

Architecture as Employment Generator: Exploring Entrepreneurial Opportunities for Nigerian Graduates Beyond Traditional Practice

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Abstract: *Nigerian architecture graduates face persistent unemployment and underemployment, while conventional client-driven practice offers limited absorptive capacity. This study examined whether reframing architecture as entrepreneurial practice can function as an employment generator for graduates. The study employed a sequential exploratory mixed-methods design in Nigeria by combining a document review, semi-structured interviews with practicing architects, and a pilot survey of architects. Qualitative data were analyzed thematically; survey responses were summarized descriptively with basic inferential tests to examine associations between entrepreneurial intentions, perceived barriers, and educational exposure. Participants judged traditional practice insufficient for stable early-career employment, yet expressed strong entrepreneurial aspirations. Digital design services (e.g., visualization/BIM) and furniture/product design consistently emerged as the most viable near-term niches, with sustainable/green offerings and cooperative micro-development also attracting interest. The most cited blockers were access to finance, tools/fabrication facilities, and mentorship/networks; respondents rated entrepreneurship preparation in their curricula as weak, and perceived limited institutional support from professional bodies. Qualitative accounts reinforced these patterns and highlighted the need for structured partnerships, market-facing skills, and practice-ready digital competence. Repositioning architecture as entrepreneurial practice can broaden employability for Nigerian graduates if supported by targeted finance, mentorship, incubation, and curriculum reform that embeds enterprise, market strategy, and digital production. Findings indicate that entrepreneurial reorientation, supported by mentorship and access to finance, can reposition architecture as an employment generator. A conceptual Architects Enterprise Fellowship (AEF) is proposed to institutionalize mentorship and seed funding, drawing lessons from Spacefinish's design-build model.*

Keywords: Architectural Entrepreneurship, Job Creation, Graduate Employability, curriculum reform, Nigeria

1. Introduction

Globally, architecture is regarded as a profession that is crucial to national development. It helps to preserve cultural identity while maintaining structural significance (Yang et al., 2024). The role of architects in society includes; synthesizing complex environmental, social, and technical challenges into holistic designs, that enhance human well-being, quality of life and also integrate sustainable practices to ensure a resilient future (Jacobi & Bjørner, 2024; Lameira et al., 2023, Mba et al., 2024). Despite its significant role, the profession is now facing a profound employment crisis. Unemployment has been described as one of the greatest challenges facing most developing countries like Nigeria (Ipe & Pepple, 2018) where the unemployment rate has risen from 22.6% in 2018 to 33% in 2020 (Sasu, 2023). By 2022, Nigeria's youth unemployment rate was purported to be an

average of 42.5 % (Oyinlola et al., 2024).

Studies have suggested entrepreneurship as a means to curb persistent unemployment, which negatively affects the nation, and by extension the architectural profession, leading to low productivity and a weakened economy. Empirically, little is known about whether, and through which mechanisms, entrepreneurial reorientation can function as an employment generator for architects in a Global South labor market. This pilot mixed-methods study addresses that gap by (i) mapping viable niches, (ii) modelling barrier-intention relationships, and (iii) deriving an implementable mentorship-finance mechanism. This study therefore explores whether an entrepreneurial reframing of architectural practice can expand employability outcomes for Nigerian graduates. By combining qualitative

insights with pilot quantitative data, it identifies viable niches and institutional mechanisms to reposition architecture as an employment generator.

1.1 Problem Statement

Architecture-specific unemployment is caused by several factors including proliferation of quacks (Akuboh & Aimola, 2025), institutional issues and its poor implementation (Okonta et al., 2024), clients' inability to pay qualified architects (Mba et al., 2025), clients' preferences favoring expatriates (Ipe & Pepple, 2018), lack of practical experience among graduates (Raji & Gafar, 2018), outdated educational curricula (Obi et al., 2022), and a general scarcity of job opportunities within the construction industry (Dare-Abel, 2015). In addition to these, the profession in Nigeria faces a unique challenge, where architectural graduates are historically oriented toward traditional 'white-collar' employment and preference for salaried office jobs over self-employment (Adeokun & Opoko, 2015; Olanrewaju & Ogunmakinde, 2021). Other studies identify narrow specialization and dependence on building commissions as key limitations (Ayo-Odifiri, 2023).

In addition, most Nigerian clients bypass registered architects to save costs (Okonta et al., 2025), while the limited number of public projects favours few politically connected firms (Oluseye, 2024). Such constraints hinder the profession's ability to create jobs and diversify income streams. Moreover, the architectural syllabus in Nigeria has historically emphasized design aesthetics and technical drawing at the expense of business acumen, entrepreneurial skills and digital competencies. (Ayo-Odifiri, 2023). Similarly, due to the nation's severe graduate unemployment crisis and the economy's limited absorptive capacity, many highly skilled architecture graduates are forced into underemployment (Virk et al., 2023). Even in vocational fields like architecture, employers often have to re-evaluate competencies (Maina, 2018) and re-train fresh graduates to make them fit for practice. Nigerian graduates face high levels of unemployment and underemployment which is attributed to a lack of skills, not a lack of jobs) compared to other West African countries.

Given these constraints, this study asks: Can reframing architecture as an entrepreneurial practice function as an employment generator for Nigerian graduates? To address this overarching question, three objectives were pursued: (1) Identify emerging market niches beyond

conventional practice where architectural skills can catalyze job creation; (2) Assess perceptions, readiness and challenges experienced by practitioners regarding entrepreneurial engagement; and (3) Propose conceptual strategies for integrating entrepreneurship into architectural education and professional policy

1.2 Significance of the Study and theoretical gap

Existing studies highlight Nigeria's vast unmet demand for professional architectural services. Some estimate a ratio of one registered architect per 50 000 Nigerians (Dare Abel et al., 2015; Okonta et al., 2024). Yet this scarcity has not translated into meaningful employment because of weak service delivery models, limited public awareness and structural barriers. Recent scholarship on entrepreneurial architecture posits that integrating business and innovation skills into practice can expand the profession's scope and foster job creation (Nelles & Vorley, 2011). However, empirical examination of this proposition, particularly within a Global South context, remains limited. Most Nigerian research addresses curriculum gaps or unemployment in isolation, without investigating entrepreneurship as a systemic remedy (e.g., Ipe & Pepple, 2018; Ayo Odifiri, 2023).

This study contributes to the evolving discourse on entrepreneurial architecture by empirically grounding it in a Global South context. It operationalizes Nelles and Vorley's (2011) framework, linking human capital, institutional scaffolding, and market engagement, to examine how entrepreneurial reorientation can transform architecture into a vehicle for employment generation. This study also aligns with the national goals of economic diversification and poverty alleviation by illustrating how entrepreneurial architects can evolve into drivers of job creation rather than job seekers (Obun-Andy et al., 2025).

2. Literature Review

2.1 The Employability Crisis in Architecture

The literature consistently depicts a misalignment between architectural education and labor market demands. Graduates often possess strong technical drawing skills but lack teamwork, leadership and communication capabilities (Maina & Salihu, 2016; Oluwatayo et al., 2016). Structural unemployment persists because job opportunities concentrate in the public sector, yet the number of public projects is limited and entry favors politically connected firms (Ipe & Pepple, 2018; Oluseye, 2024). Graduates struggle to secure



apprenticeships and long-term positions; many face underemployment or drift into unrelated fields (Maina, 2018). Consequently, the employability crisis is less about absolute job scarcity than about professional orientation, curricula and regulatory frameworks.

2.2 Entrepreneurship as an Alternative Pathway

Research indicates that entrepreneurship can mitigate graduate unemployment across the built environment disciplines. Frank (2007) observed that planning and architectural programs undervalue enterprise skills despite their relevance for professional survival. Richardson (2011) reframed architecture as inherently entrepreneurial, urging practitioners to adopt roles in community development and innovation beyond client driven design. Nigerian studies report that entrepreneurship education positively shapes students' attitudes and self-efficacy (Oguguo et al., 2023), yet implementation remains limited. A critical insight from these works is that entrepreneurship should not be peripheral but integrated into architectural training to build value creation capabilities and reduce reliance on commissioned projects.

2.3 Entrepreneurial Niches in the Built Environment

Empirical evidence highlights several niches through which architects can generate employment. Cooperative housing societies have facilitated affordable housing and community empowerment (Adegun & Olusoga, 2019; Oyewole, 2010). Design led tourism projects, such as the iconic Bilbao redevelopment, demonstrate that architectural innovation can spur economic revitalization and create jobs (Scerri et al., 2019). Green and sustainable architecture is increasingly recognized as a domain of innovation, yet it faces funding and training barriers (Ofori, 2016; Othman et al., 2024). Overall, diversification into cultural tourism, cooperatives, furniture design and sustainable production offers promising pathways to broaden architecture's economic impact, particularly when institutional support is present.

2.4 Rethinking Education and Institutional Roles

Curriculum reform emerges as a critical lever for embedding entrepreneurship into architectural training. Studies from Egypt and Nigeria show that graduates are perceived as lacking creativity, digital skills and risk management capabilities (Khodeir & Nessim, 2020; Maina & Salihu, 2016). Nelles and Vorley (2011) propose an "entrepreneurial architecture" model that emphasizes leadership and structural systems enabling innovation in universities. Oksanen et al.

(2023) and Mansoori and Dimov (2025) argue that experiential learning and faculty empowerment are essential to entrepreneurship education, while design thinking naturally aligns with venture creation. Together, these works suggest that curriculum redesign alone is insufficient; institutional culture, mentorship and industry partnerships must also evolve to support entrepreneurial graduates.

2.5 Sustainability, Innovation and Urban Development

Recent scholarship links architectural entrepreneurship to sustainability and urban regeneration. Qian et al. (2024) discuss "sustainable entrepreneurial ecosystems" and "smart cities" as frameworks that drive both innovation and employment. Johnsen (2023) examines how "green" architects balance ecological ideals with market realities through innovative business models. Ofori (2016) broadens the concept of sustainability to include social and economic dimensions, urging architects to pursue eco innovation not just as an ethical imperative but as an economic strategy. These perspectives underscore that entrepreneurial architecture is not simply about profit; it also plays a systemic role in addressing environmental challenges and fostering inclusive growth.

2.6 Synthesis and Theoretical Orientation

Across the reviewed literature, three themes converge: (1) Employability challenges result from structural deficiencies in education, professional identity and institutional support; (2) Entrepreneurship offers a proactive model of value creation and career sustainability; and (3) Educational and institutional reforms are necessary to embed entrepreneurship into architectural practice. This synthesis informs the study's conceptual framework: by integrating entrepreneurial logic, encompassing market analysis, business development, digital production and partnership management, into training and practice, architects can transcend traditional client driven models, create new employment pathways and contribute to national development. Building on Nelles and Vorley's (2011) entrepreneurial architecture theory, the present study seeks to empirically ground this proposition within the Nigerian context.

3. Methodology

Study Design and Pilot Rationale

The research employed a sequential exploratory mixed methods design in which qualitative exploration preceded quantitative measurement

(Toyon, 2021). This design was selected to allow rich contextual understanding of entrepreneurial opportunities and barriers before examining their prevalence among graduates. Recognizing the constraints of time, resources and participant recruitment in post pandemic Nigeria, the study was explicitly framed as a pilot investigation aimed at instrument validation and thematic discovery rather than statistical generalization. Pilot samples of 25–40 participants are widely considered sufficient to surface major issues and refine survey instruments (Guest, Bunce, & Johnson, 2006; Hertzog, 2008). Accordingly, the study's quantitative phase recruited 36 respondents, meeting the recommended threshold for exploratory research.

Participants and Sampling

The target population comprised of practicing architects. Eligibility criteria included age ≥ 18 years and ability to communicate in English. Individuals enrolled in non-architectural programs or unable to provide consent were excluded.

3.2.1 Qualitative Study:

Five practicing architects were purposively selected to capture variation in career stage (early career, mid-career, senior), institutional affiliation and gender. Their insights provided sector context and informed survey development.

3.2.2 Quantitative Study:

Stratified sampling was employed to ensure representation across federal, state and private universities; 36 practicing architects participated. Inclusion criteria were: (a) age ≥ 18 ; (b) current enrollment or graduation within the last two years; and (c) English proficiency. Exclusion criteria were enrollment in non-architectural programs and inability to consent.

Instruments and Data Collection

Three instruments were used: (1) Document review protocol. Policy documents, professional body reports and labor statistics were systematically examined to extract contextual data. (2) Semi structured interview guide. Questions focused on employment challenges, perceptions of entrepreneurial opportunities, barriers and desired institutional support. Interviews lasting 45–60 minutes were conducted via Zoom, recorded with consent and transcribed verbatim. (3) Structured questionnaire. Developed in Google Forms, the survey comprised demographic items; Likert scale measures on employment perceptions, entrepreneurial intentions and niche viability; checklists of perceived barriers and desired

supports; and items evaluating curriculum and professional bodies. A pilot test with 10 architects assessed clarity and reliability, leading to minor revisions.

Procedure

The study unfolded in two phases.

Phase 1: Qualitative exploration.

After reviewing documents, the researchers recruited practicing architects through professional networks and conducted the interviews. Emerging themes; such as perceived saturation of the job market, interest in digital services and frustrations with institutional support, were coded and used to adapt the survey instrument.

Phase 2: Survey administration.

The refined questionnaire was disseminated via university mailing lists and social media groups. Participation was voluntary; informed consent was obtained electronically, and responses were recorded anonymously. Data collection spanned approximately four weeks.

Variables and Measures

Both qualitative and quantitative data were analyzed sequentially to ensure methodological triangulation. Document reviews and interview transcripts underwent reflexive thematic analysis following Braun and Clarke's six-phase model: familiarization, coding, theme development, review, definition, and reporting. Two independent coders analyzed the qualitative data, resolving discrepancies through discussion to enhance credibility. NVivo supported data organization and theme validation.

Quantitative data were analyzed in SPSS v26, focusing on descriptive and inferential statistics. Descriptive analysis summarized participant characteristics and responses using frequencies, percentages, means, and standard deviations. Chi-square tests evaluated associations between categorical variables, while binary and ordinal logistic regressions examined predictors of entrepreneurial intention. Statistical significance was set at $\alpha = .05$ (two-tailed), and effect sizes were emphasized given the pilot nature of the study. Cronbach's alpha coefficients were calculated to test internal consistency of multi-item scales, with $\alpha \geq .70$ indicating acceptable reliability for newly developed instruments (Ahmad et al., 2024).

Three hypotheses were tested to align with the study's conceptual framework:

• H1: Exposure to entrepreneurship education predicts higher entrepreneurial interest.

• H2: Perceived barriers (e.g., finance, networks) reduce willingness to pursue architectural entrepreneurship.

• H3: Universities integrating entrepreneurship produce graduates with stronger entrepreneurial orientation.

For H1, entrepreneurial interest was compared between respondents with and without entrepreneurship coursework using Chi-square tests and ordinal logistic regression, controlling for age, gender, and university type. H2 was tested using linear and ordinal logistic regressions regressing entrepreneurial intention and mentorship program participation on the number of perceived barriers, adjusting for demographics and prior exposure. H3 employed analysis of variance (ANOVA) and Kruskal–Wallis tests to compare entrepreneurial orientation across university types, followed by multiple regression to assess the influence of curriculum preparedness on entrepreneurial orientation.

The sequential integration of thematic insights with quantitative inference strengthened construct validity and ensured that the statistical models were contextually grounded in participants' lived experiences.

Scale Reliability.

Entrepreneurial intention (C1–C3) showed acceptable internal consistency, Cronbach's $\alpha = .80$. Curriculum preparedness (G1–G3) was also acceptable, $\alpha = .82$.

Table 1: Internal Consistency (Cronbach's α) for Study Composites ($n = 36$)

No	Composite	Items	α
1	Entrepreneurial intention (EI)	C1–C3	.80
2	Curriculum preparedness	G1–G3	.82

Note. Items scored 1–5. Higher scores reflect greater presence of the construct.

Validity and Reliability

Methodological triangulation across documents, interviews, and survey data enhanced credibility. The interview guide and questionnaire were literature-informed and refined via piloting. Member checking (participant review of interview summaries) supported accuracy. Thematic analysis used systematic procedures with multiple coders to strengthen trustworthiness (Braun &

Clarke, 2006). Internal consistency reliability exceeded .70 on pilot scales (Ahmad et al., 2024; Sukserm, 2024). The sequential design supported construct validity by allowing qualitative insights to inform quantitative measures.

Ethical Considerations

All procedures adhered to standards for human participant research (Allen & Muurlink, 2024). The informed consent process emphasized disclosure, comprehension, and voluntariness (Geier et al., 2021). No incentives were offered. Data were anonymized; identifiers were stored separately and securely. Audio files and digital data were kept on password-protected devices with access restricted to the research team. Upon study completion, recordings were deleted and only de-identified transcripts retained. The study posed minimal risk and complied with the Belmont Report principles of respect for persons, beneficence, and justice (Tariq, 2025).

4. Findings and Analysis

4.1 Participant Characteristics

Thirty-six individuals completed the survey. Demographically the sample was balanced between men (50 %) and women (44 %), with two respondents preferring not to disclose gender. Most participants were aged 36–45 (53 %), followed by 26–35 years (11 %), 18–25 years (11 %), 46–55 years (17 %) and 56 years or older (8 %). Respondents mainly graduated from or were enrolled in state universities (50 %), with the remainder coming from federal (42 %) or private (8 %) institutions. Most reported full-time employment in architecture (64 %), while 28 % were self-employed/freelance and 6 % held part time contracts; one was a PhD student. Geographically, the South–South region was most represented (44 %), followed by North Central (22 %) and South West (17 %), with smaller representation from North East, South East and North West.

Table 2: Descriptive statistics for key Likert scale items ($n = 36$).

Construct (5 point)	Mean (M)	SD
Traditional practice provides adequate jobs (B1)	2.83	1.13
Graduates struggle to secure well paid jobs (B2)	4.17	0.94
Job market is saturated/competitive (B3)	3.83	1.21



Architecture remains viable long term (B4)	4.00	1.10
Skills transferable to non-traditional roles (B5)	3.81	1.14
Entrepreneurial activity could improve prospects (B6)	4.33	0.86
Interest in starting venture within 2 years (C1)	4.00	1.01
Intend to be self-employed (C2)	4.36	0.96
Confidence identifying opportunities (C3)	4.06	0.86
Ability to mobilize resources (C4)	3.89	0.89
Furniture/product design viability (D1)	3.83	1.18
Digital design services viability (D2)	3.92	1.05
Sustainable/green products viability (D3)	3.67	1.07
Heritage/cultural tourism viability (D4)	3.58	1.05
Likely to join mentorship program (F3)	4.08	1.18
Curriculum prepared for entrepreneurship (G1)	2.25	1.16
Practical exposure to venture creation (G2)	2.47	1.13
Digital tools learning (G3)	2.89	1.30
Perceived NIA/ARCON support (H1)	2.61	1.08
Regulation flexibility (H2)	2.94	1.24

Note: Higher scores indicate stronger agreement or perceived viability.

4.2 Viability of Architecture as an Employment Generator

Correlations indicated that perceiving difficulty in securing jobs was positively related to entrepreneurial interest ($r = 0.45$, $p = .009$), while confidence in identifying opportunities was strongly associated with overall entrepreneurial intent ($r = 0.59$, $p < .001$). Curriculum preparation and digital tools training showed no significant correlation with entrepreneurial interest ($p = .41$ and $p = .32$, respectively).

4.2.1 Quantitative Findings

Participants expressed skepticism that conventional practice alone can sustain careers. On a five-point scale, the statement "Traditional practice provides adequate job opportunities" received a low mean of 2.83 ($SD = 1.13$). By contrast, respondents strongly agreed that

graduates struggle to secure well paid jobs ($M = 4.17$, $SD = 0.94$) and that the job market is saturated and competitive ($M = 3.83$, $SD = 1.21$). Nonetheless, they considered architecture viable in the long run ($M = 4.00$, $SD = 1.10$) and believed their skills were transferable to non-traditional roles ($M = 3.81$, $SD = 1.14$). Correlations suggested that perceiving difficulty in securing jobs was positively related to entrepreneurial interest ($r = 0.45$, $p < 0.01$); confidence in identifying opportunities was strongly associated with overall entrepreneurial intent ($r = 0.59$, $p < 0.001$). Curriculum preparation and digital tools training showed no significant correlation with entrepreneurial interest.

4.2.2 Qualitative Themes

Interviewees corroborated survey findings. Professional recognition favored university graduates over polytechnic graduates, creating barriers for diploma holders. One participant recounted diversifying into agriculture and trading due to undervaluation in architecture. Several described an oversupply of graduates and unfair fee competition from unlicensed practitioners. Another participant's career trajectory was interrupted when his school lost accreditation. These narratives reinforced perceptions that conventional practice is saturated and precarious. Yet participants also noted opportunities in diversifying into product design and cultural tourism; those who upskilled early reported higher employability.

4.3 Entrepreneurial Intentions and Preferred Niches

Female respondents exhibited marginally higher entrepreneurial interest ($M = 4.31$, $SD = 0.88$) than males ($M = 3.67$, $SD = 1.05$), a difference that approached significance ($t = 1.95$, $p = .061$, Cohen's $d = 0.58$). The moderate effect size suggests a meaningful, though not statistically significant, trend warranting further investigation with a larger sample.

When respondents' perceived difficulty in securing jobs was regressed on entrepreneurial intention, the association remained positive and significant ($\beta = 0.41$, $SE = 0.13$, $p = .004$), supporting the premise that job insecurity may stimulate entrepreneurial drive.

4.3.1 Quantitative Findings

Entrepreneurial interest was high: participants reported strong intent to start a venture within two years ($M = 4.00$, $SD = 1.01$) and to pursue self-employment ($M = 4.36$, $SD = 0.96$). Confidence in identifying opportunities was moderate to high ($M = 4.06$, $SD = 0.86$); ability to mobilize resources was

slightly lower ($M = 3.89$, $SD = 0.89$). Female respondents exhibited marginally higher entrepreneurial interest than males ($M = 4.31$ vs. 3.67), though this difference only approached significance ($t = 1.95$, $p = 0.061$). Regarding specific niches, digital design services ranked highest in perceived viability ($M = 3.92$), followed by furniture/product design ($M = 3.83$), sustainable/green products ($M = 3.67$) and heritage/cultural tourism ($M = 3.58$). When asked to select their top three niches, respondents most frequently chose furniture/product design ($n = 25$), real estate micro development ($n = 23$) and digital design services ($n = 20$). Cooperative construction and sustainable products also attracted interest.

4.3.2 Qualitative Themes

Interviewees emphasized diversification as both a necessity and opportunity. Financial instability compelled some to venture into farming and trading; this experience led them to recommend including finance and marketing courses in architectural training. Furniture design was considered highly promising because it required modest capital and could leverage existing design skills. Cultural tourism and other creative sectors were seen as accessible if architects developed fabrication and storytelling abilities. By contrast, digital services such as BIM were viewed as capital intensive, requiring partnerships and specialized training. These insights aligned with survey rankings and highlighted skill gaps in digital fabrication.

4.4 Barriers and Desired Supports

4.4.1 Quantitative Findings

Barriers to entrepreneurship were pervasive. The most cited were lack of funding/access to finance (88.9%), lack of tools/facilities (66.7%) and limited networks/mentorship (63.9%). Risk aversion and unclear regulations were also noted by nearly half of respondents. When asked about support, participants prioritized seed grants or soft loans (77.8%) and structured mentorship (69.4%), followed by entrepreneurship courses embedded in studio (55.6%) and networking or community of practice (55.6%). Preferred support providers included the Architects Registration Council of Nigeria (ARCON) (58.3%), the Nigerian Institute of Architects (NIA) (55.6%) and universities (47.2%). Awareness of existing national funding programs was uneven: roughly 61% knew of the Bank of Industry Graduate Entrepreneurship Fund, but fewer were aware of the Nigeria Youth Investment Fund (47.2%) or the Tertiary Institutions Entrepreneurship Scheme (25%).

4.4.2 Qualitative Themes

Interviewees reiterated that finance and mentorship were critical barriers. One lamented that the curriculum lacks finance and marketing education and that professional bodies only provide membership platforms without substantive support. Others emphasized that mentorship networks are scarce and that client unwillingness to pay fair fees undermines professionals. Participants advocated for partnerships among former classmates and collaborations with allied professionals as interim solutions. Collectively, these accounts emphasized that structural supports like financial instruments, mentor networks and flexible regulations are indispensable for entrepreneurial success.

Table 3: Barriers and desired support mechanisms ($n = 36$)

	Item	Frequency (%)	Description
Barriers	Lack of funding/access to finance	88.9%	Insufficient capital and lack of financial instruments
	Lack of tools/facilities (fabrication labs, workshops)	66.7%	Limited access to equipment, prototyping and manufacturing spaces
	Limited networks/mentorship	63.9%	Difficulty finding mentors and professional networks
	Risk aversion/fear of failure	47.2%	Concerns about business failure and uncertainty
	Restrictive or unclear regulations	44.4%	Perceived rigidity of professional guidelines and registration processes
Desired supports	Limited business/entrepreneurial skills	41.7%	Lack of training in finance, marketing and management
	Access to seed grants or soft loans	77.8%	Financial capital for start-up ventures

Structured mentorship (architects + entrepreneurs)	69.4%	Formal mentoring programs and professional networks
Entrepreneurship courses embedded in studio	55.6%	Integration of business training within design curriculum
Networking or community of practice	55.6%	Peer networks and communities for knowledge sharing
Professional body support (NIA/ARCON)	47.2%	Active assistance from regulatory bodies
Access to fabrication labs or prototyping facilities	36.1%	Facilities for building prototypes and testing ideas

Note: Items are grouped into barriers and desired supports. Percentages reflect the proportion of respondents selecting each item.

4.5 Curriculum and Institutional Support

4.5.1 Quantitative Findings

Respondents rated the entrepreneurial preparation of their curricula poorly. On a five-point scale, preparation scored 2.25 (SD = 1.16); practical exposure to venture creation scored 2.47 (SD = 1.13); digital tools learning scored 2.89 (SD = 1.30). They also viewed professional bodies' support for entrepreneurship as limited (mean = 2.61) and regulatory flexibility as moderate (mean = 2.94). Correlations indicated no significant relationship between curriculum ratings and entrepreneurial interest, suggesting that entrepreneurial motivation is independent of perceived educational adequacy.

4.5.2 Qualitative Themes

Interviewees provided additional context. Several affirmed that there is no explicit entrepreneurship component in the curriculum and that continuing professional development programs offered by NIA should be made compulsory and accessible. Others observed that digital innovation has been slow to penetrate Nigerian practice despite remote work trends. Those who had engaged in early upskilling reported better job prospects and advocated for hands on training and partnerships with industry. Overall, interviewees agreed that curricula and professional bodies lag behind

market realities and provide inadequate support to entrepreneurial graduates.

4.6 Integration of Findings

Synthesizing quantitative and qualitative results reveals a consistent pattern: graduates perceive traditional practice as saturated and precarious, yet they maintain strong entrepreneurial aspirations. They identify digital design services and furniture/product design as the most viable niches but recognize that digital ventures demand significant training and capital. The most salient obstacles—financing, fabrication facilities and mentorship—point to structural deficits rather than individual shortcomings. Respondents desire seed funding, structured mentorship and integrated entrepreneurship training; they look to professional bodies, universities and government to fill these gaps. The findings depict a generation of Nigerian architects who are ready to innovate but hindered by institutional inertia and resource constraints.

Table 4: H1 -Entrepreneurship Education Exposure and Entrepreneurial Intention (Mann–Whitney U; n = 36)

Group	n	Mean EI	SD	Median
(Exposure)				
No exposure	20	4.23	0.61	4.33
Any exposure	16	4.02	1.00	4.00
Test / Effect		Value		
Mann–Whitney U	145.00			
p	.637			
Cliff's δ (95% CI)	–0.09 (–0.46, 0.28)			

Interpretation. In this pilot, EI did not differ by course exposure; the effect was small and imprecise.

Power / sample-size note. The observed between-group standardized difference (Cohen's $d \approx 0.26$; derived from group means/SDs) would require approximately $n \approx 240$ per group (total $N \approx 480$) to detect with 80% power at $\alpha = .05$ (two-tailed) using a two-sample design. Detecting the observed Cliff's $\delta = -0.09$ would require an even larger sample and is not recommended; instead, power the confirmatory study for a small-to-moderate effect (e.g., $d = 0.30$ – $0.40 \rightarrow \sim 175$ – 100 per group).

Table 5: H2a -Perceived Barriers and Entrepreneurial Intention (Spearman's ρ ; n = 36)

Variables	ρ	95% CI (bootstrap)	p
Barrier count $\times$ EI (C1–C3 mean)	–0.28	–0.59, 0.06	.096



Interpretation. Directionally consistent with H2 (more barriers $\leftrightarrow$ lower EI), but not statistically significant in this pilot.

Power / sample-size note. To detect a correlation of $|p| = 0.28$ with 80% power at $\alpha = .05$ (two-tailed), a sample of approximately $N \approx 98$ is required. If planning for a minimally meaningful $|p| = 0.25$, target $N \approx 124$.

Table 6: H2b -Perceived Barriers and Willingness to Join Mentorship Program (Spearman's ρ ; $n = 36$)

Variables	ρ	p
Barrier count $\times$ F3 (1–5)	0.05	.760

Interpretation. No evidence of association in the pilot data.

Power / sample-size note. The observed association ($\rho \approx .05$) is trivially small. For planning, if a practically meaningful effect is $|p| = 0.25$, power at 80% requires $N \approx 124$.

Table 7: H3-Entrepreneurial Intention Across University Type (Kruskal–Wallis; $n = 36$)

University type	n	Mean EI	SD	Median
Federal	15	4.24	0.74	4.33
State	18	4.20	0.47	4.00
Private	3	3.22	2.04	3.67
Test / Effect		Value		
Kruskal–Wallis H ($df = 2$)		1.20		
p		.549		
Effect size ϵ^2		≈ 0.00		

Interpretation. No detectable differences by university type (note the unstable variance for the small private group, $n = 3$).

Power / sample-size note. With three groups, detecting a medium between-group effect (ANOVA $f = 0.25$; $\eta^2 \approx .06$) at 80% power and $\alpha = .05$ requires approximately $N \approx 159$ (≈ 53 per group). Detecting a small effect ($f = 0.10$; $\eta^2 \approx .01$) would require $N \approx 950+$, which is typically impractical; plan for ≥ 60 per group to ensure stable nonparametric and parametric estimates for this hypothesis.

Education exposure did not predict higher entrepreneurial intention (Table 3: H1). Perceived barrier load was negatively, but not significantly, associated with entrepreneurial intention and showed no relationship with program willingness (Tables 5 & 6: H2a–H2b). Entrepreneurial intention did not differ by university type (Table 7: H3). Given pilot scale ($n = 36$), we emphasize effect sizes and their uncertainty to inform power for a larger, confirmatory study.

As context for Objective 1, labor-market pressure correlated positively with venture intention

(B2 $\rightarrow$ C1, $r = .45$, $p = .006$), and opportunity confidence correlated strongly with entrepreneurial indicators (C3 $\rightarrow$ C1, $r = .55$, $p < .001$), supporting the theorized motivational pathway despite null H1–H3 tests at pilot scale.

5. Discussion

5.1 Interpretive Analysis and Theoretical Implications

This pilot study provides exploratory rather than confirmatory evidence regarding the proposed relationships between entrepreneurial exposure, perceived barriers, and institutional context. None of the three directional hypotheses (H1–H3) reached conventional significance, yet their effect directions are theoretically consistent and substantively revealing. Exposure to entrepreneurship education showed a small, non-significant association with entrepreneurial intention (Cliff's $\delta = -0.09$), suggesting that formal coursework alone does not substantially shape graduates' entrepreneurial drive. The negative trend between perceived barriers and entrepreneurial orientation ($\rho = -0.28$) implies that structural impediments—particularly access to finance, mentorship, and fabrication tools—may subtly suppress entrepreneurial motivation even when aspirations remain high. Differences across university types were negligible ($\epsilon^2 \approx 0$), reinforcing the view that institutional category per se has limited influence on entrepreneurial readiness compared with individual and market-level experiences.

Interpreted holistically, these patterns indicate that the entrepreneurial mindset among Nigerian architecture graduates is driven less by educational exposure and more by labor-market realities and self-efficacy. The significant correlations between job-market pressure and venture intention ($r = 0.45$, $p = .006$) and between opportunity confidence and entrepreneurial intention ($r = 0.55$, $p < .001$) highlight that necessity and perceived competence act as twin catalysts of entrepreneurial behavior. Within the Entrepreneurial Architecture framework (Nelles & Vorley, 2011), these findings suggest that human-capital accumulation alone is insufficient without institutional scaffolding that reduces uncertainty and transaction costs. The qualitative narratives strengthen this reading: participants consistently described oversupply, fee competition, and client distrust as chronic constraints, yet expressed confidence that digital skills and product diversification could yield viable livelihoods. The mixed-methods triangulation therefore situates entrepreneurship not as a marginal add-on but as a pragmatic response to structural unemployment



and the professional precarity documented in earlier scholarship (Rawes & Mann, 2023; Trubiano, 2023).

From a theoretical standpoint, the weak quantitative effects combined with strong qualitative convergence exemplify what Audretsch (2024) terms “latent entrepreneurial potential under regulatory friction.” Credentialism and institutional isomorphism (Tomlinson, 2020; Seyfried et al., 2019) still orient the profession toward conventional studio-apprenticeship trajectories, dampening entrepreneurial self-efficacy. The data also reveal that graduates internalize compliance and design excellence as signals of competence, while undervaluing pricing, supplier coordination, and risk management—competencies central to venture creation. Thus, the primary gap lies not in motivation but in capability and institutional permission to act entrepreneurially. The theoretical implication is that entrepreneurial architecture in the Global South is an adaptive strategy of resilience, emerging when professionals internalize production and coordination roles that weak markets and absent intermediaries fail to perform.

5.2 Comparison with Prior Research

The pilot findings resonate with earlier research on employability crises and entrepreneurial intention in built-environment disciplines but nuance their interpretation. Consistent with Oguguo et al. (2023), graduates display high entrepreneurial aspiration despite limited formal preparation, confirming that education's influence on intention is mediated by perceived opportunity rather than by course exposure alone. The non-significant but negative association between barriers and entrepreneurial intention parallels patterns observed in other Nigerian studies (Ipe & Pepple, 2018; Ayo-Odifiri, 2023), which also emphasize finance and mentorship deficits as persistent inhibitors. The absence of discernible differences across university types aligns with Khodeir and Nessim (2020), who found that architecture graduates' employment outcomes in Egypt were shaped more by digital competence and market engagement than by institutional status.

These results extend the conversation by quantifying, albeit preliminarily, the small magnitude of educational and institutional effects within Nigeria's architectural labor market. The low effect sizes ($|p| \approx 0.3$; $\epsilon^2 \approx 0$) imply that entrepreneurial capability is constrained not by curricular exposure but by systemic market inefficiencies, a view reinforced by Ofori (2016) and Johnsen (2023), who frame sustainability-oriented entrepreneurship as a structural rather

than behavioural challenge. The qualitative evidence of adaptive diversification—graduates engaging in furniture design, cooperative housing, or digital visualization—demonstrates the same pattern Richardson (2011) anticipated: architects reframing their professional identity as integrators of design, production, and innovation. Thus, while the statistical models remain underpowered, the convergence of trends supports a broader theoretical argument that entrepreneurial reorientation within architecture is contextually induced rather than instructionally produced.

At a deeper level, the gender-linked patterns observed (women showing marginally higher entrepreneurial interest, $p \approx .06$) complement global findings that women architects often pursue entrepreneurship to bypass institutional gatekeeping and achieve work-life autonomy (WE-Fi, 2025; Anwar & Graham, 2022). Although the small sample precludes inference, the direction of effect signals fertile ground for gender-responsive interventions within the proposed Architects Enterprise Fellowship. In sum, the pilot evidence neither confirms nor refutes prior theories but rather localizes them: it demonstrates that in Nigeria's constrained professional ecosystem, entrepreneurship functions as an instrument of professional survival and innovation rather than as an elective career choice.

5.2.1 Gender-Linked Mechanisms

The near-significantly higher entrepreneurial interest reported by women in our pilot can be interpreted through specific socio-cultural and economic channels. First, glass-gateway effects in traditional firms—limited advancement, exclusion from informal networks, and allocation bias—can make entrepreneurship comparatively more attractive as a route to professional authorship and schedule control (WE-Fi, 2025). Second, household role expectations raise the premium on temporal flexibility; micro-ventures in visualization, interior productization, or small-batch furniture support time-slicing that salaried studio roles often cannot (WE-Fi, 2025). Third, the platformization of work (remote BIM coordination, digital visualization) reduces mobility constraints and mitigates safety concerns tied to late site presence, lowering perceived non-financial risks (Anwar & Graham, 2022; Doan et al., 2025). These “pulls” co-exist with frictions—gendered collateral norms in credit screening, network homophily that limits mentorship access, and role-congruity penalties on assertive pricing (Pavlova, 2023). Programmatically, the AEF should therefore add women-led mentor pools, caregiving stipends for sprint weeks, safe-hours fab-lab access, and bank partnerships that recognize purchase orders and

framework agreements as collateral substitutes. These are testable, gender-responsive levers for future cohorts.

5.3 Practice Illustration: Spacefinish Case Study

Although the statistical tests yielded no significant differences, the qualitative narratives and directional trends consistently point to the same structural mechanisms, finance, mentorship, and institutional inertia, that shape entrepreneurial outcomes; these mechanisms are vividly exemplified in the practice model of Spacefinish, which operationalizes entrepreneurial architecture within the Nigerian context.

To illustrate entrepreneurial architecture in practice, the study draws on Spacefinish, a Nigerian design build firm founded by architect entrepreneur Remi Dada. Spacefinish exemplifies how architects can reorganize value creation to generate employment. The firm implements three mechanisms:

1. Business model bundling. Rather than providing design services alone, Spacefinish integrates workplace strategy, concept development, prototyping, fabrication coordination and turnkey delivery. This bundled offering reduces client transaction costs and creates diverse internal roles—from digital visualization to project management—that exceed those in conventional studios.

2. Supplier ecosystem anchoring. The company partners with craftsmen and small manufacturers for joinery, furniture, metalwork and finishes. By centralizing procurement and quality assurance, it stabilizes workstreams for allied trades and fosters a local production ecosystem. Such partnerships substitute for capital-intensive in-house fabrication.

3. Design build integration. Controlling procurement and site logistics allows Spacefinish to smooth cash flows and harness economies of scale through standardized components and repeatable details. This integration enables small teams to deliver enterprise grade projects.

These practices correspond to the study's findings: they address financing challenges by improving receivables; they bypass tool deficits by leveraging supplier networks; and they provide structured mentorship for junior staff through modular work packages. Notably, 84.2% of survey respondents had never heard of Spacefinish, indicating limited visibility of entrepreneurial models within the profession. This gap underscores the need for systematic dissemination and mentorship to enable broader adoption.

5.4 Implications for Policy and Practice

Beyond capital and facilities, the ecosystem needs visibility and diffusion infrastructure so that effective venture patterns do not remain invisible

to most graduates (our survey found 84.2% had never heard of a leading design-build exemplar like Spacefinish). Four instruments follow directly from the five mechanisms identified above.

(i) National Architectural Enterprise Registry (NAER). A searchable registry should publish standardized "case bundles" (brief, scope, supplier map, drawings-to-shop handoff, outcomes). Case-based and problem-driven learning improves motivation and knowledge transfer; bundling cases as reusable teaching artefacts would make enterprise competencies legible in curricula and CPD (Wijnia et al., 2024).

(ii) CPD-accredited digital case library and playbooks. Translate exemplary projects into concrete templates—pricing sheets, receivables policies, supplier MOUs, QA checklists. Action-based, venture-creation pedagogy improves entrepreneurial competence when embedded in authentic artefacts and tasks (Haneberg & Aaboen, 2022). Weight CPD credits toward documented enterprise capabilities to correct current incentive misalignment (Agha, 2022).

(iii) Procurement micro-lots and open playbooks. Standardized small-lot templates for bundled design-build services (e.g., ≤ ₦50m) with annotated exemplars and evaluation rubrics would reduce regulatory transaction costs and ambiguity for first-time vendors, a known deterrent to entry and experimentation (Audretsch, 2024).

(iv) Demonstration hubs with gender-responsive fellowships. Couple shared fabrication, vendor fairs, and "live brief" sprints with stipends for caregiving and safe-hours access. This acknowledges platformized production realities (remote BIM/digital visualization) that can expand participation while guarding against new forms of exclusion highlighted in platform-work research (Anwar & Graham, 2022; Doan et al., 2025). Bank partnerships should recognize purchase orders and framework agreements as collateral substitutes to ease thin-collateral frictions shown to bind African SMEs (Aminkeng, 2024; Simba et al., 2024).

Monitoring should track diffusion and employability outcomes (registry/library analytics; adoption of playbook elements; role-weeks per ₦ million; survival at 12/24 months). By institutionalizing how success is documented, taught, and rewarded—not merely that it exists—policy can convert isolated exemplars into sector-level capabilities.

5.4.1 Conceptualizing the Architects Enterprise Fellowship (AEF)

Drawing from the study's evidence and the Spacefinish case, the paper conceptualizes an Architects Enterprise Fellowship (AEF) as an institutional mechanism to incubate architect led ventures. The AEF would pair senior architects with

recent graduates for a 12-month apprenticeship that combines mentorship, business training and access to seed funding. Fellows would develop business plans, participate in live projects and receive micro grants or soft loans (N500 000–N1 000 000) to launch ventures. Evaluation metrics could include the number of startups established, employment generated, revenue growth and participant satisfaction. A revolving micro fund supported by alumni contributions could sustain the program. While presented here as a conceptual model rather than a detailed blueprint, the AEF aligns with participants' desires for finance, mentorship and integrated training, and could be piloted by NIA and ARCON in partnership with universities and private sponsors.

Table 7: Summary of the Architects Enterprise Fellowship (AEF) conceptual model

Component	Description	Key stakeholders/ outputs
Objective	Transform graduates into job creators through mentorship and seed funding	NIA, ARCON, universities, private partners
Structure	12-month fellowship combining apprenticeships and business incubation	Fellows engage with senior architects and entrepreneurial workshops
Mentorship flow	Pairing of mentors and mentees, participation in live projects, monthly reviews	Enhanced professional competence and venture readiness
Funding cycle	Micro grants or soft loans (N500 000–N1 000 000) with accountability reports	Seed funded startups and transparent project tracking
Training modules	Business planning, financial management, digital tools, sustainability, marketing	Graduates acquire enterprise management and digital skills
Evaluation metrics	Startup creation, employment generated, revenue growth,	Impact reports on entrepreneurial outcomes

	mentorship satisfaction	
Sustainability strategy	Alumni contribute a portion of profits to sustain the fellowship	Self-sustaining a mentorship of and funding ecosystem

Note: Table summarises key elements of the proposed AEF to guide future implementation.

5.4.2 Policy Recommendations

At the macro level, government policies should integrate architecture into the broader creative industries and provide incentives for small architectural startups. Tax reliefs, design competitions and targeted funding—similar to the Bank of Industry's SME programs—could stimulate entrepreneurial activity. Regulatory bodies should shift from primarily administering professional registration to fostering enterprise development, perhaps by embedding entrepreneurship modules into continuing professional development requirements. The AEF could serve as a vehicle for such institutional reform by demonstrating how mentorship and finance can be systematically delivered. Regional entrepreneurship hubs, particularly in underrepresented zones such as northern Nigeria, could bridge academia, industry and government to support context specific ventures.

5.4.3 Practical Recommendations

For practicing architects and aspiring entrepreneurs, the findings highlight the importance of diversification and collaboration. Emerging niches—digital design services, furniture/product design and sustainable retrofits—offer pathways for value creation. Forming cooperatives or partnerships can pool resources and mitigate individual risk. Embracing digital tools (BIM, visualization, 3D printing) is essential for competing in global markets. Professional associations can facilitate mentorship programs, peer networks and access to fabrication facilities. By viewing architecture as an orchestrated ecosystem of design, production and entrepreneurship, practitioners can transform the profession from a precarious service into a generator of inclusive employment.

5.5 Educational and Institutional Reform

Curriculum redesign must go beyond adding standalone entrepreneurship courses; it should infuse entrepreneurial thinking across design studios and technical classes. Design thinking for enterprise, including opportunity recognition, business modelling, stakeholder analysis and innovation management—should be integrated into core courses. Experiential projects, industry placements and co designed coursework with

business schools can equip students with practical skills. Universities should empower faculty to lead change, form partnerships with industry and reward innovation. Professional bodies should require demonstration of entrepreneurial competencies for licensure renewal. Recognizing that many graduates lack digital competencies, curricula must emphasize BIM, parametric design and digital fabrication.

5.6 Limitations and Directions for Future Research

As a pilot study with $n = 36$, the findings are exploratory and not generalizable. Recruitment challenges limited the diversity of respondents, with greater representation from southern Nigeria. Self-reported measures may be subject to social desirability bias. The study did not conduct comparative analysis across genders, regions or institutional types due to sample size. Future research should scale up the survey to include hundreds of respondents across all geopolitical zones, enabling robust statistical testing of hypotheses. Longitudinal studies tracking architect led startups could assess venture survival, growth and employment effects. Case studies of emerging entrepreneurial firms beyond Spacefinish could provide comparative insights. Gender dynamics in architectural entrepreneurship warrant closer examination, as do policy environments that facilitate or hinder innovation. Developing an Architectural Entrepreneurship Index could benchmark progress over time and across countries.

6. Conclusion and Recommendations

This pilot study demonstrates that Nigerian architecture graduates recognize the limitations of traditional client driven practice and are eager to pursue entrepreneurial pathways. The mixed methods evidence reveals strong interest in starting ventures, particularly in digital design services and furniture/product design, but also highlights systemic barriers such as inadequate finance, fabrication facilities and mentorship. Curricula and professional bodies are perceived as underprepared to support entrepreneurship. By synthesizing these findings with entrepreneurial architecture theory and a practice led case (Spacefinish), the study proposes a conceptual Architects Enterprise Fellowship (AEF) to align mentorship, training and funding. Although preliminary, the results suggest that reframing architecture as an entrepreneurial profession and implementing institutional reforms to support this shift, can transform the field into a generator of jobs, innovation and inclusive growth. The journey from studio to venture requires structural support, and the entrepreneurial aspirations identified by the study offer a promising foundation for change.

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