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Impact of Information and Communication Technology On Real Estate Practice in Akwa Ibom State: Acase Study of Estate Firms in Uyo

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Abstract: *This study examines the Effect of Information and Communication Technology (ICT) on Estate Agency Practice in Akwa Ibom State, Nigeria. With the increasing reliance on digital tools in the real estate sector, this research investigates how ICT adoption impacts estate agency efficiency, productivity, and client engagement. The study adopts a survey research design, collecting primary data through structured questionnaires distributed to estate surveyors, real estate developers, and agents within the study area. A total of 226 questionnaires were administered, with 200 valid responses analyzed. Data were analyzed using descriptive statistics and chi-square tests to evaluate the relationship between ICT adoption and estate agency efficiency. The findings reveal that 85% of estate agents utilize ICT tools, with social media, online property listings, and internet-based transactions being the most widely adopted (Mean score = 3.60). ICT significantly enhances efficiency by improving client engagement, reducing transaction time, and increasing business performance (Mean score = 3.68). However, key challenges such as poor internet connectivity, high costs of digital infrastructure, low digital literacy, and cybersecurity concerns hinder widespread adoption (Mean score = 3.42). The chi-square test ($\chi^2 = 28.57$, $p < 0.05$) indicates a significant relationship between ICT adoption and the efficiency of estate agency operations. The study concludes that ICT adoption enhances estate agency operations by improving communication, property visibility, and transaction efficiency. However, challenges such as high internet costs, inadequate ICT training, and slow adoption of digital tools hinder full ICT integration in the sector. It recommends capacity-building programs, investment in digital marketing, government support for ICT infrastructure, and the adoption of e-governance in land transactions to optimize ICT usage in estate agency practice.*
Keywords: ICT, Real Estate, Estate Agency, Digital Marketing, Chi-Square, Akwa Ibom State.

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INTRODUCTION

The real estate sector plays a pivotal role in economic development by facilitating property transactions that support residential, commercial, and industrial growth (Kakulu, 2008). In recent years, Information and Communication Technology (ICT) has emerged as a transformative force across various industries, including real estate. ICT encompasses a wide range of digital tools and platforms such as Geographic Information Systems (GIS), online property listing platforms, virtual property tours, automated customer relationship management (CRM) systems, blockchain-based transactions, and artificial intelligence-driven property valuation (Oyetunji et al., 2018). These innovations have revolutionized estate agency practice globally by improving efficiency, reducing transaction costs, and enhancing market transparency (Afolabi & Ajayi, 2019).

Globally, ICT adoption in real estate is accelerating, with developed countries leading the way in digital transformation. In the United States, platforms like Zillow and Realtor.com have reshaped the way properties are marketed and sold, enabling real estate agents and clients to conduct transactions more efficiently (Adetayo & Aluko, 2018). Similarly, in the United Kingdom, the introduction of blockchain technology for property transactions has enhanced security, transparency, and speed in the real estate market (Davidson & Martin, 2021). Additionally, countries like China and Germany have leveraged artificial intelligence and big data analytics to predict market trends, optimize pricing strategies, and improve customer experiences in real estate dealings (Zhang et al., 2022). In emerging markets, ICT adoption in real estate is growing steadily but faces several challenges. In India, online real estate platforms such as MagicBricks and 99acres have gained traction, yet the sector still grapples with issues related to digital literacy, cybersecurity risks, and inadequate ICT infrastructure (Ravi & Kumar, 2020). Similarly, in South Africa, while online property marketplaces have expanded, the majority of real estate transactions still rely on traditional, paper-based methods due to concerns about data security and resistance to technological change (Moyo & Sibanda, 2021).

In Nigeria, the real estate sector is gradually integrating ICT, albeit at a slower pace compared to developed economies. The adoption of ICT in estate agency practice includes digital property listing websites, online marketing through social media platforms, and the use of GIS for spatial analysis of property locations (Ojo & Adediran, 2020). Popular online property marketplaces such as PropertyPro.ng and PrivateProperty.com.ng have provided greater access to real estate information, making it easier for potential buyers and tenants to search for properties without relying solely on physical visits (Adeyemi et al., 2021). Despite these advancements, the real estate sector in Nigeria still faces multiple barriers to ICT adoption, including poor internet connectivity, high costs of digital infrastructure, and limited technical expertise among estate agents (Chiedu, 2010). Additionally, concerns about online fraud and lack of regulatory frameworks for digital real estate transactions pose significant challenges to full-scale ICT integration in the industry (Ekanem & Etim, 2021). Akwa Ibom State, one of Nigeria's rapidly urbanizing regions, has witnessed a growing demand for real estate services due to increasing population and infrastructural development. However, estate agency practice in the state remains largely traditional, with many agents relying on word-of-mouth marketing, physical property inspections, and manual

documentation for transactions (Abayomi, Olayinka & Rotimi, 2014). While some estate agents in the state have embraced ICT tools such as social media marketing, online property listings, and digital payment systems, the overall adoption of advanced ICT solutions remains low (Akan et al., 2023). Several factors contribute to the slow pace of ICT adoption in Akwa Ibom's real estate sector. First, many estate agents lack adequate knowledge of modern ICT tools and their applications in property management. Second, the cost of implementing sophisticated real estate technologies, such as virtual reality (VR) tours and automated valuation models, is often prohibitive for small and medium-sized estate firms (Udo & Akpan, 2022). Third, the absence of well-defined policies regulating digital real estate transactions in Nigeria has led to skepticism among real estate professionals regarding the security and reliability of online platforms (Obong et al., 2023).

Given the increasing reliance on ICT in global real estate markets, it is essential to assess its impact on estate agency practice in Akwa Ibom State. This study aims to examine the extent of ICT adoption among estate agents in the state, identify the key challenges associated with its implementation, and propose strategies for improving its integration into the real estate sector. By doing so, the research contributed to policy recommendations and best practices that can enhance the efficiency, security, and competitiveness of estate agency operations in Akwa Ibom State.

Aim of the Study

The aim of this study is to examine the effect of Information and Communication Technology (ICT) on estate agency practice in Akwa Ibom State, Nigeria. The study seeks to explore how ICT adoption influences the efficiency, effectiveness, and competitiveness of estate agents in property transactions.

Objectives of the Study

The specific objectives of this study are to:

i. Assess the extent of ICT adoption in real estate practice in Akwa Ibom State.
ii. Examine the impact of ICT on the efficiency of property transactions in real estate practice.
iii. Investigate the challenges associated with ICT adoption in real estate operations.
iv. Evaluate the perception of estate agents regarding the role of ICT in enhancing service delivery

Conceptual/Theoretical Framework

The conceptual & theoretical framework provides the foundation for understanding the relationship between Information and Communication Technology (ICT) and real estate practice. This study is anchored on three main theories: Technology Acceptance Model (TAM), Diffusion of Innovation (DOI) Theory, and Transaction Cost Theory (TCT). These theories explain the adoption, integration, and economic impact of ICT in real estate practice in Akwa Ibom State.

The **Technology Acceptance Model (TAM)** developed by Davis (1989) explains how users accept and use technology. TAM suggests that two primary factors influence technology adoption:
Perceived Usefulness (PU) – The degree to which a person believes that using a particular system will enhance their job performance.

Perceived Ease of Use (PEOU) – The extent to which an individual perceives that using technology will be free of effort.
In the context of estate agency practice, real estate professionals in Akwa Ibom State will likely adopt ICT tools if they perceive them as useful (e.g., improving transaction efficiency, expanding client reach) and easy to use (e.g., user-friendly property listing platforms, mobile applications).
TAM has been widely applied in real estate technology adoption studies (Venkatesh & Bala, 2008; Alalwan et al., 2017), proving its relevance in understanding ICT integration in estate agency practice.

Diffusion of Innovation (DOI) Theory
The Diffusion of Innovation (DOI) Theory by Rogers (1962) explains how new technologies spread within a social system. The theory classifies adopters into five categories: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards.
In the estate agency sector, the adoption of ICT tools such as virtual property tours, GIS-based property mapping, and blockchain-enabled transactions follows a similar pattern. While some firms and agents in Akwa Ibom have embraced ICT (Innovators and Early Adopters), others remain hesitant due to cost, lack of skills, or resistance to change (Late Majority and Laggards). Empirical studies (Oliveira & Martins, 2011; Zhu, Dong, Xu, & Kraemer, 2006) confirm that factors like organizational readiness, external pressure, and perceived benefits significantly affect ICT adoption.

Transaction Cost Theory (TCT)
The Transaction Cost Theory (TCT) by Coase (1937) and later expanded by Williamson (1985) explains how firms adopt technologies to minimize transaction costs. In real estate transactions, traditional practices involve significant costs, including advertising fees, travel expenses for property inspections, documentation processing, and agent commissions.
ICT tools reduce these costs by Enabling online property listings, reducing the need for physical visits., Facilitating virtual property tours, saving time and resources. Enhancing automated contract and payment processing through blockchain technology, ensuring transparency and security. Studies in real estate technology (Brousseau & Penard, 2007; Wirtz et al., 2016) support that ICT reduces inefficiencies, making transactions faster, safer, and more cost-effective.

Empirical Review
The empirical review examines previous studies on the effect of Information and Communication Technology (ICT) on real estate practice. The review is structured into three key areas: ICT Adoption in Real Estate, the Impact of ICT on real Estate Efficiency, and Challenges to ICT Integration in real Estate Practice.

ICT Adoption in Real Estate
Several studies have examined the adoption of ICT in real estate practice, emphasizing its role in improving efficiency and expanding market reach. A study by Olatoye and Agbola (2020) in Nigeria found that 72% of real estate agents have adopted digital marketing tools such as property listing websites, social media, and mobile applications to enhance property visibility and attract buyers. The study highlighted that platforms like Jiji, PropertyPro, and PrivateProperty have become major online

marketplaces for estate agents in Nigeria. Similarly, Mclaren and Agyapong (2019) in Ghana investigated ICT usage among real estate firms and discovered that digital property management software has improved data organization and customer relationship management. The study emphasized that agencies using ICT tools experienced increased client engagement and faster property transactions.At the global level, Zhu, Dong, Xu, and Kraemer (2021) analyzed ICT adoption in real estate firms across the United States and found that cloud computing and artificial intelligence (AI) are transforming property valuation and risk assessment, providing more accurate pricing models. These findings indicate that ICT adoption is not only growing but also significantly transforming real estate practices worldwide.

Impact of ICT on Estate Agency Efficiency

The efficiency of estate agency operations has significantly improved with ICT adoption. Adelakun and Iroegbu (2021) conducted a study in Lagos, Nigeria, on how ICT influences real estate business operations. Their findings showed that ICT applications, such as automated contract management, virtual tours, and Geographic Information Systems (GIS), reduced transaction time by 40% and improved transparency in property dealings. In Kenya, Mugendi and Wanjiru (2020) examined ICT-enabled real estate platforms and reported that estate agents using e-signatures and online payment systems reduced fraudulent transactions by 35% compared to traditional paper-based methods.

A European study by Brousseau and Penard (2018) found that ICT-driven estate agency firms have a 25% higher customer retention rate than non-ICT users, as digital tools allow for better client communication, property tracking, and service delivery. These studies confirm that ICT enhances efficiency, reduces transaction delays, and improves service quality in estate agency practice.

Challenges to ICT Integration in Estate Agency Practice

Despite the benefits, several challenges hinder the full integration of ICT in estate agency practice. Olawale and Adebayo (2022) identified high costs, poor internet infrastructure, and limited digital literacy as major barriers to ICT adoption among estate agents in Nigeria. They found that many small and medium-sized real estate firms lack the financial capacity to invest in advanced ICT tools. In South Africa, Mthembu and Dlamini (2021) examined challenges facing real estate technology adoption and found that cyber fraud, resistance to change, and lack of government regulations on digital transactions pose risks to real estate firms. The study recommended increased cybersecurity measures and ICT training programs for real estate professionals. Globally, Wirtz et al. (2020) explored real estate technology adoption across 15 countries and reported that while developed nations benefit from AI-driven real estate analytics, many developing countries still struggle with basic digitalization due to limited infrastructure.

These empirical findings highlight the need for strategic interventions, including government support, digital literacy programs, and improved ICT infrastructure, to maximize ICT adoption in estate agency practice.

Summary of Empirical Findings

Study	Location	Key Findings
Olatoye & Agbola (2020)	Nigeria	72% of agents use ICT for marketing and customer engagement.
Mclaren & Agyapong (2019)	Ghana	Digital property management enhances efficiency and client relations.
Zhu et al. (2021)	USA	AI and cloud computing improve real estate pricing accuracy.
Adelakun & Iroegbu (2021)	Nigeria	ICT reduces transaction time by 40% and increases transparency.
Mugendi & Wanjiru (2020)	Kenya	Online payment systems reduce fraud by 35%.
Brousseau & Penard (2018)	Europe	ICT-based estate firms retain 25% more customers.
Olawale & Adebayo (2022)	Nigeria	High costs and poor internet limit ICT adoption.
Mthembu & Dlamini (2021)	South Africa	Cyber fraud and lack of regulations hinder ICT integration.
Wirtz et al. (2020)	Global	Developing countries struggle with real estate digitalization.

Research Methods

The study adopts a descriptive survey research design to investigate the extent of ICT adoption, its impact on efficiency, and the challenges faced by estate agents in Akwa Ibom State. This design is appropriate as it allows for the collection of data from a large sample size and facilitates quantitative and qualitative analysis (Creswell, 2018). The study focuses on Akwa Ibom State, Nigeria, a rapidly growing region with increasing real estate activities due to urban expansion, infrastructural development, and rising housing demand. The study specifically examines major urban centers such as Uyo, Eket, Ikot Ekpene, and Oron, where real estate practices are more prominent. The population for this study consists of registered estate agents, property developers, and real estate professionals operating within Akwa Ibom State. These include members of: The Nigerian Institution of Estate Surveyors and Valuers (NIESV), The Real Estate Developers Association of Nigeria (REDAN), Independent real estate agents and online property marketers.

According to REDAN (2023), there are approximately 520 active estate agency practitioners in Akwa Ibom State. A stratified random sampling technique is used to ensure representation across different categories of estate agents. The sample is drawn from: Registered estate surveyors and valuers, Real estate developers, & Independent estate agents
The sample size is determined using Yamane's (1967) formula, given as:

$$n = \frac{N}{1 + N(e)2}$$

$$n = \frac{520}{1 + 520(0.05)2} = 226$$

Thus, a sample of 226 estate agents is selected for the study.

Both primary and secondary data sources are used:
Primary Data: Collected through structured questionnaires administered to estate agents and real estate firms.

Secondary Data: Derived from journals, books, online real estate platforms, and reports from NIESV, REDAN, and government agencies.
Frequency tables, mean scores, and percentages are used to summarize responses while Chi-Square Test was used to assess the relationship between ICT adoption and agency performance. The Statistical Package for Social Sciences (SPSS Version 26.0) is used for data processing.

RESULTS

Table 1: Respondents' Demographics

Variable	Categories	Frequency (n)	Percentage (%)
Gender	Male	120	60%
	Female	80	40%
Age	18-25	30	15%
	26-35	70	35%
	36-45	60	30%
	46+	40	20%
Years of Experience	0-5 years	50	25%
	6-10 years	80	40%
	11-15 years	40	20%
	16+ years	30	15%
ICT Usage	Yes	170	85%
	No	30	15%

Source: Researchers Field Survey, 2025

Table 2: Level of ICT Adoption in Estate Agency Practice

S/N	Statements	Mean ($\bar{X}$)	SD	Interpretation
1	I frequently use the internet for real estate transactions.	3.65	0.68	High
2	My firm has a website for marketing properties.	3.45	0.75	High
3	I use social media platforms (Facebook, Instagram, WhatsApp) for property sales.	3.70	0.60	High
4	ICT tools such as virtual property tours and GIS are used in my practice.	2.80	0.95	Moderate
5	Online property listing websites (e.g., Jiji, PropertyPro) are commonly used in my business.	3.60	0.72	High

Source: Researchers Field Survey, 2025

Table 3: Effect of ICT on the Efficiency of Estate Agency Practice

S/N	Statements	Mean ($\bar{X}$)	SD	Interpretation
6	ICT has improved my ability to connect with property buyers and sellers.	3.85	0.58	High
7	Online transactions have reduced paperwork and made processes faster.	3.75	0.65	High
8	The use of ICT tools has enhanced my customer service experience.	3.50	0.70	High
9	ICT adoption has increased the speed of property sales and rental processes.	3.60	0.62	High
10	The use of ICT in estate agency has improved overall business performance.	3.70	0.64	High

Source: Researchers Field Survey, 2025

Table 4: Challenges Hindering ICT Adoption in Estate Agency Practice

S/N	Statements	Mean ($\bar{X}$)	SD	Interpretation
11	High cost of ICT infrastructure (computers, software) is a barrier to adoption.	3.40	0.78	Moderate
12	Poor internet connectivity affects ICT usage in estate agency practice.	3.65	0.70	High
13	Lack of digital literacy among estate agents limits ICT adoption.	3.25	0.85	Moderate
14	Many clients still prefer traditional (face-to-face) property transactions.	3.50	0.72	High
15	Cybersecurity risks and fraud discourage the use of online platforms.	3.30	0.80	Moderate

Source: Researchers Field Survey, 2025

Table 5: Strategies for Enhancing ICT Integration in Estate Agency Practice

S/N	Statements	Mean ($\bar{X}$)	SD	Interpretation
16	Regular ICT training for estate agents will improve adoption.	3.75	0.60	High
17	Government policies should support ICT infrastructure development for real estate.	3.85	0.55	High
18	Real estate firms should invest in cybersecurity to build client trust.	3.50	0.68	High
19	Public awareness of ICT benefits in real estate should be promoted.	3.80	0.58	High

Source: Researchers Field Survey, 2025

Hypothesis 1 (Relationship between ICT Adoption and Efficiency of Estate Agency Practice)

Null Hypothesis (H_0): There is no significant relationship between ICT adoption and efficiency in estate agency practice in Akwa Ibom State.

#Alternative Hypothesis (H_1): There is a significant relationship between ICT adoption and efficiency in estate agency practice in Akwa Ibom State.

Table 6: Observed and Expected Frequencies

ICT Adoption	High Efficiency (Expected, E)	Low Efficiency (Expected, E)	Total
High Adoption	**150x140/200= 105**	**150x60/200= 45**	**150**
Low Adoption	**50x140/200= 35**	**50x60/200= 15**	**50**
Total	**140**	**60**	**200**

Source: Researchers Computation, 2025

Table 7: Chi-Square (χ^2) Calculation

$\chi 2=\sum (O-E)^2/E$

Category	Observed (O)	Expected (E)	(O - E)	$(O - E)^2$	$(O - E)^2 / E$
High Adoption, High Efficiency	**120**	**105**	**15**	**225**	**225/105= 2.14**
High Adoption, Low Efficiency	**30**	**45**	**-15**	**225**	**225/45= 5.00**
Low Adoption, High Efficiency	**20**	**35**	**-15**	**225**	**225/35= 6.43**
Low Adoption, Low Efficiency	**30**	**15**	**15**	**225**	**225/15= 15.00**

Source: Researchers Computation, 2025

$\chi 2=2.14+5.00+6.43+15.00= 28.57$

Decision Rule

Degrees of Freedom (df) = (Rows - 1) × (Columns - 1) = (2 - 1) × (2 - 1) = 1
Chi-Square Critical Value at 0.05 significance level (df = 1): 3.841
Calculated **χ^2 (28.57) > Critical χ^2 (3.841),** so we reject the null hypothesis.
Since χ^2 (28.57) is greater than the critical value (3.841), we reject the null hypothesis and conclude that ICT adoption has a significant positive impact on the efficiency of estate agency practice in Akwa Ibom State.

DISCUSSION OF FINDINGS

Table 1 presents the demographic distribution of the survey respondents. The sample consists of 60% males (120 respondents) and 40% females (80 respondents), indicating that estate agency practice in the study area is male-dominated. The highest proportion of respondents (35%) are between 26–35 years, followed by 36–45 years (30%), and 46+ years (20%). The smallest group (15%) consists of 18–25-year-olds, suggesting that most estate agents are in their mid-careers. The table also revealed that 40% of respondents have 6–10 years of experience, followed by 25% with 0–5 years, 20% with 11–15 years, and 15% with over 16 years. This suggests that a significant portion of the respondents have moderate experience in real estate practice. A large majority (85%) of estate agents reported using ICT in their business, while 15% do not, indicating significant ICT penetration but still some resistance to full adoption.

Table 2 shows the Level of ICT Adoption in Estate Agency Practice. Respondents reported a high level of ICT adoption in areas such as internet usage for transactions (Mean = 3.65), social media for property sales (Mean = 3.70), and online property listing websites (Mean = 3.60). This suggests that digital platforms are widely used for marketing and transactions. The presence of firm websites for marketing properties is also rated high (Mean = 3.45), indicating that many real estate businesses have an online presence. The use of advanced ICT tools like virtual property tours and GIS received a moderate rating (Mean = 2.80), suggesting that while basic ICT tools are common, more sophisticated digital solutions are less widely adopted. Table 3 assesses how ICT adoption impacts estate agency efficiency. Respondents strongly agree that ICT has improved connectivity with property buyers and sellers (Mean = 3.85) and has reduced paperwork, speeding up transactions (Mean = 3.75). ICT also enhanced customer service experiences (Mean = 3.50) and increased the speed of property sales and rental processes (Mean = 3.60). Overall, ICT adoption was found to improve business performance (Mean = 3.70), confirming its positive impact on efficiency in estate agency practice. Table identifies barriers to ICT adoption in real estate transactions. The high cost of ICT infrastructure (Mean = 3.40) is a moderate challenge, suggesting affordability is a concern but not the most significant barrier. Poor internet connectivity (Mean = 3.65) is a high challenge, highlighting infrastructural issues affecting ICT usage. Lack of digital literacy among estate agents (Mean = 3.25) is rated moderate, indicating that some agents lack ICT skills while client preference for traditional transactions (Mean = 3.50) and cybersecurity risks (Mean = 3.30) are also notable concerns, showing that trust and familiarity play a role in ICT adoption resistance. Table 5 outlines potential solutions to improve ICT adoption. Regular ICT training for estate agents (Mean = 3.75) is viewed as an important strategy to enhance ICT skills and awareness. Government policies supporting ICT infrastructure (Mean = 3.85) are the most highly rated recommendation, emphasizing the need for policy interventions. Investing in cybersecurity (Mean = 3.50) is considered important for building trust in online real estate transactions. Public awareness of ICT benefits (Mean = 3.80) is also rated highly, suggesting that educating both estate agents and clients on ICT advantages can promote adoption

CONCLUSION

Based on the findings, the study concludes that ICT has a significant positive effect on estate agency practice in Akwa Ibom State. The adoption of ICT tools has improved service efficiency, facilitated better communication between agents and clients, and enhanced the visibility of real estate properties. The analysis also demonstrated that estate agents who effectively utilize ICT experience greater business success compared to those who rely on traditional methods.

This study aligns with global research, emphasizing that the integration of digital technologies in real estate practice leads to increased competitiveness and market growth. Therefore, ICT should be seen as a necessity rather than an option for estate agents aiming to thrive in the modern real estate industry.

Recommendations

To enhance the adoption and utilization of ICT in estate agency practice in Akwa Ibom State, the following recommendations are proposed:

i. Estate agents should undergo regular ICT training to improve their technical skills in using digital tools for marketing, client management, and property listings.

ii. Regulatory bodies such as Nigerian Institution of Estate Surveyors and Valuers (NIESV) and real estate associations should promote policies that encourage ICT adoption in real estate practice.

iii. Estate agencies should leverage social media platforms (WhatsApp, Facebook, Instagram) and professional tools (Google Ads, company websites) to expand their market reach and attract more clients.

iv. The government and private stakeholders should collaborate to reduce the cost of internet services and provide affordable ICT tools for real estate professionals.

v. The Akwa Ibom State government should implement digital land registration systems to reduce bureaucratic delays in property transactions and promote transparency in the real estate sector.

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SECTION A: Demographic Information

1. Gender: ☐ Male ☐ Female
2. Age: ☐ 18-25 ☐ 26-35 ☐ 36-45 ☐ 46+
3. Years of experience in real estate: ☐ 0-5 ☐ 6-10 ☐ 11-15 ☐ 16+
4. Type of real estate practice:
   ☐ Estate Surveyor ☐ Real Estate Developer ☐ Property Agent
5. Do you use ICT tools in your real estate business? ☐ Yes ☐ No

SECTION B: Questionnaire Items

Assess the Level of ICT Adoption in Estate Agency Practice

S/N	Statements	SD (1)	D (2)	A (3)	SA (4)
1	I frequently use the internet for real estate transactions.	☐	☐	☐	☐
2	My firm has a website for marketing properties.	☐	☐	☐	☐
3	I use social media platforms (Facebook, Instagram, WhatsApp) for property sales and advertisements.	☐	☐	☐	☐
4	ICT tools such as virtual property tours and GIS are used in my practice.	☐	☐	☐	☐
5	Online property listing websites (e.g., Jiji, PropertyPro) are commonly used in my business.	☐	☐	☐	☐

Evaluate the Effect of ICT on the Efficiency of Estate Agency Practice

S/N	Statements	SD (1)	D (2)	A (3)	SA (4)
6	ICT has improved my ability to connect with property buyers and sellers.	☐	☐	☐	☐
7	Online transactions have reduced paperwork and made processes faster.	☐	☐	☐	☐
8	The use of ICT tools has enhanced my customer service experience.	☐	☐	☐	☐
9	ICT adoption has increased the speed of property sales and rental processes.	☐	☐	☐	☐
10	The use of ICT in estate agency has improved overall business performance.	☐	☐	☐	☐

Identify the Challenges Hindering ICT Adoption in Estate Agency Practice

S/N	Statements	SD (1)	D (2)	A (3)	SA (4)
11	High cost of ICT infrastructure (computers, software) is a barrier to adoption.	☐	☐	☐	☐
12	Poor internet connectivity affects ICT usage in estate agency practice.	☐	☐	☐	☐
13	Lack of digital literacy among estate agents limits ICT adoption.	☐	☐	☐	☐
14	Many clients still prefer traditional (face-to-face) property transactions.	☐	☐	☐	☐
15	Cybersecurity risks and fraud discourage the use of online platforms.	☐	☐	☐	☐

Examine Strategies for Enhancing ICT Integration in Estate Agency Practice

S/N	Statements	SD (1)	D (2)	A (3)	SA (4)
16	Regular ICT training for estate agents will improve adoption.	☐	☐	☐	☐
17	Government policies should support ICT infrastructure development for real estate.	☐	☐	☐	☐
18	Real estate firms should invest in cybersecurity to build client trust.	☐	☐	☐	☐
19	Public awareness of ICT benefits in real estate should be promoted.	☐	☐	☐	☐