

Perception and Adoption of AI-Generated Designs Among Registered Architects in Lagos, Nigeria

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<http://doi.org/10.5281/zenodo.23062598>

Abstract

The rapid emergence of artificial intelligence (AI) is transforming architectural design processes, yet empirical evidence on Architects' perception and adoption of AI-generated designs in developing-country contexts remains limited. This study investigates registered Architects' perceptions of AI-generated designs and examines the factors influencing the adoption and application of AI tools in architectural practice in Lagos, Nigeria. A mixed-method research design was employed, combining a cross-sectional questionnaire survey with semi-structured interviews. Data were obtained from 117 of the 277 registered Architects practising in Lagos State and analysed using descriptive statistics, content analysis and thematic analysis, with triangulation used to integrate quantitative and qualitative findings.

The findings reveal high awareness and understanding of AI technologies ($M=3.19$, $SD=1.28$), but relatively limited practical competence and experience. Architects predominantly perceive AI-generated designs as conceptual and creative aids ($M=3.23$, $SD=1.24$), rather than finished professional outputs. Consequently, AI adoption is concentrated in early design activities, particularly rapid client visualisation and the generation of design alternatives ($M=3.15$ each). Integration into detailed design and documentation remains constrained by interoperability challenges with CAD and BIM platforms ($M=2.97$, $SD=1.08$). Ethical concerns surrounding authorship, accountability, professional responsibility and contextual relevance further moderate adoption, while perceived usefulness, workflow efficiency, innovation and creative support encourage it. Conversely, concerns about reliability, regulatory compliance and loss of creative control constrain wider implementation.

The study contributes context-specific empirical evidence demonstrating that AI adoption in architectural

practice is shaped by interacting technological, professional and contextual factors. It highlights the need for targeted professional training, appropriate regulatory frameworks and context-sensitive strategies for responsible AI integration into architectural education and practice.

Keywords: Artificial Intelligence; Architectural practice; AI-generated designs; Technology adoption; Nigeria

1. INTRODUCTION

1.1 Background to the study

The study of technological innovations has always been a factor that has influenced the development of the architecture profession (Oladigbolu *et al.*, 2022). The transition from manual drafting to Computer-Aided Design (CAD), Building Information Modelling (BIM), parametric tools, and now Artificial Intelligence (AI) tools has been a gradual process (Bernstein, 2025). The rapid evolution of generative artificial intelligence (GenAI) and associated tools (text-to-image models, image synthesis, generative design algorithms, and large language models) has generated increased interest in the field of architecture, changing the way knowledge is created, displayed, and evaluated (Huh *et al.*, 2025). Studies have also found that AI can accelerate the ideation process and generate a vast number of options, but there are concerns regarding the quality, relevance, and reliability of the results generated compared to human-driven design processes (van Oudheusden & Willebrand, 2025).

Despite growing commentary on AI use, there is limited research that examines how professional Architects themselves interpret AI-generated designs (Bolaji *et al.*, 2025; Nnaji *et al.*, 2023). While some Architects see these designs as true contributions (Arin Ensarioğlu, 2026), others see them as deceptive hallucinations (El Moussaoui, 2026) that could have an impact on practice

or as shallow illusions that conceal a lack of depth.

1.2 Statement of the Research Problem

Architectural researchers have begun to conceptualise AI's creative tendencies through metaphors such as hallucination, mirage, and perception (del Campo & Leach, 2022), but understanding how architects perceive and utilise these AI-generated designs remains limited (Hegazy & Saleh, 2023). Whether they are a source of inspiration, deceptive illusion, or creative perception is not yet clear to the Architects.

This lack of understanding creates a critical research gap, and without considering the Architects' perspective, AI integration in design professional practice risks being driven by technological enthusiasm rather than thoughtful consideration (Onatayo *et al.*, 2024). There is also a lack of clear frameworks for assessing AI-generated designs, which may lead to either overreliance on or unjustified scepticism toward these emerging tools (Mkpo, 2025). Therefore, this study aims to critically examine Architects' perspectives of AI-generated designs to determine how their perception influence the acceptance and integration of AI tools in architectural practice, towards providing insights that can guide the meaningful adoption of AI in the creative design process.

1.3 Study Area

This study was conducted in Lagos State, Nigeria, the country's leading urban and economic centre, with the highest concentration of architectural firms, construction activities and the number of registered architects (Oladigbolu *et al.*, 2022). Lagos presents a technologically progressive environment, with a mix of large firms, medium practices, and independent architects and a strong presence of digital industries, creative hubs, and tech-driven architectural practices.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Artificial intelligence in architectural practice

The concept of artificial intelligence (AI) may be broadly defined as the ability of a machine to act intelligently to replicate human behaviour based on algorithms that are intended to solve complex problems. The use of AI in architecture signifies the shift in the paradigm of technology, as the profession becomes highly data-driven and generative, leaving the manual and CAD-driven methods (Onatayo *et al.*, 2024). The AI systems are based on machine learning, neural networks and generative design algorithms to simulate, analyse and optimize architectural

solutions.

Major architectural firms have started to use AI technologies to optimise the work process and improve building performance simulations (Rane, 2023). Ultimately, AI's function is to augment the design process and increase efficiency by automating complex and repetitive tasks (Adeleye, 2024).

2.2 Theoretical Framework

This study is anchored in an integrated set of theories that collectively explain how selected registered Architects in Lagos perceive and adopt AI-generated design tools. The primary purpose of this framework is not merely to describe adoption patterns but to explain the underlying mechanisms of technology acceptance, resistance, and professional engagement in the architectural context of Lagos, moving the study beyond observation toward a deeper understanding of how AI tools are integrated into design practice.

2.2.1 Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology (UTAUT) provides an integrated perspective by combining aspects of basic adoption theories, one of which is the Technology Acceptance Model (TAM). According to UTAUT, there are four primary constructs: predicting technology adoption: Performance Expectancy (the belief that using it will help you), Effort Expectancy (how easy it is to use), Social Influence (influence from peer and firm pressures), and Facilitating Conditions (having resources and support). UTAUT, however, finds its value in the broader application to an organisational setting such as architectural firms in Lagos. In such a context, the uptake is driven not only by individual attitude, but also by firm culture and digital capabilities in terms of information systems and technology acceptance, as well as leadership edicts. The findings of this study further support the results of the constructs of "Relative Advantage" and "Observability" (Akram *et al.*, 2025; Ma *et al.*, 2025) of the UTAM of technology, as they were found to be significant motivators of adoption; and "Human Centred Training Loop" of the HI-TAM (Mao *et al.*, 2024) as it helps explain why Architects continue to demand a human-centred training loop even in the presence of UTAUT's facilitating conditions.

2.3 Gaps in Literature

Despite the growing body of research on artificial intelligence (AI) in architecture (Albukhari, 2025; Akram *et al.*, 2025; Ma *et al.*, 2025), important conceptual and empirical gaps remain regarding Architects' engagement with AI-generated designs in professional practice. Existing studies have predominantly examined AI from a technological perspective (Berretta *et al.*, 2023), emphasising its capabilities and innovation potential (Gama & Magistretti, 2025), while giving comparatively less attention to how architects interpret, evaluate and integrate AI-generated outputs within real design processes (Berni *et al.*, 2024). Consequently, current scholarship explains technological performance more effectively than professional adoption. Another drawback is that current evidence has been found in a limited geographic area. The majority of empirical research has been conducted in technologically advanced economies (Das & Hilgenstock, 2022), where the digital infrastructure, institutional support and technological maturity are significantly different from developing settings. This reduces the applicability

of the results to other cities like Lagos, where the availability of funds, digital capabilities and infrastructural gaps could impact how AI is applied. (Cheche *et al.*, 2024)

Conceptual drawbacks related to the determinants of AI adoption have also been shown in the literature (Desveaud & Bawack, 2026). Presently, AI Awareness is often perceived as merely being familiar with the tools available for AI, without considering variations in technical expertise, use and critical assessment (Widyakusuma, 2024). In a similar vein, although outputs produced by AI have been extensively evaluated (Sardinha, 2024), far less focus has been given to the professional judgement of Architects for validating, modifying, and/or rejecting AI outputs to meet contextual, regulatory, and other requirements (Valsamidou, 2023, Abbasnejad *et al.*, 2026). Ethical concerns are widely recognized and noted, such as accountability, authorship and intellectual property, but most of the time they are conceptual and little empirical evidence shows how they affect adoption decisions (Hegazy & Saleh, 2023).

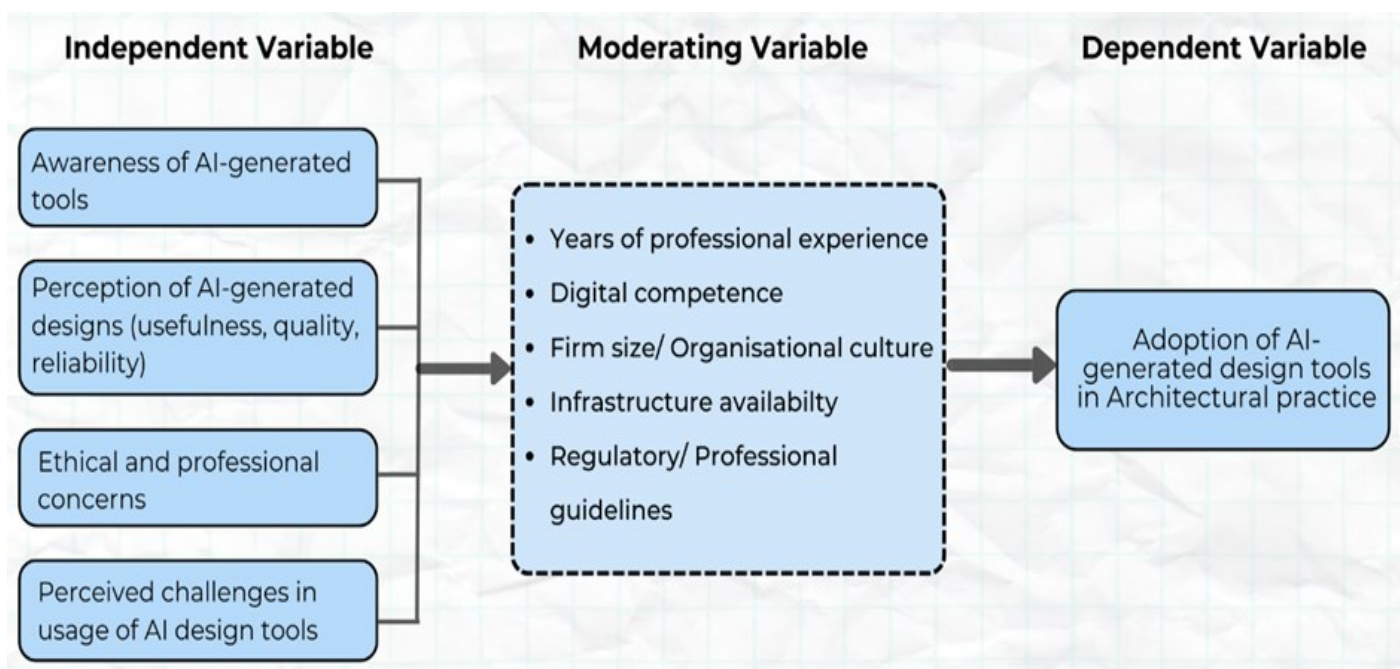


Figure 1 Conceptual Framework diagram

Similarly, the consequences of the use of AI in the field of sustainable architecture and its application at various stages of the design process have yet to be fully explored (Kurcusz & Stefańska, 2025; Elrawy & Wagdy, 2025). All of these restrictions suggest that the current knowledge on AI usage in the practice of architecture is still fragmented. The extent to which Architects are aware of, interpret, perceive and adopt the AI-generated designs in a single analytical framework is still limited, especially in the context of urban development in Lagos, Nigeria. To tackle this, this study focuses on the role of a designer's perception of AI-generated design in achieving awareness, interpretation and adoption of AI in their professional practices.

2.4 Conceptual Framework of the Study

The study's conceptual framework in Figure 1 shows how Architects' knowledge and perception of AI-generated design tools relate to the study topic and how they use these tools in their professional architectural practices in Lagos, Nigeria. The framework is designed to describe the effects of the main independent variables on the dependent variable and to consider some of the moderating factors that are important in the professional setting.

3 METHODOLOGY

3.1 Research Design

This study employed a mixed-methods research design as summarised in Table I, integrating quantitative and qualitative approaches. The design allows for systematic measurement of perceptions and adoption patterns through surveys and a deeper understanding of architects' perceptions through interviews. The mixed-methods approach enables triangulation of data, thereby

improving the reliability and depth of the findings. The quantitative component used a cross-sectional survey design, and the qualitative component used semi-structured interviews.

3.2 Method of Data Collection

3.2.1 Population of the study

The population of the study comprises selected registered architects practising in Lagos State. Lagos State has the highest concentration of architectural firms and registered practitioners in Nigeria, with professional estimates indicating approximately 277 registered architects actively practising in the state.

3.2.2 Method of data collection

A total of 117 responses were collected out of the 277 registered Architects practising in Lagos State, both electronically and in printed form to maximise response rates. Respondents were selected using a random sampling method. Semi-structured interviews were conducted with 10 registered architects. With consent, interviews were audio-recorded and transcribed verbatim for analysis.

3.3 Data Analysis

The quantitative data were coded and analysed using statistical software, SPSS. Patterns in the awareness, adoption and ethical perceptions of Architects toward AI were summarised using descriptive statistics such as frequencies, percentages, and mean scores. Inferential statistical techniques were used to examine the relationships among socio-economic traits, professional experience, and AI adoption. Qualitative data from interviews underwent thematic analysis, involving coding transcripts, identifying recurring themes, and interpreting insights regarding professional identity, ethical considerations, and perceptions of AI-generated designs. Qualitative data was organised and managed

Table I: Summary of Research Design

S/N	Objectives	Data Gathering Techniques	Data Analysis
1	Establish the level of awareness of AI-generated design tools among selected registered architects.	Questionnaire	Descriptive statistical analysis
2	Understand how architects interpret AI-generated outputs.	Questionnaire and Interviews	Content and Descriptive analysis
3	Analyse how architects' perceptions of AI-generated designs influence their willingness to accept and integrate AI tools into architectural practice.	Questionnaire and Interviews	Content and Descriptive analysis

systematically. Triangulation of both quantitative and qualitative results was conducted to ensure a sound, detailed understanding of the problem under study, thereby enhancing the study's credibility and insight.

3.4 Ethical Considerations

Participants were given clear information about the research objectives, study procedures, and possible risks and benefits. Informed consent was sought before participation. Strict confidentiality and anonymity were observed, with personal identifiers being eliminated in the questionnaires and interview transcripts.

Table II: Socio-economic Characteristics of Respondents

Demographic Variable	Category	Frequency (n)	Percent-age (%)
Gender	Male	83	70.9%
	Female	34	29.1%
Age Range	21 - 30 years	25	21.4%
	31 - 40 years	41	35.0%
	41 - 50 years	29	24.8%
	51 years and above	22	18.8%
Highest Level of Education	Bachelor's Degree	31	26.5%
	Master's Degree	45	38.5%
	Doctorate (PhD)	41	35.0%
Professional Status	Registered Architect (ARCON)	49	41.9%
	Associate Member (NIA)	47	40.2%
	Full Member (NIA)	20	17.1%
	Graduate Member (NIA)	1	0.9%
Years of Professional Practice	1 - 5 years	23	19.7%
	6 - 10 years	30	25.6%
	11 - 15 years	24	20.5%
	16 - 20 years	20	17.1%
	Over 20 years	20	17.1%
Type of Organisation	Private Architectural Firm	27	23.1%
	Consultancy Firm	27	23.1%
	Academic Institution	26	22.2%
	Government Organization	19	16.2%
	Construction Company	18	15.4%
Experience with AI Tools	No experience	13	11.1%
	Beginner	41	35.0%
	Intermediate	48	41.0%
	Advanced	15	12.8%

4. RESULTS AND DISCUSSION

4.1 Socio-economic Characteristics of Respondents

The data outline the respondents' professional, educational, and organisational backgrounds, which fundamentally shape their exposure to and interpretation of generative design tools. A comprehensive consolidation of these socio-economic variables is presented in Table II.

4.2 Level of Awareness of Artificial Intelligence-Generated Design Tools among Registered Architects

This stage was aimed at finding the level of awareness of the designer, (registered architects), of the study area on the use of artificial intelligence design tools. The baseline is a critical first step in evaluation of later issues of design output interpretation and active incorporation of new technology which has been found to be tightly coupled to the initial cognitive openness and familiarity with new operational paradigms.

A total of 10 different indicators were used to evaluate conceptual exposure, core application familiarity, training reception, and personal knowledge confidence on a five-point Likert scale to assess the overall picture. The quantitative metrics are presented in summary descriptive statistics (mean scores and standard deviations), are or-

ganised and ranked systematically and are used to conduct a comprehensive structural analysis of professional readiness in Table III.

This statistical trend confirms the structural claims of Bao & Xiang (2024): AI has become an unavoidable part of today's professional conversation, taking over from an esoteric technical topic to a hyper-visibility of deep learning systems. The results validate practitioners' observations of the ongoing global paradigm shift, which is also reported by Agri et al. (2025) who noted that the wide availability of commercial image synthesis tools has helped to catch the attention of experienced practitioners and emerging professional talents at the macro-level.

However, a careful micro-level examination of the less prominent metrics indicates a significant structural gap between conceptual exposure and operational/functional literacy. The structural friction is evident in the lowest-ranked indicators in the matrix: knowledge of text-to-image applications during early-stage design and active exposure to case studies of architectural AI publications, which tied for the lowest rank with a mean score of 2.97. Additionally, the clear awareness of the possible benefits of AI (such as faster design iterations and improvement of computational creativity) scored a flat neutral mean of

Table III: Mean Ratings and Ranking of the Level of Awareness of AI-Generated Design Tools

Rank	Item Description	Mean	Std. Deviation
1	Awareness of Parametric and Generative AI	3.19	1.28
2	Recent Increase in AI Awareness	3.17	1.25
3	Awareness of AI Tool Existence	3.12	1.13
4	Awareness of Ethical Implications and Limitations	3.03	1.27
5	Confidence in Personal AI Knowledge	3.03	1.14
6	Familiarity with AI Design Generation	3.03	1.16
7	Receipt of Formal AI Training	3.03	1.21
8	Understanding of Potential AI Benefits	3.00	1.31
9	Knowledge of Text-to-Image Applications	2.97	1.16
10	Exposure to Architectural AI Publications	2.97	1.25

3.00, which was the eighth most frequent response. The results of this specific decrease in mean scores from generalised awareness to specific application competencies well correspond with the empirical results of Nurfadhilah & Saputra (2024).

4.3 Interpretation of AI-Generated Outputs by Registered Architects

4.3.1 Mean Rating Analysis

The quantitative assessment of this objective was conducted using 12 different interpretative frameworks, from conceptual inspiration to structural optimisation and ethical evaluation.

Table IV presents the descriptive statistics, which are summarised by the mean score and standard deviation, and are used to establish a ranked hierarchy of professional perception. The analysis of the statistics shows that the architect's way of working with these computational outputs is largely pragmatic optimisation and strict human supervision, rather than as independent design solutions. The best-scoring variable in this construct is the assessment of the optimisation potential of AI, with a mean score of 3.27. This discovery suggests that registered practitioners in Lagos are mainly using generative tools as functional accelerators that can optimise spatial layout and explore complex design alterna-

tives at an unprecedented speed. This is in line with the empirical findings of Akram *et al.* (2025) and Said *et al.* (2023),

In addition, the requirement for active human critique (Mean = 3.18) highlights the active (not passive) use of these tools, consistent with Rahman & Mehnaz, (2024), who noted the need for strong human critique. The bottom three metrics, however, which focus on perceptual and human realism as well as attention to authorship and cultural ethics (both with a mean of 2.98) suggest a high level of scepticism about the machine's ability to fully capture the concept of architectural empathy.

The low score for human realism reinforces the literature that shows the way AI is treating space is often an 'ocular' one, focusing on the visual, and that it often ignores the multisensory, experiential and culturally rich aspects of physical space that are central to the professional practice of architecture.

4.3.2 Content Analysis

The qualitative interview responses of 10 registered architects in Lagos were collected and subsequently analysed in a comprehensive content analysis to deepen and nuance the understanding of the cognitive frame-

Table IV: Mean Ratings of Architects' Interpretation of AI-Generated Outputs

Rank	Item Description	Mean	Std. Deviation
1	Evaluation of AI Optimisation Potential	3.27	1.23
2	Acknowledge Final Human Responsibility	3.24	1.27
3	Interpretation of AI as Creativity Enhancer	3.23	1.24
4	Need for Active Human Critique	3.18	1.25
5	Interpretation of AI as Style Co-Creation	3.15	1.29
6	Identification of AI Biases and Limitations	3.15	1.22
7	Interpretation via Iterative Prompt Dialogue	3.14	1.19
8	Evaluation of AI as Quick Sketch Reference	3.14	1.23
9	Interpretation of AI as Inspiration	3.09	1.19
10	AI Outputs as Provisional Suggestions	3.02	1.28
11	Focus on Perceptual and Human Realism	2.98	1.27
12	Attention to Authorship and Cultural Ethics	2.98	1.30

works used by practitioners. In particular, practitioners noted that artificial intelligence systems' capability to respond to critical local infrastructure issues is severely constrained. The unreceptivity of the site and the unrealistic buildability of the structures make the generative outputs seem shallow illusions.

The respondents therefore stated that a significant number of machine-generated designs have to be tweaked by hand before they can be used in real-world projects safely. The modification rates reported were astounding, from 40% to more than 90% of the designs produced needing a lot of human effort to get to a regulatory and practical compliance level. This is a huge need for manual correction, which strengthens the qualitative aspect of the non-delegable sovereignty of man. The interviewees agreed that there are aspects of the architecture, such as cultural interpretation, social appropriation, cost control, and the sense of place, which are not yet possible to be automated using the current algorithms. The results are directly in line with the empirical literature provided by Schneider et al. (2024), who cautioned that the models of artificial intelligence often neglect the key structural requirements and localised site context, producing designs that are totally unfeasible and can lead to false expectations for clients if not interpreted with great care.

4.3.3 Triangulation

The triangulation of the quantitative mean ratings and the qualitative content analysis offers a strong and coherent analysis of the registered architects' interpretation of the design produced by AI tools in Lagos. The quantitative data confirmed that the highest-ranking interpretative metric was the evaluation of optimisation potential with a mean score of 3.27. The qualitative interviews are an ideal reflection of this context. The architects explicitly appreciate the technology's ability to create a multitude of unit variations for projects within a short time, and to be able to quickly visualise solutions for shading that are climate-friendly. In the context of the urban landscape in Lagos, which is characterised by rapid development and high pressure, the statistical preference for optimisation is actually based on the need to be efficient, which translates into competitiveness and survival in the professional world. However, the quantitative finding is that the interpretative process is most strongly driven by the recognition of final human responsibility (Mean = 3.24) and the need for active human critique (Mean = 3.18). This defensive professional posture is well explained in the qualitative data.

Practitioners are often required to work with machine-generated designs that fail to account for flooding conditions in Lagos, lack sourceable materials, and do not consider the spatial habits of the local population, making the outputs per se a flawed design. The reported requirement to redesign up to 90 per cent of a generated concept is also a key reason for the quantitative score for interpreting artificial intelligence outputs as being perceptually and human-realistic is at the absolute bottom of the measurement scale (Mean = 2.98). The practitioners are not convinced of the machine's perception of reality. This unified synthesis is in line with the Hybrid Intelligence Technology Acceptance Model (HI-TAM) proposed by Mao et al. (2024) which states that in complex creative fields, technology needs to be adopted through a continuous training loop that is human-centred.

4.4 Influence of Perceptions of AI-Generated Designs on Willingness to Accept and Integrate AI Tools

4.4.1 Mean rating analysis

The statistical appraisal examines the relationship between the perception of the registered architects' psychology and professional and their willingness to accept and use artificial intelligence in their architectural workflow. This, in essence, reflects the cognitive level at which the emerging technology is accepted as a collaborator or rejected as a professional threat. In order to measure this, 14 perceptual indicators were measured with a 5-point Likert scale, covering issues of trust, creative sovereignty, operational drive and ethical anxiety. The descriptive statistics obtained (mean scores, standard deviations) are arranged and ranked in Table V. The quantitative distribution shows a very pragmatic and very cautious professional group, whose choice of adoption is determined not so much by the novelty of the technology but by the reliability of the technology and the maintenance of the integrity of the profession.

The most highly-ranked metric that affects willingness to adopt was the need for output reliability, with a mean score of 3.19. This number is a clear indication that the architect's confidence in the technical correctness and practicality of the design created is the last barrier to integration.

This result aligns well with the empirical claims made by Law et al., (2025) and Yiannoudes (2025) that professional scepticism will immediately

override technological enthusiasm when architects notice obvious data biases or lack of structural plausibility in synthetic imagery. The next two features to be valued by the architectural community of Lagos are the spatial optimisation features of AI (Mean = 3.06) and the observed success cases in the industry (Mean = 3.03), demonstrating the operational pragmatism of the community.

The constructs of the Technology Acceptance Model (TAM) – namely "Relative Advantage" and "Observability" – are significant motivators for practitioners, as they are eager to embrace technologies they see as having practical utility and enhancing their market's efficiency and spatial layouts (Akram *et al.*, 2025; Ma *et al.*, 2025). This pragmatic momentum is

greatly constrained by another equally strong set of perceptual apprehensions. The third most influential factor was hesitancy due to loss of creative control (a mean score of 3.03) and ethical concerns that reduced confidence in adoption (also a mean score of 3.03). The scores demonstrate a significant professional conflict, reinforcing the literature that Schneider *et al.* (2024) noted, which revealed that there were deep-seated anxieties about the "interpretative sovereignty" of architecture, and the fear of algorithmic domination on the cultural identity and ethical responsibility traditionally associated with the human architect. Interestingly, the motivation through tool personalisation capability (Mean = 2.83) was quite low. This means that, despite the theoretical frameworks such as the Hybrid Intelligence Tech-

Table V: Mean Ratings of the Influence of Perceptions on Willingness to Accept AI Tools

Rank	Item Description	Mean	Std. Deviation
1	Adoption Driven by Output Reliability	3.19	1.17
2	Valuing AI Spatial Optimization Features	3.06	1.27
3	Influence of Observed Industry Success Cases	3.03	1.22
4	Hesitancy from Loss of Creative Control	3.03	1.17
5	Ethical Doubts Lowering Adoption Confidence	3.03	1.08
6	Perceived Creativity Enhancement Impact	3.02	1.17
7	Willingness Based on Supportive Partnership	3.01	1.34
8	Willingness via Collaborative Workflow Alignment	3.00	1.22
9	Drive for Workflow Efficiency and Speed	2.96	1.19
10	Job Security and Displacement Anxieties	2.96	1.32
11	Desire for Multiple Fast Design Options	2.92	1.18
12	Augmentation of Professional Judgment	2.91	1.19
13	Motivation via Tool Personalisation Capability	2.83	1.22
14	Reduced Willingness from Fear of Standardisation	2.70	1.23

nology Acceptance Model (HI-TAM) Mao et al. (2024) call for ongoing human-centred training cycles to create psychological safety. The existing generation of Lagos architects is not technically fluent or has the infrastructural capacity to truly customise these generative assistants, thereby continuing to fall prey to algorithmic outputs that are more generic and less suited to their specific needs.

4.4.2 Content Analysis

The semi-structured interviews were subjected to qualitative content analysis, which adds a critical narrative dimension to the psychological factors that could be said to be influencing or inhibiting the uptake of artificial intelligence among registered architects in Lagos. The interview transcripts show a very polarised professional situation, in which at the same time there is a feeling of excitement about unprecedented efficiency and an existential fear for the future of the architectural identity. The architects who were very interested in using these tools saw them almost exclusively as a machine, a high-speed operational assistant. Many practitioners said that AI has helped them to be much more willing to experiment, as it has been a catalyst in the conceptual development stage. These users do not see the technology as an independent generator of content, but rather as an additional tool that can help their companies gain a competitive advantage by making it easier to present clients with content and showcase the different ways to build affordable housing in a climate-friendly way. These practitioners have a positive perception of the technology as a subordinate efficiency tool, which fuels their integration efforts. In contrast, the thematic analysis strongly highlights the general scepticism of the professionals and moral doubt that is present in the background and severely limits the wider adoption. One of the common threads in the stories is the existential crisis of skill development and creative sovereignty. Senior practitioners made it clear that they were concerned that younger architects were skipping over a long and hard process of human design thinking, spatial intuition, and proportional judgment to rely on generative artificial intelligence. The fear of deskilling is further compounded by strong ethical concerns about ownership of design, intellectual property and liability. When it comes to legal and moral accountability, if an algorithmically generated structure fails or does not meet local building codes, respondents repeatedly asked, "Who is responsible?" Additionally, the qualitative information revealed a strong concern about the loss of cultural identity. Practitioners understand the current artificial intelli-

gence models as being highly westernised, worrying that the use of these tools will lead to the homogenization of the built environment and the loss of indigenous African architectural details. Finally, the structural support was identified as a universal need through the content analysis. Nearly all respondents noted that their full adoption of AI would be limited until professional organisations establish clear guidelines, ethical protocols, and targeted training initiatives to bring the technology into line with the unique context of the construction sector in Nigeria.

4.4.3 Triangulation

A very integrated and complete explanatory framework is produced by combining the quantitative descriptive statistics and the qualitative content analysis, which explains in detail how the perceptions of registered Architects in Lagos influence their technological adoption behaviours. The triangulation of these datasets shows that the willingness to adopt is caught in a fine balance of operational speed and strong professional and ethical sovereignty. The quantitative data confirmed that adoption, based on output reliability, was the absolute highest-scoring indicator that influenced willingness (Mean = 3.19). This statistic is aptly explained by the qualitative interviews, which revealed that practitioners are actively opposing full integration due to their perception of the current outputs as fundamentally unreliable when it comes to Nigerian construction materials, climatic conditions and regulatory compliance. The architects believe that an algorithmic output may lead to professional liability or structural failure, and this is exactly what Desouki et al. (2023) found in their empirical study of the fragile professional liability landscape of automated generation. In addition, the quantitative results show that the need for spatial optimisation (Mean = 3.06) is matched by the reluctance to lose creative control (Mean = 3.03), which is beautifully illustrated by the qualitative narratives.

The qualitative descriptions of older architects' concerns about deskilling younger employees make sense of why the job security and displacement anxiety (Mean = 2.96) continues to be a measurable impediment to adoption in the quantitative matrix. This triangulated reality lends strong empirical support to the claims of Dudás (2025) and Moussaoui (2025), who assert that overreliance on technology is deeply felt and has a negative impact on human creativity and the crea-

tion of a standardised approach to the built environment. Finally, the findings reveal that positive perceptions and subsequent adoption only emerge when AI is firmly seen as a subordinate and collaborative tool. In the absence of more transparent ethical standards from the software developers to safeguard human accountability and from the local regulatory authority, ARCON, which is currently developing such guidelines, the perception of AI in Lagos will continue to be defensive scepticism, rather than full integration.

5. SUMMARY, AND RECOMMENDATIONS

5.1 Summary of Findings

The findings indicate that registered Architects in Lagos demonstrate high awareness of Artificial Intelligence (AI) technologies but comparatively limited practical competence in their applications. Although respondents recognised the growing relevance of AI to architectural practice, practical utilisation remains constrained, suggesting that awareness alone is insufficient to drive effective adoption. This finding supports previous studies highlighting the increasing prominence of AI within architectural practice while exposing a persistent gap between knowledge and technical capability (Bao & Xiang, 2024; Schneider *et al.*, 2024). The study further revealed that AI-generated designs are predominantly perceived as conceptual support tools rather than complete architectural solutions. Respondents acknowledged AI's value in idea generation, visualisation and creative exploration, but emphasised that its outputs require substantial professional interpretation and refinement before practical implementation.

These findings extend the Unified Theory of Acceptance and Use of Technology (UTAUT) by demonstrating that successful AI adoption in architectural practice depends not only on technological benefits but also on professional confidence, ethical assurance and contextual suitability.

5.2 Contribution to Knowledge

This study contributes to the growing body of knowledge on Artificial Intelligence (AI) in architectural practice by providing empirical evidence from a developing-country context, where research remains comparatively limited. While previous research focused on the use of AI in Pakistan (Akram *et al.*, 2025), Egypt (Elrawy & Wagdy, 2025) and other tech-

nologically advanced sectors like the construction industry in general (Rane, 2023), and architectural façade design (Law *et al.*, 2025), this study adds to this evidence based by examining the use of AI among registered Architects in Lagos, Nigeria, a developing West African context not previously explored in the literature.

5.3 Recommendations

The findings of this study have important implications for policy, education, professional practice and technology development.

1. Professional regulatory bodies, particularly the Architects Registration Council of Nigeria (ARCON) and the Nigerian Institute of Architects (NIA), should develop comprehensive guidelines governing the ethical integration of AI into architectural practice. Such guidelines should address issues relating to authorship, intellectual property, accountability, transparency and professional liability to ensure that AI complements rather than compromises professional standards.
2. Second, schools of architecture should embed AI competencies within their curricula by integrating training in AI-assisted design, computational thinking and critical evaluation of AI-generated outputs. This would equip future Architects with the technical and professional capabilities required to apply AI responsibly while preserving design quality and ethical practice.

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