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The Impact of Technology on Residential Property Management in Oyo State, Nigeria: A Comparative Insights from Lagos, Abuja, and Ogun States

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Abstract

This study examines the impact of technology on residential property management in Oyo State, Nigeria, with comparative insights from Lagos, Abuja, and Ogun States. It examines the obstacles to professional adoption and looks into how technology integration affects cost savings, tenant happiness, and management effectiveness. According to the ESVARBON Directory (issue of April 10, 2025), all 177 Registered Estate Surveyors and Valuers (ESVs) in Oyo State were included in the research population. Quantitative data from structured questionnaires and qualitative data from expert interviews were combined in a mixed-method study approach. Quantitative data was analyzed using descriptive and inferential statistical methods, while qualitative responses were subjected to theme analysis. With an overall mean acceptance rate of 57%, the results showed that 91% of respondents use at least one type of technology in property management operations. The most popular technologies were cloud-based systems (75%) and communication platforms (84%), while the least popular ones were smart/IoT systems (15%) and online rent payment (46%). According to a comparative research, Ogun (61%) and Oyo (57%) lagged behind Lagos (83%) and Abuja (79%) in terms of technological adoption, indicating the impact of infrastructural, policy, and economic environments. The study comes to the conclusion that although technology greatly improves efficiency, transparency, and service delivery, Oyo State's use of it is hampered by inadequate infrastructure, a lack of training, and uneven governmental support. In order to enhance ICT infrastructure, boost digital literacy, and create favorable regulatory frameworks, it suggests cooperative efforts between governmental organizations, trade associations, and commercial technology suppliers. The results add to the expanding conversation in emerging economies on the digital transformation of property management.

Keywords: Technology adoption, Property management, PropTech, Oyo State, Nigeria, Estate Surveyors and Valuers, Comparative analysis.

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1. Introduction

Over the past 20 years, Nigeria's real estate market has rapidly changed due to urbanization, economic expansion, and technological advancements. The way real estate professionals communicate with clients, maintain assets, and provide services has been completely transformed by the use of technology in property management (Ogunbanjo, Balogun, & Ajayi, 2020). Property technology (PropTech), which offers solutions for digital rent collection, automated maintenance scheduling, virtual inspections, and data-driven investment decisions, has become a significant global force transforming the management of residential and commercial properties (Wang, Zhang, & Li, 2019). However, due to differences in institutional capability, education, and infrastructure, technology dissemination in Nigeria's real estate sector is still unequal.

An essential background for comprehending these dynamics is Oyo State, which is situated in Nigeria's southwest. Ibadan's rapidly rising urban core and population of over seven million people present the state with an increasing need for residential accommodation and effective property management (National Bureau of Statistics [NBS], 2024). In Oyo State, property appraisal, maintenance coordination, tenant relations, and rental management are all overseen by estate surveyors and valuers. Technology integration has become crucial to maintaining efficiency, transparency, and competitiveness as the state's real estate market grows. However, adoption is still very low when compared to cities like Lagos and Abuja. According to recent research, technology can greatly improve service delivery in Nigerian property management by facilitating data-driven decision-making, lowering operating expenses, and enhancing communication (Oladokun, 2023; Oyetunji & Aluko, 2021). However, obstacles including inadequate internet access, low technological proficiency, and cybersecurity issues continue to exist. These difficulties are especially noticeable in places outside of the nation's largest cities, where market preparedness and infrastructure are lacking. Oyo State offers a distinctive environment for investigating the connection between professional performance in residential property management and technological capabilities due to its blend of metropolitan and semi-urban populations.

Although previous studies have examined technology adoption in Lagos (Ogunbanjo et al., 2020), Abuja (Udeh & Eze, 2021), and Ogun (Adebayo & Iweka, 2022), Oyo State has received little scholarly attention despite its developing real estate industry. Additionally, current research frequently concentrates on general real estate operations rather than the unique difficulties of managing residential properties, where record-keeping, maintenance, and tenant involvement call for particular digital technologies. By offering a thorough, data-driven analysis of how technology impacts residential property management in Oyo State and placing the results within a larger national comparative context, this study fills in these gaps.

2.1 Literature Review

One of the most distinctive aspects of modern real estate practice worldwide is the incorporation of technology into property management. Information and communication technology (ICT), automation, and digital platforms have been shown to be transformative in improving operational efficiency, decision-making, and client satisfaction in studies conducted over the last thirty years (Kwak, Park, & Kim, 2018; Wang, Zhang, & Li, 2019). In order to assist tasks like rent administration, facility upkeep, and tenant communication, property technology (PropTech) has developed globally as a multidisciplinary invention combining software, data analytics, and networked systems (Jayantha & Man, 2021). Because of these advancements, academics now see technology as both a catalyst for structural change in property management operations and an enabler of efficiency.

Empirical research shows a high correlation between technology use and better management outcomes in global situations. For instance, Kwak et al. (2018) discovered that automation and integrated property management software reduced administrative costs by about one-third through a quantitative assessment of 134 South Korean real estate enterprises. Wang et al. (2019) supplemented this with a mixed-method study of smart residential buildings in China, where real-time

monitoring systems and digital sensors enhanced resource use and maintenance response time. Digitalization increases transparency and tenant satisfaction, according to Jayantha and Man's (2021) analysis of data-driven housing management systems in Hong Kong. Together, these results imply that technology in the housing industry promotes accountability and strategic decision-making in addition to improving performance. However, because of regulatory and infrastructure constraints, technical advancements in real estate have happened more slowly in Sub-Saharan Africa. In a survey of 210 Kenyan property managers, Mutiso and Mwangi (2020) found that although digital communication was almost universal (78%), adoption of full management software systems lagged at 42%, due to financial constraints and a lack of technical expertise. In a similar vein, Adjei and Boateng (2021) used a case-study approach in Accra, Ghana, and discovered that insufficient government incentives and subpar digital infrastructure impeded the adoption of technology. These studies highlight how institutional and regional capacities greatly influence how technology spreads throughout developing economies, resulting in disparate adoption trends among nations and industries.

Scholarly interest in property management and technology has significantly increased in Nigeria. Oyetunji and Aluko (2021) found a favorable relationship between technology utilization and operational efficiency using descriptive and inferential statistics from a survey of 120 Lagos State real estate enterprises. According to their analysis, the most popular technologies are digital record-keeping systems, WhatsApp, and email. Udeh and Eze (2021) conducted quantitative surveys and expert interviews in Abuja and found that while 79% of practitioners used digital technology for communication, only half used integrated property management software because of cybersecurity and power supply issues. Using a correlation-based analytical approach in Ogun State, Adebayo and Iweka (2022) found that the main factors influencing technology adoption were affordability, training, and connectivity. Despite their regional differences, most studies agree that although professionals acknowledge the advantages of technology, the professional environment and infrastructure preparedness limit their spread.

Additionally, Ogunbanjo, Balogun, and Ajayi (2020) carried out an exploratory qualitative study among thirty estate consultants in southwestern Nigeria. They found that although technology adoption had improved correspondence and documentation, advanced digital innovations like blockchain, artificial intelligence (AI), and Internet of Things (IoT) applications were not widely adopted. This finding is consistent with Akinyemi and Ojo's (2023) structural equation modeling study of 250 real estate professionals, which showed that the Technology Acceptance Model (TAM) key constructs of perceived usefulness and ease of use continue to be important factors influencing adoption behavior in Nigeria. These findings demonstrate that user perception and institutional adaptability are just as important to technology uptake as availability.

2.2 Theoretical Framework

These empirical researches are supported by a variety of interrelated theoretical frameworks. A predictive framework for comprehending technology acceptance among professionals is provided by Davis's (1989) Technology Acceptance Model (TAM), which explains adoption behavior as a function of perceived usefulness and perceived ease of use. Its use in Nigerian real estate study (e.g., Oladokun, 2023) has demonstrated that estate professionals are more likely to use software that is thought to be user-friendly and helpful for streamlining workflow. In a similar vein, Rogers' (2003) Diffusion of Innovation (DOI) Theory places adoption in the context of a social process that is impacted by organizational traits, communication channels, and time. This paradigm was operationalized by Adebayo and Iweka (2022) to show that early adopters in Ogun State's property management industry were usually companies with higher client exposure and leadership commitment.

In addition to this, the Resource-Based View (RBV) hypothesis (Barney, 1991) provides a managerial viewpoint by claiming that organizations obtain a competitive edge through special internal resources, such as proprietary data systems, skilled workers, and technological capabilities. This concept has been used in the real estate industry to explain differences in business performance according to the endowment of technology resources (Akinyemi & Ojo, 2023). When taken as a whole, these theoretical frameworks highlight how organizational preparedness, skill level, and perceived strategic value all play a role in technology adoption in addition to access to digital tools. Upon studying the literature, a distinct pattern becomes apparent: In order to investigate attitudes and patterns of technology adoption, Nigerian research mostly use cross-sectional survey

methods and descriptive or correlational analysis (Oyetunji & Aluko, 2021; Udeh & Eze, 2021). Although usage levels and attitudes are effectively revealed by these designs, they frequently lack the analytical depth necessary to investigate the relationships between management performance outcomes and technological adoption. As a result, there is a methodological gap in the relationship between technology utilization and quantifiable cost-effectiveness, tenant satisfaction, and operational efficiency. The majority of studies are focused in Lagos and Abuja, where infrastructure and market development are more advanced, therefore this disparity also reflects a geographic bias.

On the other hand, despite their expanding professional workforce and real estate markets, states like Oyo are still underrepresented in empirical literature. By concentrating on Oyo State, the current study modifies existing methodological approaches particularly descriptive and inferential analyses used by earlier researchers to solve this contextual restriction. It emphasizes professional-level adoption patterns and offers a thorough view that goes beyond firm-based studies by focusing on the complete registered professional population of 177 Estate Surveyors and Valuers. This method improves knowledge of how professional and infrastructural environments interact to affect technology adoption in Nigeria's real estate industry by providing a more comprehensive analytical basis for further comparison studies.

3.1 Methodology

In order to guarantee a thorough grasp of the influence of technology on residential property management in Oyo State, Nigeria, this study used a mixed-method research design that integrated both quantitative and qualitative methodologies. The necessity to produce quantifiable statistics and comprehensive contextual insights on the use and implications of technology among property professionals guided the selection of this design. The mixed-method approach is in line with the suggestions made by Creswell and Plano Clark (2018), which highlighted how combining quantitative and qualitative data improves the validity and interpretive depth of real estate research. All 177 registered estate surveyors and valuers (ESVs) in Oyo State as identified in the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) Directory, published on April 10, 2025, made up the study population. Because registered practitioners make up the professional core of property management operations in the state and are directly in charge of making decisions about client communication, technology adoption, and maintenance coordination, this demographic was deemed suitable. By concentrating on this clearly defined professional group, the study made sure that the information gathered represented knowledgeable and authoritative viewpoints regarding the use of technology in property management.

The study used a census sampling technique, asking all 177 registered professionals to participate because the population size was manageable. A comprehensive representation of Oyo State's professional community was made possible by this method, which also removed sample bias. However, 160 fully completed and validated questionnaires were used for the quantitative analysis due to practical limitations like time, accessibility, and respondent availability. This represents a response rate of roughly 90%, which is significantly higher than the 70% benchmark recommended by Babbie (2017) for field-based social science research. In order to ensure that respondents had strategic control and experience with technology deployment, the qualitative component consisted of 15 semi-structured interviews with chosen ESVs who occupied principle or partner-level roles within their businesses.

An interview guide and a structured questionnaire were the main methods used to gather data. The questionnaire was divided into two sections: the first asked about professional experience and demographics, and the second asked about technology use, perceived impact on management operations, cost effectiveness, tenant satisfaction, and difficulties faced. In order to ensure consistency with established theoretical assumptions, the questions were created using structures taken from the Diffusion of Innovation (DOI) and Technology Acceptance Model (TAM) frameworks. A five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree," was used to record responses. In order to gain a greater insight of respondents' experiences, difficulties, and expectations about technology integration, the interview guide utilized throughout the qualitative phase contained open-ended questions.

Descriptive and inferential statistical tools in the Statistical Package for the Social Sciences (SPSS, version 26) were used to evaluate quantitative data. Demographic features were described using frequency distributions and percentages, and adoption levels and perceptions were summed up using mean scores and standard deviations. To investigate the connections between technology adoption and management

performance metrics like efficiency, cost reduction, and tenant satisfaction, inferential analysis more especially, correlation and comparative mean analysis was utilized. NVivo software was used to thematically analyze qualitative data from interviews in order to detect recurring themes and cross-validate quantitative findings.

In order to place Oyo State's degree of technology adoption into the larger national context, the study also included a comparison analysis among four major Nigerian states: Lagos, Abuja, Ogun, and Oyo. Secondary data from published studies Oyetunji and Aluko (2021) for Lagos, Udeh and Eze (2021) for Abuja, and Adebayo and Iweka (2022) for Ogun were used to create the comparative dataset. Adoption of digital tools, institutional support, professional digital literacy, and infrastructure readiness were important comparison metrics. To show the variations and similarities in technology adoption among the four states, these data were combined to create a comparative table. Relative mean indices (RMIs) were used in the analysis to normalize differences and provide a uniform comparison of adoption levels.

The study's analytical process used a sequential explanatory design, starting with the quantitative phase, which offered general statistical insights, and continuing with the qualitative phase, which improved the interpretation and explanation of patterns found. This method works especially well for research on technology adoption, because contextual elaboration enhances numerical data (Tashakkori & Teddlie, 2020). The instrument was pre-tested on ten ESVs outside of Oyo State to ensure dependability, and internal consistency across scale items was validated by Cronbach's alpha values greater than 0.80. Expert review by academic experts in estate management and ICT application in real estate practice verified validity.

In order to guarantee representativeness of various urban and semi-urban locations where real estate activity is prevalent, the geographic distribution of respondents within Oyo State was planned. Ibadan North (35 respondents), Ibadan South-West (28 respondents),

Ibadan North-East (26 respondents), Ibadan South-East (25 respondents), Egbeda (24 respondents), and Akinyele (22 respondents) were the six locations within the Ibadan metropolitan region and nearby towns from which respondents were selected based on the ESVARBON directory and property market activity levels. In addition to providing geographical balance in data representation, this stratification represented the concentration of real estate enterprises. In addition to making field administration simpler, the clustering technique captured both core urban and peri-urban professional experiences.

The investigation was conducted with ethical considerations in mind. Respondents were guaranteed privacy and secrecy, and participation was entirely voluntary. Informed consent was obtained before participation, and data were only utilized for academic purposes. All numerical and descriptive data were safely maintained and subjected to unbiased, unmanipulated analysis in order to preserve transparency.

4.1 Result and Discussions

Data from 160 valid responses, representing 90% of the 177 registered Estate Surveyors and Valuers (ESVs) in Oyo State, were analyzed to provide important insights into demographics, technology adoption trends, perceived effects, and comparative positioning within Nigeria's larger real estate market. Table 1 displays the respondents' demographic distribution, which is balanced in terms of professional experience, company affiliation, and geographic dispersion within the city of Ibadan and its environs.

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	113	70.6
	Female	47	29.4
Age	21□30 years	28	17.5
	31□40 years	57	35.6
	41□50 years	45	28.1
	Above50 years	30	18.8
Years of Experience	Less than 5 years	26	16.3
	6□10 years	49	30.6
	11□20 years	51	31.9
	Above 20 years	34	21.3
Professional Status	Fellow	42	26.3
	Associate above 10 years	58	36.3
	Associate blow 10 years	60	37.4

Author□s Field Survey, 2025

According to Oyetunji and Aluko (2021), who claimed 72% male participation in Lagos, the demographic profile shows that 70.6% of respondents were men, indicating the gender disparity common in Nigeria's real estate industry. According to Udeh and Eze (2021), who discovered comparable demographics in Abuja's real estate industry, the predominance of the 31□50 age group (63.7%) suggests a workforce made up of mid-career professionals. According to this distribution, the majority of practitioners are likely to use technology tools that increase productivity because they are at the height of their professional activity. The fact that more than 60% of respondents had more than ten years of work experience suggests that the study's assessments of technology adoption are based on in-depth field exposure. A healthy representation of firm leadership and operational level practitioners is also suggested by the distribution throughout professional ranks, guaranteeing diversity of viewpoint.

Table 2: Distribution of Respondents According to Geographical Areas of Practice within Oyo State

Location	Frequency	Percentage (%)
Ibadan North	35	21.9
Ibadan South-West	28	17.5
Ibadan North-East	26	16.3
Ibadan South-East	25	15.6
Egbeda	24	15.0
Akinyele	22	13.7
Total	160	100.0

Author□s Field Survey, 2025

The distribution shows that the six major urban and peri-urban clusters that control Oyo State's real estate market are purposefully represented. As the administrative and economic hub of the state with the greatest number of active real estate companies, Ibadan North had the highest concentration of responders (21.9%). This pattern supports research by Oladokun (2023), who found that market density caused similar spatial clustering of real estate companies on Lagos Island and Ikeja. Akinyele and Egbeda's more modest representation is indicative of emerging economies marked by continuous urban growth and sprawl. This kind of dissemination guarantees that findings represent a thorough understanding of the state's established and emerging property management circumstances.

Five core operational domains communication, documentation, rent collection, maintenance management, and data storage were used to analyze technology adoption trends.

Table 3: Technology Adoption among Estate Surveyors and Valuers in Oyo State

Technology Type	Users (Freq.)	Adoption (%)
Digital Communication Platforms (e.g.,WhatsApp, Email)	135	84.4
Cloud-Based Document Storage (e.g., Google Drive, Drop box)	120	75.0
Property Management Software (e.g., Prop Sync, PropertyPro)	95	59.4
Online Rent Payment Systems	74	46.3
Smart/IoT Devices (e.g., Remote Access, Energy Monitoring)	24	15.0
Overall Mean Adoption Rate		56.0

Author□s Field Survey, 2025

The findings show that technology adoption is widespread yet uneven, with digital communication platforms being the most popular because of their accessibility and ease of use. This is consistent with trends seen by Adebayo and Iweka (2022) in Ogun, where cloud systems were the predominant technology tools, and Oyetunji and Aluko (2021) in Lagos, where communication tools registered 88% adoption. Adjei and Boateng (2021) in Ghana and Mutiso and Mwangi (2020) in Kenya have noted that advanced technologies like IoT and online rent payment systems are still underutilized due to financial and infrastructure limitations.

The comparatively low overall mean adoption rate (56%) indicates that property managers in Oyo State are still making the shift to more advanced digital technologies. This result is consistent with diffusion theory (Rogers, 2003), which holds that innovation progressively permeates social systems, frequently starting with communication tools before moving on to more integrated platforms. The observed pattern also reflects structural concerns like unreliable internet and electricity supplies, which Udeh and Eze (2021) identified in Abuja. However, the widespread adoption of digital communication tools and cloud-based document storage indicates increasing digital literacy and receptivity to technological change. There are notable differences in the degree of technological adoption between Lagos, Abuja, Ogun, and Oyo States.

Table 4: Comparative Levels of Technology Adoption in Residential Property Management across Selected Nigerian States

State	Adoption Rate (%)	Leading Technologies	Primary Constraints
Lagos	83	Communication, Cloud Management Systems, PropTech Apps	High cost of advanced software
Abuja	79	Cloud Platforms, Online Payment Systems, Digital Record Management Cyber-security,	Infrastructure
Ogun	61	Communication, Basic Management Software	Low investment capital, training gaps
Oyo	56	Communication, Cloud-Based Storage Connectivity,	Technical literacy

Author□s Field Survey, 2025

Although Oyo State's adoption rate (56%) is very high when compared to the national average for secondary states, it falls short of large urban centers like Lagos (83%) and Abuja (79%), according to the comparison data. This is consistent with the finding by Akinyemi and Ojo (2023) that professional exposure to ICT training and infrastructure maturity have a significant impact on digital adoption across regions. Higher market competitiveness and improved institutional backing are responsible for the comparatively stronger uptake in Lagos and Abuja. On the other hand, despite their continuous development, Oyo and Ogun States continue to have financial and infrastructure limitations that prevent them from integrating modern PropTech.

The comparison results corroborate earlier national evaluations that indicate Nigeria's real estate technology adoption curve is unevenly spread, mostly due to economic centralization (Oyetunji & Aluko, 2021). The consistency between the findings of this study and earlier research highlights how reliable the patterns found are. Nonetheless, Oyo's moderate adoption rates suggest a significant potential for growth if intentional legislative actions and focused training are provided. The findings show a significant positive correlation between the usage of technology and management performance metrics like tenant happiness, efficiency, and transparency across all dimensions. Significant gains in customer interaction, record retrieval, and communication turnaround time

were noted by respondents. These findings align with those of Wang et al. (2019), who highlighted how technology improves property management systems' responsiveness and information accessibility. The correlations found indicate that greater technology use is linked to perceived increases in professional outcomes, even though this study did not concentrate on causal modeling.

From a more comprehensive analytical perspective, our findings show that property management experts in Oyo State play a mediating role in Nigeria's PropTech diffusion process. Although they are not as developed as Lagos or Abuja, their adoption rates are higher than those of developing areas; supporting the theory that innovation spreads gradually through networks of professional engagement and proximity (Rogers, 2003). This highlights the necessity of ongoing investments in ICT infrastructure, professional education, and institutional cooperation to guarantee the fair spread of digital skills throughout the real estate sector. These findings have ramifications for professional practice and policy. To increase broadband availability and provide incentives for practitioners to participate in digital literacy initiatives, government organizations like the Nigerian Communications Commission (NCC) and ESVARBON should work together. By incorporating PropTech education into continuing professional development courses, professional groups such as the Nigerian Institution of Estate Surveyors and Valuers (NIESV) can play a crucial role. To promote wider adoption, private technology companies should also create reasonably priced, regionally flexible property management solutions.

5.1 Conclusion, Contribution to Knowledge, and Recommendations

With an emphasis on the 177 Registered Estate Surveyors and Valuers (ESVs) listed in the ESVARBON Directory as of April 10, 2025, this study examined the effects of technology on residential property management in Oyo State, Nigeria. In order to provide a thorough empirical picture of how technological tools are changing the state's real estate management landscape, the study used quantitative and qualitative methodologies. Although technology has been widely used for communication, documentation, and data storage, its integration into sophisticated property management operations like automated rent collection and smart building systems is still limited, according to the analysis, which was based on 160 valid responses, or a 90% response rate. The most widely utilized technologies, according to the report, are cloud-based storage systems (75%) and digital communication platforms (84.4%), with adoption of Internet of Things (IoT) and smart management tools trailing behind at 15%. According to Rogers' (2003) theory of innovation diffusion, these results show that Oyo State's real estate industry is in a transitional stage of digital maturity.

Oyo State's adoption rate of 56% puts it behind Lagos (83%) and Abuja (79%), but marginally ahead of Ogun (61%), according to a comparison study comprising Lagos, Abuja, and Ogun States. This gradient highlights how institutional, economic, and infrastructure differences affect the spread of technology throughout Nigeria's regional real estate markets. Lagos and Abuja gain from stronger digital ecosystems, more sophisticated ICT infrastructures, and increased exposure to international PropTech advances, but Oyo's advancement is a result of practitioners' increasing awareness and slow adaption. However, Oyo's findings show a strong correlation with national patterns, indicating that the state's real estate experts are becoming more receptive to the operational and competitive advantages of digital transformation.

The results support the findings of Udeh and Eze (2021), who noted comparable results in Abuja, and Oyetunji and Aluko (2021), who indicated that technology integration improves communication, operational efficiency, and client satisfaction in Lagos. The current study also supports global findings by Wang et al. (2019) and Jayantha and Man (2021), who found that smart technology solutions in property management lower operating costs and enhance responsiveness to tenant requests. By placing these dynamics within a middle-tier state like Oyo, which has not yet attained the infrastructural sophistication of Nigeria's commercial capitals but shows a high potential for accelerated adoption, our research advances the literature.

This study has substantial empirical weight due to its methodological rigor and inclusion of all registered ESVs in Oyo State. The study offers a comprehensive knowledge of the forces behind and obstacles to technological transformation in property management by fusing statistical analysis with qualitative observations from working professionals. According to previous research by Mutiso and Mwangi (2020) in Kenya and Adjei and Boateng (2021) in Ghana, the main obstacles poor internet connectivity, low digital literacy, and worries about cyber-security are typical in developing

nations. However, Oyo State's relative growth shows that these obstacles can be lessened with focused interventions, especially in the areas of infrastructure development and professional training.

The results have consequences that go beyond the study's local regional area. They draw attention to the increasing need for technology in the real estate industry as a catalyst for productivity, openness, and competitiveness. Professional practice norms in Oyo State are already starting to change as a result of the incorporation of digital tools into documentation and communication procedures. The efficiency savings from more practitioners embracing digitization are likely to result in better client connections, lower operating costs, and increased regulatory compliance, all of which boost investor confidence and market credibility.

Theoretically, by proving the applicability of the Diffusion of Innovation Theory (Rogers, 2003) and the Technology Acceptance Model (Davis, 1989) in a developing-economy setting, this study adds to the growing conversation on technology adoption in the built environment. The results confirm that perceived utility and usability are important factors that influence adoption among real estate professionals, and that the degree of integration is mediated by digital literacy and infrastructure preparedness. Additionally, the findings show that adoption behavior is strongly influenced by institutional and economic circumstances, which enhances theoretical models with useful contextual information pertinent to the Nigerian real estate market.

From a methodological standpoint, the study advances knowledge by providing a unique empirical dataset that includes all registered estate professionals in a Nigerian state. This eliminates sampling bias and provides a thorough baseline for subsequent comparison research. A methodological pattern for comparable research projects in other regions is provided by the integration of mixed-method data collecting and analysis. By strengthening the evidentiary basis of real estate technology studies, this method enables future researchers to expand upon a solid empirical and analytical framework. Practically speaking, the study shows a direct correlation between management effectiveness in the real estate industry and technological usage. It illustrates how technology improves client communication, data management accuracy, and operational efficiency all of which boost professional competitiveness. The research also emphasizes that issues like poor ICT infrastructure, low digital literacy, and cyber threats are not insurmountable but rather call for concerted efforts from stakeholders. Therefore, governments, professional associations, and practitioners looking to further integrate technology into Nigeria's property management ecosystem should use the insights produced here as a strategic guide.

A number of recommendations are made in light of the results. First, Oyo State urgently needs better ICT infrastructure. To increase broadband access, government organizations like the Nigerian Communications Commission (NCC) should work with state authorities, especially in developing cities like Egbeda and Akinyele where connectivity issues hinder the use of technology. Second, the Nigerian Institution of Estate Surveyors and Valuers (NIESV) ought to incorporate PropTech education and digital literacy into its ongoing professional development (CPD) curricula. This will guarantee that professionals at all levels acquire the necessary abilities to use developing technology efficiently. Third, in order to improve automation in maintenance tracking, client administration, and rent collecting, real estate companies should give priority to investing in reasonably priced, locally customizable digital solutions. Collaborations with internet companies could make it easier to create affordable apps that are suited to Nigeria.

Regulatory organizations like ESVARBON could also think about developing policy incentives, such lower renewal fees or professional recognition awards, for companies that exhibit high levels of digital adoption. These incentives would encourage businesses to invest in technology and hasten the spread of innovation. Additionally, as noted by industry experts throughout this study, cyber-security training should be prioritized to protect digital transactions and data management systems from potential threats. In order to ensure that future graduates are suitably prepared for digital practice environments, universities and polytechnics that provide estate management programs should adapt their curricula to include hands-on training on developing PropTech tools.

This study demonstrates that technology is now an essential component of competitive, effective, and client-focused property management rather than an optional addition to professional practice. Oyo State's example shows that awareness, incremental investment, and institutional backing may lead to significant progress even in the face of infrastructure limitations. The insights produced offer a useful framework for turning Nigeria's property management market into a digitally driven,

internationally competitive one, as well as a baseline for future study. This study significantly advances academic research and professional practice in the subject of estate management and valuation by its thorough empirical design, comparative viewpoint, and grounded analysis.

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