoption of technology in property transactions in Awka. This leads to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

5.0 SUMMARY OF FINDINGS AND CONCLUSION

Summary of Findings

The research study has been able to reveal the impact of technology on property marketing and sales in Awka, focusing on how locational factors, technological improvement on accessibility of real estate information for buyers and investors influences property marketing and sales. A total of 63 questionnaires were distributed, and 62 were duly completed and analyzed using descriptive statistics. The results showed that both locational factors and offshoots of technology, which are the specific innovations, tools and development that have emerged as technology has advanced, they include; online property marketing, digital property marketing platforms, virtual reality technology and financial technology (online payment system) has a statistical significant positive impact. Only a few real estate practitioners are yet to tap into the provisions of the impact of technology on marketing their real estate investments; they are the professionals who tightly embrace the traditional modes of marketing real estate investments. The following findings were made from the analyzed data:

a. Online marketing is effective for the marketing and sales of real estate investment in Awka.

b. Online marketing and sales of real estate investment has more advantages than disadvantages in Awka.

c. Most real estate practitioners in Awka use social media, blogs, and video hosting websites to market and sell their properties.

d. Invent of technology such as the launch of mobile friendly websites, virtual realities and tours, etc. are valid for online marketing and sales of real estate investments in Awka.

e. Real estate practitioners in Awka also engage offline marketing modes such as direct mail, billboards, radio and television to market and sell their properties.

Conclusion

From the discussion so far, it appears that the advent of technology on property marketing and sales in Awka has posed the inherent problems generic with online marketing. Some of these problems include the misleading presentation of investments that can be created through picture and video editing (fake listing) done through hacking, identity theft; as well as the need for physical meetings before transactions are concluded. This is where it becomes necessary that both modes (traditional and modern) of marketing complement each other in order to secure optimum returns to the real estate practitioner. In other words, real estate investments can be marketed online and the transactions concluded offline—that is complementary. Some real Estate investors also do not have sufficient knowledge about the effectiveness and advantages of technology on property marketing and sales in Awka, and others are intimidated by the technology involved in it, therefore, they shy away from the mode of online marketing. However, the significance of this study is to unravel the basic elements of technology (online marketing) and how it can help grow the business of real estate investments in Awka. It will be a tool to help solve this problem of ignorance on the part of real estate investors and buyers in Awka.

REFERENCES

Acharya, R., Kagan, A., & Zimmerman, T. (2010). Real estate information technology: Influence of email marketing on real estate agent performance. Journal of Real Estate Literature, 18(2), 329-343.

Adegoke, A. S., Oladokun, T. T., Ayodele, T. O., Agbato, S. E., Jinadu, A. D., & Olaleye, S. O. (2022). Analysing the criteria for measuring the determinants of virtual reality technology adoption in real estate agency practice in Lagos: a DEMATEL method. Property Management, 40(3), 285-301.

Ahearne, M., Srinivasan, N., & Weinstein, L. (2004). Effect of technology on sales performance: Progressing from technology acceptance to technology usage and consequence. Journal of Personal Selling & Sales Management, 24(4), 297-310.

Ajaelu, H. C., Nzotta, S., & Okaka, O. Assessment of the application of information and communication technology in real estate management in Enugu State, Nigeria.

Akeju, M. A., Olapade, D. T., & Babatunde, T. O. (2021). Awareness and usage of mobile technology in real estate practice in developing countries: The case of Ikeja, Lagos State, Nigeria. International Journal of Real Estate Studies, 15(1), 63-71.

Araloyin, F. M., Fateye, T. B., & Adebowale, O. O. (2024). Prop-tech trend in Nigerian real estate practice: Adoption and challenges. SuDBE CONFERENCE 2024, 1245.

Aulia, D., & Briliana, V. (2017). Brand equity dimension and consumer behavior in social media. South East Asia Journal of Contemporary Business, Economics and Law, 13(2), 15–24.

Ayodele, O. M., Babajide, O., & Oluwatofunmi, A. D. (2015). Assessment of use of social media in real estate transactions in Lagos property market. American Journal of Economics, Finance and Management, 1(2), 63-68.

Babajide, O., Oyetunji, B. O., & Oyetunji, A. K. (2018). Barriers to ICT deployment in the Nigerian real estate practice. FULafia Journal of Science & Technology, 4(2), 57-65.

Baen, J. (2010). The effects of technology on retail sales, commercial property values and percentage rents. Journal of Real Estate Portfolio Management, 6(2), 185-201. Barillas, U. (2020). How technology can help the real estate industry. Forbes.

Baum, A. (2017). PropTech 3.0: The future of real estate. University of Oxford.

Benefield, J., Cain, C., & Gleason, A. (2020). Visual display of residential property information: Some additional evidence. Journal of Real Estate Practice and Education, 15(2), 89-100.

Briandana, R., & Dwityas, N. A. (2020). Conventional marketing communication tools for

residential products in digital era. Technium Soc. Sci. J., 14, 193.

Caliskan, A., Özkan Özen, Y. D., & Ozturkoglu, Y. (2021). Digital transformation of traditional marketing business model in new industry era. Journal of Enterprise Information Management, 34(4), 1252–1273.

Chaffey, D. (2019). Digital marketing: Strategy, implementation, and practice (7th ed.). Pearson Education.

Coldwell Banker Real Estate LLC. (2018). Virtual reality poised to revolutionize home buying according to Coldwell Banker Real Estate survey.

Cradduck, L. (2013). Mobile valuations: The internet's impact on traditional valuation services. Paper presented at the 19th Annual Pacific Rim Real Estate Society Conference, Melbourne, Australia.

Curtest, K. (2019). Bucking e-commerce trends: A content analysis comparing commercial real estate brokerage and residential real estate brokerage websites. Journal of Corporate Real Estate, 4(4), 375-385.

Edovia, B. I. (2023). Impact of digitalisation on real estate operations in Lagos, Nigeria.

Egunleti, I., Ige, V., Asaolu, C., & Idris, O. (2024). Modelling the effect of social media on real estate marketing in Akure, Nigeria. Ethiopian Journal of Environmental Studies & Management, 17(4), 499-509.

Florentino, T. (2019). Real estate using AR, VR, DR, Geo-referencing and other mobile applications. International Journal of Real Estate and Land Planning, 2, 84-94.

Forbes Real Estate Council. (2020). The impact of technology on real estate.

Freedman, R. S. (2006). Introduction to financial technology. Elsevier.

Goldman Sachs. (2016). Virtual and augmented reality.

Gulbahara, M. O., & Yildirima, F. (2015). Marketing efforts related to social media channels and mobile application usage in tourism: Case study in Istanbul.

Hendriyanto, F., Purwono, R., Madyawati, S. P., & Suhariadi, F. (2024). Enhancement of sales competencies in property marketing amidst the new normal era. Technium Soc. Sci. J., 60, 215.

Hunter, G. K., & Perreault Jr, W. D. (2007). Making sales technology effective. Journal of Marketing, 71(1), 16-34.

Ifediora, C. O., Obineme, C. H., & Ezeonyeche, C. I. (2021). Estate surveyors and valuers: Issues and challenges in the application of technological innovations and ICT in practice.

Igbokwe-Ibeto, C. J., & Osakede, K. O. Effect of technological environment on the service delivery of Anambra State Housing Development Corporation, Awka South-East Nigeria 2012-2021.

Ikwuagwu, H. C., & Yagboyaju, K. A. (2023). Impact of digital marketing on real estate customer patronage in Federal Capital City (FCC) Abuja, Nigeria.

Jejelola, O., & Ogungbe, M. A. (2020). Awareness and usability of digitalized marketing platforms of real estate properties in Nigeria. International Journal of Sales and Management Research and Development, 9(5), 47-54.

Joel, C. (2015). How the internet changed the real estate industry forever.

Kakulu, I. I. (2003). A computerized approach to real estate practice in Nigeria. IBK Publications.

Kaminski, J. (2011). Diffusion of innovation theory. Canadian Journal of Nursing Informatics, 6(2), 1-6.

Kassner, A. J., Cajias, M., & Zhu, B. (2023). The PropTech investors' dilemma–What are the key success factors that secure survival?. Journal of Property Investment & Finance, 41(1), 76-91.

Katz, E. (1957). The two-step flow of communication: An up-to-date report on a hypothesis. The Public Opinion Quarterly, 21(1), 61-78.

Kotler, P., & Armstrong, G. (2012). Principles of marketing (14th ed.). Pearson.

Kotler, P., Armstrong, G., & Opresnik, M. O. (2017). Principles of marketing (17th ed.). Pearson Education.

Kummerow, M., & Lun, J. C. (2005). Information and communication technology in the real estate industry: Productivity, industry structure and market efficiency. Telecommunications Policy, 29(2-3), 173-190.

Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. Universal Access in the Information Society, 14, 81-95.

Marshall, G. W., Moncrief, W. C., Rudd, J. M., & Lee, N. (2012). Revolution in sales: The impact of social media and related technology on the selling environment. Journal of Personal Selling & Sales Management, 32(3), 349-363.

Mathias, O. A., Ayodeji, O. A., & Olamilekan, S. L. (2020). Social media marketing: A tool for real estate business transformation.

Ndungu, E. N., Kinyanjui, W. N., & Abayo, R. (2020). Social network marketing type and sales performance of real estate sector in Kenya: A survey of real estate companies in Nairobi. International Academic Journal of Human Resource and Business Administration, 3(9), 75–8

Nieradka, P. (2019). Using virtual reality technologies in the real estate sector. Annales Universitatis Mariae Curie-Sklodowska, sectio H – Oeconomia, 53(2), 45-53.

Nwogu, C. S., & Ifeakandu, C. C. (2021). An analysis of the effect of online marketing on real estate disposal in Nigerian property market. International Journal of Scientific Research and Engineering Development, 4(5).

Nwoko, E. G., & Obi, C. V. (2024). Content Marketing And Sales

Performance Of Real Estate Firms In Anambra State.

Okafor, E. E., & Umeh, B. C. (2023). Challenges and Prospect of E-Commerce and Retail Business in Awka South L.G.A. ARC Journal of Management and Social Sciences, 12(1), 57–69.

Olapade, D., & Olaleye, A. (2019). Factors affecting accessibility to property data in an opaque market. Property Management, 37(1), 82-96.

Oluchi, C., Chisom, N. C., & Chinemenma, O. A. (2022). Assessment of the influence of online marketing on real estate properties in Awka, Anambra State, Nigeria. International Journal of Engineering and Science, 12(1), 57-69.

Oluwunmi, A., & Agara, E. (2023). Benefits and challenges to the adoption of modern technologies for real estate marketing in Lagos, Nigeria. Journal of African Real Estate Research, 8(1), 1-17.

Oni, A. O., & Adebayo, M. A. (2012). Challenges facing sustainable real estate marketing and practice in emerging economy: Case study of Nigeria.

Onwuanyi, N. (2020). A review of the property data challenge in Nigeria. Journal of African Real Estate Research, 5(2), 15-40.

Onyejiaka, J. C., & Okpala, C. A. (2020). The Contributions of Urban Infrastructure to Residential Real Estate Investment Value in Awka, Anambra State. British Journal of Environmental Science, 8(5), 25-38.

Oxford English Dictionary. (2023). Definition of Technology.

Oyetunji, A. K., Ojo, B., & Oyetunji-Olakunmi, B. (2018). Factors influencing the deployment of ICT in Nigerian real estate practice. Journal of African Real Estate Research, 1(1), 1-24.

Patare, T. B., & Pharande, N. S. (2019). Virtual reality: A new dimension for real estate. International Journal of Engineering Science and Computing, 9(4), 21371-21374.

Rogers, E. (2003). Diffusion of innovations (5th ed.). Free Press.

Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two Iowa communities. Rural Sociology, 8, 15.

Sado, R. O., Jinanwa, C. U., & Ndeche, C. B. (2025). Assessment of Tech-Enabled Property Management as an Efficient Modality for Effective Property Management in Awka, Anambra State. International Journal of Real Estate, 1(1), 12-30.

Sawyer, S., Crowston, K., Wigand, R., & Allbritton, M. (2003). The social embeddedness of transactions: Evidence from the residential real estate industry. The Information Society, 19(2), 135-154.

Siddiqui, M. (2024). The Impact Of Digital Marketing On Real Estate Sales. Available at SSRN 4816630.

Starr, C. W., Saginor, J., & Worzala, E. (2021). The rise of PropTech: Emerging industrial technologies and their impact on real estate.

Journal of Property Investment & Finance, 39(2), 157-169.

Taofeeq, D. M., & Adeleke, Aihie, V. U. (2019). The PropTech revolution: The imperatives for Nigeria's estate surveying and valuation professionals to catch up or get left behind. Journal of African Real Estate Research, 4(2), 56-75.

Toews, D. (2003). The New Tarde: Sociology after the End of the Social Theory Culture & Society, 20(5), 81-98.

Verna, M. (2023). Breaking the Blockchain Ceiling: Exploring the impact of external enablers on PropTech 3.0 entrepreneurship: A study of digital entrepreneurs disrupting Nigeria's real estate industry.

World Economic Forum. (2023). The Future of Technology: Innovation for Sustainable Progress.

Xiong, C., Cheung, K. S., Levy, D. S., & Allen, M. (2024). The effect of virtual reality on the marketing of residential property. Housing Studies, 39(3), 671-694