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Adapting the Igbo 'Igba Boi' Apprenticeship Model for Digital Skills Development in Nigeria's Startup Ecosystem

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Abstract

This study examines the potential for adapting the indigenous Igbo Igba Boi apprenticeship model to digital skills development within Nigeria's startup ecosystem. Through a qualitative, co-creative design featuring interviews with 83 participants, including tech founders, established Ogas, Bois, and knowledge holders, it analyses how this traditional system can be reimagined for technology work. The findings reveal that while Igba Boi offers a powerful foundation for long-term mentorship and economic independence, imported training frameworks remain dangerously decontextualised from local labour realities. Furthermore, the research highlights that gender inclusion must be a central design condition rather than an optional add-on, as standard innovation policies actively reproduce the historic exclusion of women. The study concludes that a viable hybrid model must be technologically forward, culturally grounded, and intentionally inclusive.

Keywords: Igba Boi; digital skills development; indigenous entrepreneurship; gender inclusion; apprenticeship; Nigeria

1. Introduction

Apprenticeship has long served as one of the most durable ways societies reproduce knowledge, discipline, and economic participation across generations. Beyond technical competence, it embodies a social logic in which learning is embedded in trust, obligation, shared experience, and a gradual movement from dependency to autonomy. Within Igbo society, the Igba Boi system exemplifies this tradition, functioning as both a training arrangement and a pathway into commerce, social maturity, and independent enterprise. In this system, a young learner (Boi) lives under the guidance of a master trader (Oga), learns through direct participation, and upon completion receives a ceremonial settlement that launches them as an entrepreneur. Igba Boi links skill acquisition with mentorship, responsibility, and economic settlement. Although settlement may be delayed or adapted, the system reflects values in which success depends not only on capital but also on effort, moral conduct, social legitimacy, and providence.

Its significance becomes clearer against the demands of Nigeria's digital economy. The country's startup ecosystem depends on software expertise acquired through prolonged training, practical immersion, and iterative learning, yet digital-skills development often relies on imported models that insufficiently reflect local labour conditions, educational trajectories, or community-based traditions of learning. This disconnect leaves a persistent gap between formal training structures and the needs of innovation-driven enterprises. When skills development is shaped primarily by borrowed frameworks, indigenous forms of knowledge, mentorship, and economic socialisation become marginal rather than foundational, reducing the relevance and sustainability of training interventions.



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Reimagining digital apprenticeship through Igba Boi instead offers the possibility of grounding innovation in systems of learning that are socially intelligible, historically tested, and culturally embedded. The issue is therefore not whether traditional models should be romanticised, but whether their enduring principles can be translated into sectors where skills, innovation, and enterprise converge.

Any such translation must also address exclusion. Women remain marginalised within the principal Igba Boi pathway into commerce and under-represented in advanced digital skills and tech entrepreneurship. The study consequently frames the redesign of apprenticeship as both technologically forward and gender-just, asking what a more inclusive, contextually grounded model of digital opportunity should look like. Against this background, this study adopts a decolonial and participatory approach by asking whether the core values of the Igba Boi apprenticeship system can be reassembled into a hybrid model suited to software startups without reproducing exploitation or gender exclusion. It pursues four objectives:

- a. To examine how the Igba Boi system functions in practice, including its history, structure, values, and current condition.
- b. To identify which elements of Igba Boi are transferable to a software startup apprenticeship environment.
- c. To assess gender exclusion within the system and identify adaptations needed for inclusion.
- d. To co-create design principles for a hybrid Igba Boi-inspired digital apprenticeship model.

These objectives correspond to four research questions:

- i. How does the Igba Boi system function in practice, and what historical, structural, and value-based conditions have sustained or eroded it?
- ii. Which elements of Igba Boi can be ethically and practically transferred to a software startup context?
- iii. How is gender exclusion structured within Igba Boi, and what adaptations are necessary to ensure gender-just participation?
- iv. What design principles emerge when indigenous knowledge holders, tech founders, master traders, and apprentices co-create a hybrid apprenticeship framework?

These questions position the study at the intersection of indigenous knowledge, entrepreneurship, digital capability development, and social inclusion. It argues that Nigeria's digital future cannot be built sustainably on imported training logics alone but requires historically rooted systems such as Igba Boi to be reworked for contemporary needs. In doing so, the study contributes to debates on making African innovation ecosystems more locally relevant and structurally inclusive.

2. Literature Review

2.1 Igba Boi System as an indigenous entrepreneurship system

The Igba Boi apprenticeship system emerged from the pre-colonial Igbo worldview in which commerce was a communal responsibility. The saying *Uwa bu Ahia* ("the world is a marketplace") reflects this orientation, with entrepreneurial knowledge transferred through **Imu-Ahia** (trade) and **Imu-Oru Aka** (craft) under experienced Ogas (Oyewunmi et al., 2020). Although colonialism disrupted the institutions supporting indigenous commerce, it did not extinguish the entrepreneurial culture. The Nigerian Civil War (1967-1970) transformed Igba Boi into a post-war strategy for economic recovery. Guided by the principle *onye aghala nwanne ya* ("leave no brother behind"), surviving entrepreneurs trained and settled the sons of those who had lost their livelihoods. Scholars describe this as a mechanism for transgenerational entrepreneurial transfer (Oyewunmi et al., 2020), economic recovery and identity restoration (Iwara & Ojakorotu, 2025; Amaechi et al., 2025), demonstrating the system's resilience.

The system operates through a structured relationship between an Oga and a Nwa Boi, progressing from recruitment to training and eventual settlement (Idu Uno) (Iwara, Amaechi & Netshandama, 2019). Settlement provides start-up capital and business support, reflecting a longstanding social obligation (Antai et al., 2024) that continually reproduces entrepreneurs rather than concentrating market power (Ekekwe, 2021). Studies describe Igba Boi as one of the world's largest indigenous business incubation systems, generating SMEs, circulating local wealth and embedding solidarity (Rufai et al., 2019; Umemezia & Ojukwu, 2023; Iwara, 2020). It has reportedly incubated millions of entrepreneurs while strengthening business resilience through mentorship and social networks (Nnonyelu et al., 2023).

Despite these strengths, its informality exposes apprentices to exploitation, unpaid labour, failed settlements and limited access to specialised skills (Okeke et al., 2025; Familoni, 2024; Odeh et al., 2025). Apprenticeship is also increasingly viewed as less prestigious than formal education (Rufai et al., 2019; Umemezia & Ojukwu, 2023). Recent reforms suggest a transition from customary practice to formal regulation. Legal recognition in Anambra State and emerging scholarship on apprentices' contractual rights reflect growing efforts to protect participants while preserving the system's trust-based ethos (Idemobi et al., 2024; Olusola et al., 2025). This transition provides the context for examining how Igba Boi can be adapted to digital skills development while addressing inclusion and institutional reform.

2.2 African Indigenous Knowledge Systems and Epistemology

African Indigenous Knowledge Systems (IKS) are cumulative and holistic ways of knowing, doing and being, developed through generations of interaction with community, land and spirituality (Hlalele, 2022). Knowledge is transmitted through language, ritual, proverbs and everyday practice, making learning relational and intergenerational. Studies on African indigenous pedagogy similarly describe learning as communal, practice-based and embodied rather than individualistic (Carpena-Méndez, Virtanen & Williamson, 2022). Yet African education systems continue to privilege Western epistemologies, marginalising indigenous knowledge within curricula (Ndofirepi & Gwaravanda, 2019). Decolonial scholarship identifies this as epistemic injustice or epistemicide, arguing for indigenous control over knowledge production rather than tokenistic inclusion within unchanged Western frameworks (Ndlovu-Gatsheni, 2020; Tarisayi, 2024). Within this context, Igba Boi represents a practical expression of African indigenous pedagogy. Its communal, experiential and intergenerational approach to learning reflects longstanding Igbo knowledge traditions (Ihejirika, 2023; Ude, 2024). Positioning Igba Boi within IKS and epistemic justice debates therefore recognises it as a legitimate knowledge system capable of informing digital skills development, entrepreneurship and gender-just innovation.

2.3 Gender, Power and Inclusion in 'Igba Boi'

Male dominance is structurally immersed in the Igbo apprenticeship system as studies show that apprentices and masters are overwhelmingly male, with women either absent or confined to auxiliary roles (Familoni, 2024; Onyeike et al., 2025; Abasilim et al., 2024). Its informal, trust-based structure also leaves apprentices vulnerable to exploitation, with gendered power relations making it more difficult for women to claim rights or challenge abuse (Onyeike et al., 2025). At the same time, African Indigenous Knowledge Systems and feminist scholarship recognise women as essential knowledge holders whose exclusion weakens innovation and development (Esiobu, 2020; Emeagwali, 2019). Accordingly, recent scholarship and policy reforms increasingly argue that the long-term legitimacy of Igba Boi depends on gender inclusion and legal safeguards, particularly in light of SDG 5 and the Anambra Apprenticeship Act (Onyeike et al., 2025; Familoni, 2024). African feminist and decolonial scholars likewise advocate context-specific models of gender justice grounded in indigenous values rather than imported frameworks (Chilisa & Ntseane, 2010).

2.4 Nigeria's Digital Skills and the Limits of Western Training

Nigeria is building one of Africa's strongest startup ecosystems (Okolie & Akwiwu, 2023), but its full potential is constrained by digital skills gaps, infrastructure deficits and policy inefficiencies (Oladimeji et al., 2023; Gómez et al., 2023). Although the ICT sector contributes up to 17.83% to the GDP and startup activity continues to expand across fintech, e-commerce and health-tech, supported by innovation hubs (Agbeyangi et al., 2024), the ecosystem still lacks the structures it needs to produce, mentor and retain digital talent. Studies find that graduates possess basic digital competencies but lack advanced, work-relevant skills (Adeoye & Adeoye, 2017; Owan et al., 2022). The World Bank estimates that many Nigerian professionals lack foundational digital skills (World Bank Group, 2019), placing ICT growth at risk (Umeha, 2025). These gaps also reflect the inequalities of geography and gender, with rural communities and women facing more limited access to digital training (Sufian & Azzarri, 2023; Nwajiuba & Ukwandi, 2021).

Government initiatives, including Digital Nigeria, 3MTT, SUPA, N-Power and the National Digital Economy Policy and Strategy (NDEPS 2020--2030), have expanded digital-skills training, while 3MTT has recorded significant enrolment (3MTT, 2026). However, studies question their alignment with labour-market needs and their limited emphasis on mentorship, community accountability and sustained entrepreneurial formation. Research also identifies regulatory uncertainty, bureaucratic barriers and brain drain as continuing constraints on startup growth (Oluwasemilore, 2023). Women remain under-represented in advanced digital skills and tech entrepreneurship because of unequal training access, socio-cultural barriers and limited institutional support (Abasilim et al., 2024; Familoni, 2024). African feminist scholarship argues that gender-blind innovation policies reproduce these inequalities unless intersectionality and indigenous epistemologies are deliberately centred (Chilisa & Ntseane, 2010; Seleke & Teis, 2025; Ouma et al., 2023).

2.5 Bridging Indigenous Entrepreneurship Knowledge and Digital

Even though the literature on Igba Boi has now recognised the need to connect deep entrepreneurial knowledge with digital skills and studies argue that the system requires digital inclusion to remain relevant (Aniagolu et al., 2025; Olabisi & Adesola, 2025), and recommend integrating indigenous apprenticeship into Technical Vocational Education and Training (TVET) (Olusola et al., 2025; Ezenwakwelu et al., 2019), they do not explain how indigenous entrepreneurship knowledge and advanced digital skills should be jointly designed. Hybrid apprenticeship models offer partial answers. The Global Adaptive Apprenticeship Model (GAAM) combines Yoruba and Igbo apprenticeship with the German dual model, while entrepreneurship literature recommends incorporating Igba Boi's mentorship and social networks into formal training (Olusola et al., 2025; Kanu, 2020). However, these models remain expert-designed rather than co-created with masters and apprentices. Broader scholarship shows that indigenous values can support digital entrepreneurship when communities participate in the design process. Studies on digital Ubuntu, value co-creation and entrepreneurial ecosystems emphasise community participation, shared authorship and joint decision-making (Abubakre et al., 2021; Karami & Read, 2021). This study responds by treating Igba Boi knowledge holders as co-designers of a digital apprenticeship model rather than subjects of reform.

2.6 Theoretical Lens

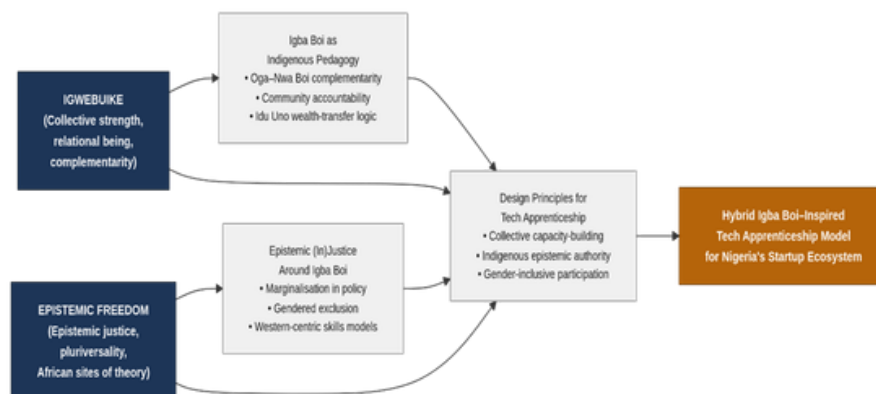
This study is anchored on two complementary frameworks: **Igwebuike and Epistemic Freedom**. They provide the philosophical and decolonial basis for examining how *Igba Boi* can inform a hybrid digital apprenticeship model. *Igwebuike* is an Igbo philosophical concept and African communalist theory developed by Ikechukwu Anthony Kanu, which emphasises that strength emerges through relational solidarity and collective action. The theory understands human existence as relational, where identity, capacity and development are constituted through relationships with others and the community. Applied to *Igba Boi*, *Igwebuike* explains the *Oga-Nwa Boi* relationship, Idu Uno settlement and community accountability as a complementary knowledge-transfer system rather than a simple mentor-subordinate arrangement. It challenges individualistic models of entrepreneurship by emphasising collective capacity building, shared resources and relational development. In this study, *Igwebuike* provides the framework for understanding tech founders and *Igba Boi* knowledge holders as complementary actors whose capacities are realised through co-creation.

Epistemic freedom by Sabelo Ndlovu-Gatsheni is a theory of intellectual sovereignty that centres the right of African scholars and communities to think, theorise, interpret the world, develop their own methodologies and write from where they are located and unencumbered by Eurocentrism (Ndlovu & Woldegiorgis, 2024; Khan et al., 2021). It challenges the cognitive empire of Western epistemologies that often position African knowledge systems as peripheral, practical, or inferior (Khan et al., 2021; Mbah & Ezegwu, 2024). Instead, epistemic freedom advances pluriversality, recognising multiple legitimate sites of knowledge production (Khan et al., 2021). Within this research, it justifies treating *Igba Boi* as a legitimate source of entrepreneurship and digital-skills knowledge rather than as a tradition requiring validation through external models. It also informs the participatory methodology by positioning *Ogas*, *Bois* and community actors as epistemic authorities who contribute to defining problems and designing solutions.

These frameworks allow the study to examine both the internal logic of *Igba Boi* and the wider knowledge structures that determine how indigenous systems are valued. *Igwebuike* explains the relational architecture of the apprenticeship system, while Epistemic Freedom provides the decolonial basis for repositioning Igba Boi as a contributor to digital innovation and skills development.

2.7 Theoretical model for the Study

Building on the theories that guide this research, the model in fig 1 places Igwebuike and epistemic freedom as parallel foundations that jointly shape three core constructs: Igba Boi as indigenous pedagogy, the epistemic positioning of Igba Boi in contemporary policy and gendered economies, and the design principles for a hybrid tech apprenticeship.



These constructs in turn generate a hybrid Igba Boi--inspired tech apprenticeship model for Nigeria's startup ecosystem, in which indigenous epistemic authority and gender-inclusive collective capacity-building are non-negotiable design conditions

3. Methodology

This study employed a qualitative multi-method design grounded in participatory and co-creative inquiry. Guided by Igwebuike and Epistemic Freedom, it examined how the Igba Boi apprenticeship system functions, how different actors understand its strengths and limitations, and whether its principles can be adapted to software-based startup ecosystems. Data were collected between February and June 2026 from four complementary sources comprising 83 participants. A convergent qualitative design combined four data sources: a semi-structured questionnaire administered to tech startup founders, individual interviews with Ogas, a workshop with current Bois, and a bonfire-circle dialogue with Indigenous Knowledge Holders (IKH). This design enabled the study to capture perspectives from the digital economy, the traditional apprenticeship system, current apprentices, and community custodians of indigenous knowledge.

Participants were selected through purposive and snowball sampling. The study involved 23 Indigenous Knowledge Holders who participated in a bonfire circle in Abriba, Abia State; 18 Ogas with at least fifteen years' business and apprenticeship experience drawn from four trade lines in Onitsha Main Market, Anambra State; 23 active Bois aged 18--35 who participated in a workshop in Abakaliki, Ebonyi State; and 19 Igbo software startup founders from the five South-East states operating ventures established no later than 2020. Participants were identified through professional networks, referrals from Ogas, and Indigenous Knowledge Holders. Data collection reflected the nature of each participant group. The bonfire circle explored the history, governance, gender relations, and continuity of Igba Boi through a culturally familiar dialogic format. Individual interviews with Ogas examined apprenticeship practice, settlement, institutional challenges, and reform. The Bois workshop explored lived apprenticeship experiences, service duration, exploitation, and perceptions of technology-based adaptation. The English-language questionnaire administered to tech founders combined closed and open-ended questions on mentorship, recruitment, settlement, financing, legal formalisation, gender inclusion, and the transferability of Igba Boi principles to software startups.

Qualitative data were analysed through thematic analysis, while questionnaire responses were summarised using descriptive statistics. Data were coded inductively before being interpreted through the lenses of Igwebuike and Epistemic Freedom. Analysis produced five themes: historical continuity; crisis in the traditional system; transferable principles for software apprenticeship; gender exclusion and inclusive adaptation; and the design of a hybrid digital Igba Boi model. Participant quotations are presented using assigned codes (TF, OG, BW and IKH), and findings from all four sources were triangulated to identify convergent and divergent patterns. Ethical approval was obtained through informed participant consent. Participants were informed of the study's purpose, their right to withdraw, and confidentiality measures. Community consent was negotiated through local gatekeepers for the bonfire circle and workshop. All participants were adults, and identities were anonymised throughout the study.

4. Key Findings

This section presents the findings from all four data collection instruments. It begins with a descriptive profile of study participants, followed by the thematic presentation of results organised under four themes. Where applicable, participant responses are reported using frequency distributions and representative quotations attributed by participant code.

4.1 Participant Profile

A total of 83 participants took part across the four data collection instruments. Table 1 provides an overview of participant demographics and the conditions under which each group was engaged.

Participant Group	n	Gender	Age Range	Location / Mode	Language of Data Collection	Key Inclusion Criteria
Tech Startup Founders (Semi-structured survey)	19 (TF-01 to TF-19)	13 Male 5 Female 1 Non-binary	29–39 yrs	7 Diaspora-based; 12 Nigeria-based (distributed online)	English	Igbo origin; startup founded no later than 2020; software-based startup
Ogas – Traditional Masters (Individual interviews)	18 (OG-01 to OG-18)	18 Male	Not recorded (all 15+ yrs in business)	Face-to-face: 8 Phone: 10 Onitsha Main Market (4 market lines)	Igbo	In business for 15+ years; had raised bois
Bois – Active Apprentices (Workshop)	23 (BW-01 to BW-23)	All Male (self-identified)	18–35 yrs	Abakaliki, Ebonyi State (in-person, 1-day, 3 hrs)	Igbo	Must be currently serving under an oga
Indigenous Knowledge Holders (Bonfire circle – Egwu Onwa)	23 (IKH-01 to IKH-23)	16 Male 7 Female	50+	Abriba community, Ohafia LGA, Abia State (in-person)	Igbo	Recognized community knowledge holders

Table 1: Summary of participant demographics across all four data collection instruments (N=83 total)

Among the 19 tech startup founders, participants were distributed across four South-East states. Table 2 shows the geographic distribution by state of origin.

State of Origin	No. of Founders	Percentage
Enugu State	8	42.10%
Anambra State	5	26.30%
Ebonyi State	4	21.10%
Imo State	2	10.50%
Total	19	100%

Table 2: State of Origin of Tech Startup Founders (n=19)

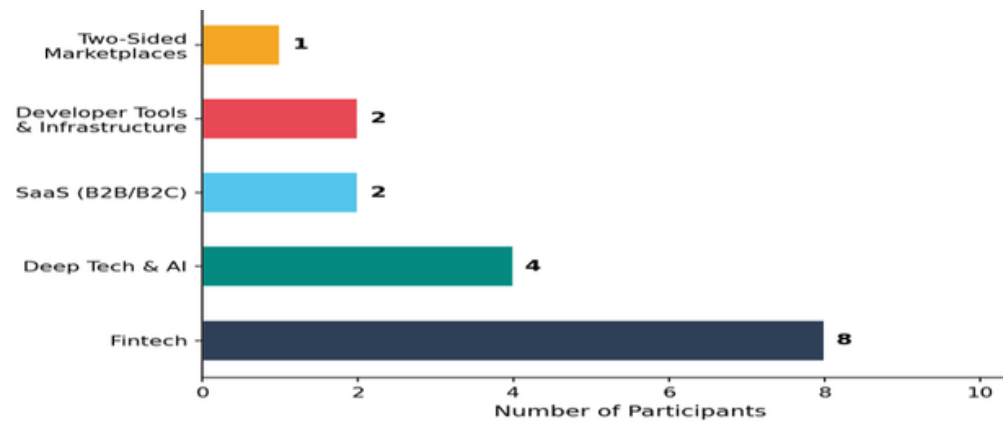


Fig 2: Startup Sector Distribution based on Sector of Operation

Trade Sector	n	Min. Service Years	Max. Service Years
Auto Mechanic	4	3	10
Auto Spare Parts Dealer	7	2	8
Electronics and Electrical Parts Dealer	9	1	7
Electrical Installation and Solar Energy	3	2	4
Total	23	–	–

Table 3: Workshop Bois distributed by trade sector with observed minimum and maximum service period ranges

The circle comprised 23 indigenous knowledge holders, with the majority indigenous to the Abriba community. Table 4 shows their composition.

Category	n	Percentage (%)
Male elders	16	69.6
Female elders	7	30.4
Indigenous to Abriba community	12	52.2
Visitors from neighbouring towns/states (South East)	11	47.8
Total	23	100

Table 4: Composition of Indigenous Knowledge Holders – Egwu Onwa (n = 23)

4.2 Historical Continuity and Community Meanings

Participants described Igba Boi as a longstanding institution that predates the Nigerian Civil War but gained renewed importance after the war as a mechanism for rebuilding livelihoods and restoring economic stability. They framed the system as an intergenerational method of transferring knowledge, values, and survival strategies. As one participant stated, "Igba boi was how we passed knowledge from one age to the next long before the war. The war only made more people see how powerful the system was because it helped us rebuild everything we had lost" (IKH-3). Participants also emphasised the Oga--Nwa Boi relationship as historically sustained by community accountability. Traditional agreements were often sealed through oaths before recognised deities, creating moral and spiritual obligations extending beyond the individuals involved. However, elders noted that changing practices, including the replacement of deity oaths with church blessings, have weakened these accountability structures (IKH-20). Participants further identified declining impartiality in community dispute resolution, with some elders reportedly favouring Ogas during mediation. Despite these challenges, participants viewed Igba Boi as adaptable beyond traditional commerce.

4.3 Crisis in the Traditional System

A consensus emerging across all four participant groups is that the Igba Boi system in its current form is declining, and without deliberate intervention, it may not survive the next generation.

Oga's side crisis

Ogas identified declining commitment among some apprentices as a major challenge, citing impatience, theft, abandonment of apprenticeship agreements, and early demands for settlement. These experiences have affected willingness to continue the traditional model. Eight of the eighteen ogas had shifted to shorter, fee-based training arrangements without settlement obligations, describing them as "cheaper, less stressful, and more peaceful" (OG-9). However, ten ogas retained the traditional model because of their personal experiences and its perceived role as a social protection mechanism. Some participants proposed community-based adaptations, including organised identification and matching of apprentices with ogas to strengthen accountability and reduce reliance on informal arrangements (OG-14). Despite differing practices, ogas generally agreed that the traditional apprenticeship model is declining and expressed openness to state involvement to preserve its cultural and economic value.

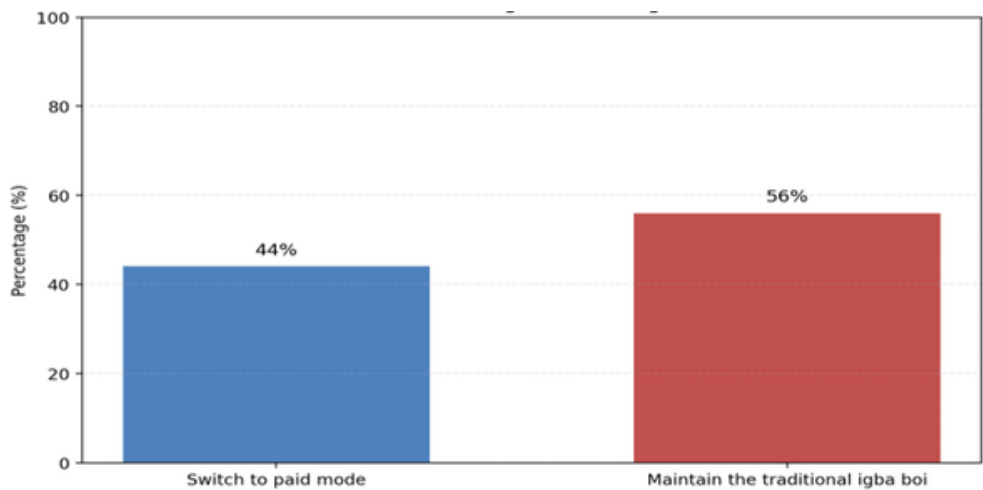


Fig 3: Oga's stand on the continuation of the Igba boi system

Bois side crisis

Among the bois, the length of apprenticeship emerged as the dominant concern. While participants valued learning through the system, many considered extended service periods exploitative, particularly in auto mechanics and spare parts where apprenticeships could last eight to ten years. Some described these conditions as "modern slavery." Participants also reported that experiences varied across sectors, with electronics and electrical installation apprentices describing stricter conditions and weaker welfare support. Across discussions, participants linked apprenticeship quality less to the trade itself and more to the conduct of individual ogas.

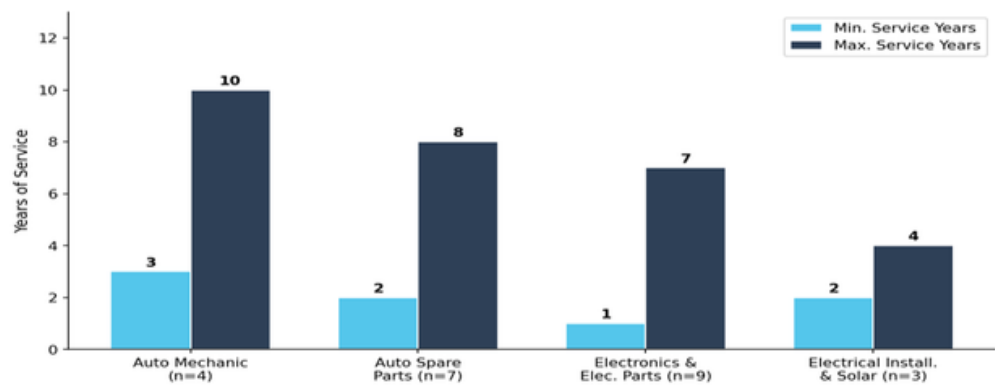


Fig 4: Service period range by trade sector among workshop Bois (n=23)

4.4 Transferable Principles for a Software-Based Igba Boi

Tech founders generally supported adapting Igba Boi principles to software startup environments. While 79% considered the model feasible in technology settings, 21% rejected its traditional form. Support was directed toward adapting specific principles rather than transferring the structure entirely. Among transferable elements, 50% identified long-term mentorship, 30% identified the obligation to settle mentees with real opportunities, and 20% identified loyalty. This indicates that relational and mentorship-based elements were viewed as more valuable than the traditional arrangement itself. Respondents identified three major risks: brain drain after training investment (40%), regulatory and reputational concerns relating to unpaid exploitation (30%), and the management burden of mentoring apprentices within resource-constrained startups (30%).

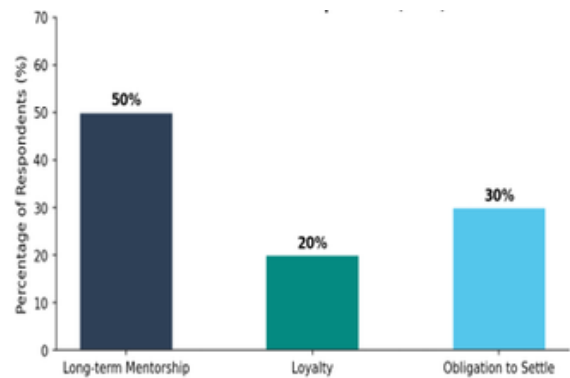


Fig 5: Core Igba Boi elements considered transferable

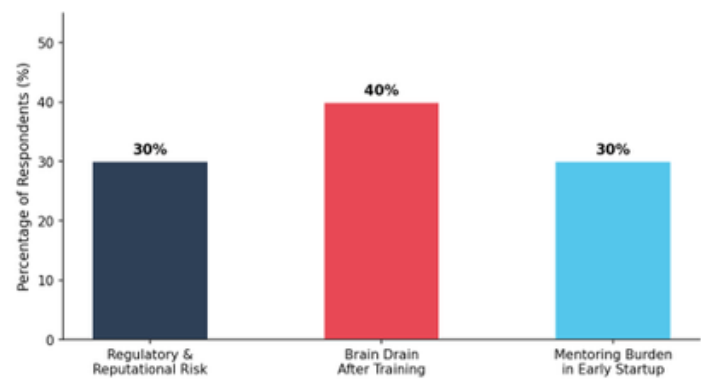


Fig 6: Perceived Risks of applying igba boi to software startup

4.5 Gender Exclusion and Conditions for Inclusive Adoption

Across participant groups, gender exclusion emerged as a significant limitation of the traditional Igba Boi system, although participants identified pathways for more inclusive adaptation. Indigenous knowledge holders linked women's exclusion to gendered provider roles, marriage expectations and the lengthy apprenticeship period. However, they noted that exclusion was not absolute, citing women who entered trade training through imu oru and attained Oga status. Participants also discussed shorter paid training models preferred by some women. While 6 of 23 Indigenous knowledge holders supported these alternatives, 17 criticised them as providing limited knowledge transfer compared to full apprenticeship. Tech founders identified gender inclusion as a necessary condition for adapting Igba Boi to software startups. Suggested measures included stipends, safe accommodation, remote participation, anti-harassment safeguards, women-only cohorts and community partnerships. These responses positioned inclusion as a structural requirement rather than an additional feature. Among bois, some participants expressed support for creating technology-based equivalents of apprenticeship opportunities for women, indicating openness to gender-inclusive adaptations.

Design of a Digital Igba Boi Model

Findings across participant groups converged around key design features for a digital Igba Boi model: shorter duration, formal contracts, welfare provisions, structured learning pathways, and preservation of relational values. Among bois, initial perceptions of technology work were sometimes associated with yahoo yahoo, but after clarification of software entrepreneurship, participants expressed greater interest in a technology-based apprenticeship. Fifteen of the twenty-three bois preferred a tech-sector pathway due to perceived economic opportunities, while eight supported traditional trades. Participants identified a maximum two-year duration, formal contracts, and stipends as essential conditions. Tech founders similarly supported adaptation rather than direct replication. While 65% preferred a 1--2 year apprenticeship, 35% preferred 2--3 years with defined milestones. Proposed features included a cohort-based 18--24 month structure, coding and product development curricula, business training, contracts, performance reviews, stipends, and post-training pathways. For settlement, 50% preferred payment for work done, 45% preferred transition into salaried employment, and 5% preferred equity or profit-sharing. No respondent selected spin-off startup support. One founder explained that financial constraints limited startups' ability to support such arrangements (TF-17).

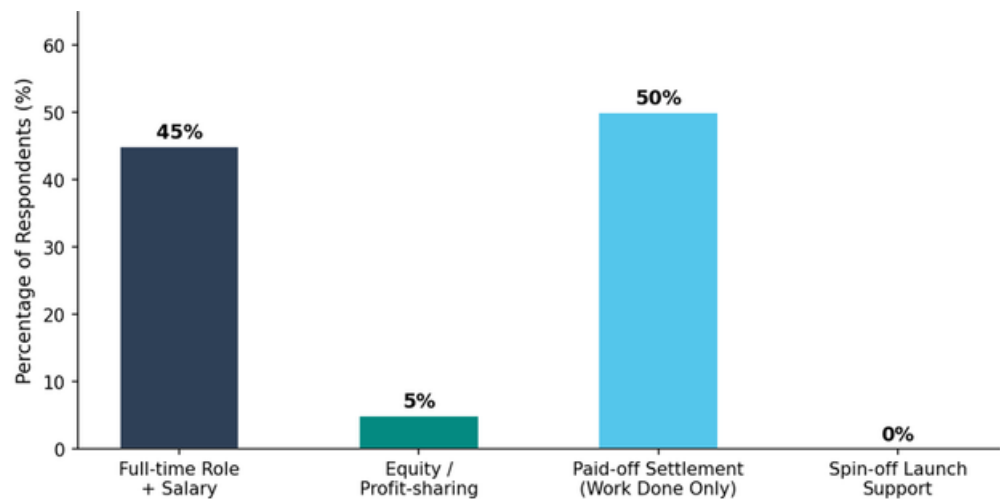


Fig 7: Preferred form of settlement for software apprentices (Tech startup founders, n=19)

Across groups, written contracts emerged as a central requirement, covering duration, welfare, intellectual property, confidentiality, work conditions and post-programme options. Founders also proposed alumni networks, pooled settlement mechanisms, co-investment groups and founder-apprentice pacts to preserve relationships within remote and hybrid work environments. Financial sustainability remained a concern, with 80% of tech founders stating that cash-constrained startups could not sustain multiple non-billing apprentices without external support. Suggested solutions included grants, institutional partnerships, university collaborations and accelerator support. Indigenous knowledge holders emphasised that Igba Boi's effectiveness depends not on a specific trade but on trust, communal accountability and brotherliness. They expressed support for a technology-based adaptation provided that its relational foundation is preserved. As one participant stated, "Plant that in technology and it will grow there too, as long as the spirit of it is not broken" (IKH-12).

Overall, findings indicate that an Igba Boi-inspired software apprenticeship is feasible only as a redesigned hybrid model characterised by shorter duration, formal structures, stipends, defined learning pathways and preserved communal obligations.

Discussions

This discussion interprets the findings through the three constructs of the study's conceptual model (Figure 1).

Construct 1: Igba Boi as Indigenous Pedagogy

The findings support the conceptualisation of Igba Boi as an indigenous pedagogy through which knowledge, discipline, identity and economic capacity are transmitted across generations. Consistent with Oyewunmi et al. (2020) and Hlalele (2022), Indigenous Knowledge Holders (IKH) described the system as a knowledge institution grounded in moral obligation, communal accountability and intergenerational learning rather than merely an informal route into trade. The findings also challenge the tendency to frame Igba Boi primarily as a post-Civil War institution. While the war expanded its significance (Iwara & Ojakorotu, 2025; Amaechi et al., 2025), participants consistently traced its origins to the pre-colonial period. Participants further showed that the system historically relied on recognised governance structures. Oath-taking before deities, family involvement and community authority created reciprocal obligations that sustained accountability. The findings therefore suggest that current challenges arise less from informality than from the erosion of these communal enforcement mechanisms. This extends the view of Carpena-Méndez et al. (2022) by showing that the pedagogical value of Igba Boi depends not only on intergenerational learning but also on the governance structures that sustain trust and obligation. Overall, the findings reinforce Igba Boi as an indigenous pedagogical institution whose contemporary relevance lies in preserving its relational and governance principles rather than reproducing its traditional commercial form.

Construct 2: The Epistemic Positioning of Igba Boi in Contemporary Policy and Gendered Economies

The second construct in the theoretical model concerns the position of Igba Boi within contemporary policy environments and gendered economic systems. Read through the lenses of Igwebuiké and Epistemic Freedom, the findings suggest that the present crisis of Igba Boi is not only organisational or economic, but also epistemic.

The shift by 8 of the 18 interviewed ogas to fee-based apprenticeship reflects more than a response to difficult apprentices; it signals weakening conditions for intergenerational knowledge transfer. This supports Ndofirepi & Gwaravanda (2019), who argue that indigenous knowledge systems decline when the institutional structures sustaining them weaken. Despite Igba Boi's recognised economic contribution, formal policy support has remained limited, although recent legal recognition in Anambra State signals a changing policy environment. The willingness of interviewed ogas to accept legislative intervention further suggests that institutional recognition is increasingly viewed as necessary for the system's continuity. The workshop findings also reveal a crisis of internal legitimacy. Bois' characterisation of lengthy service as "modern slavery" extends the view of Rufai et al. (2019) and Umemezia & Ojukwu (2023) by showing that dissatisfaction now exists among active apprentices, not only external observers. From the perspective of Epistemic Freedom, the survival of an indigenous knowledge system depends as much on maintaining legitimacy among its future bearers as on external recognition.

The gender findings similarly show that epistemic marginalisation is accompanied by exclusion within the institution itself. Consistent with FAMILONI (2024), Abasilim et al. (2024) and Chukwuma-Nwuba et al. (2023), participants linked women's exclusion to provider expectations, marriage norms and lengthy apprenticeship. However, accounts of women who entered through *imu oru* and later attained Oga status indicate that these boundaries have never been absolute. This supports Esiobu (2020), Emeagwali (2019), and Chilisa & Ntseane (2010), suggesting that gender reform can emerge from the institution's own traditions rather than external prescription. Tech founders reinforced this position by treating gender inclusion as a structural design issue through proposals for stipends, safe accommodation, remote participation, anti-harassment safeguards and women-only cohorts. The findings suggest that the future of Igba Boi depends on two complementary reforms: greater policy recognition of its value as an indigenous institution and institutional restructuring that expands equitable participation without weakening its core principles.

Epistemological Positioning of this Study

By adopting a participatory, community-rooted, and co-creative design that places Ogas, Bois, Indigenous Knowledge Holders, and tech founders at the centre of the inquiry, this study operationalises Ndlovu-Gatsheni's Epistemic Freedom. Rather than imposing an external framework on Igba Boi, the findings emerge from the knowledge and experiences of its own bearers. This departs from existing hybridisation proposals, which largely rely on literature synthesis by external experts rather than participatory design with masters and apprentices. Accordingly, the proposed design features, including the 18--24-month cohort, pooled settlement fund, intellectual property contracts, alumni networks and women-only cohorts, represent participants' own articulation of a culturally grounded digital apprenticeship model rather than researcher-imposed recommendations. The study also demonstrates that research on African Indigenous Knowledge Systems need not choose between academic rigour and community authenticity. By grounding knowledge production within the same cultural universe as its subject, the participatory methodology generated insights that conventional researcher-centred approaches could not.

Conclusions

This study concludes that the Igbo Igba Boi apprenticeship model provides a meaningful indigenous foundation for rethinking digital skills development in Nigeria's startup ecosystem. Its enduring value lies in its relational approach to learning, its emphasis on prolonged skill formation, and its orientation toward enterprise and eventual independence, all of which speak to the demands of technology work that cannot be adequately met through short-term or decontextualised training models. The study also shows that adaptation is essential because existing digital-skills initiatives do not sufficiently reflect local labour realities or community-based traditions of learning. At the same time, meaningful adaptation must address gender exclusion. Women's underrepresentation within both traditional apprenticeship and advanced digital sectors demonstrates that a hybrid model can only succeed if it is intentionally inclusive and responsive to unequal access and participation. The study therefore concludes that Igba Boi is adaptable to Nigeria's startup ecosystem, but only through deliberate redesign that preserves its relational strengths while addressing its structural limitations. Such a model offers a culturally grounded framework for strengthening digital skills development, entrepreneurship, and inclusive innovation.

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Appendix 1: Summary of Findings

Theme Tech Founders Ogas (n=18) Bois IKH (n=23) (n=19) (n=23)

1\. Historical Reference Igba System is Familiar with Confirm depth and Boi as increasingly system's pre-colonial epistemic foundational; hard to value; anxious origins; describe grounding note need for sustain; about duration diaspora reform willing to replication model; adapt reject post-war creation narrative

2\. Mentorship (50%), Moral Open to Success is never Transferability obligation to obligation to transferring sector-specific; of values settle (30%), settle remains values; trust and loyalty (20%) but is strained curious about community are the transferable; by Boi conduct tech transferable core live-in/unpaid application model rejected

3\. Digital model 18--24 months; 8/18 already Max 2 years; Reduce years; design formal contracts; switched to formal preserve stipends; IP fee-based contracts with relational spirit; clauses; pooled model; open to traditional open to any sector settlement fund; formalisation heads; if values intact regional network stipends as entitlement

4\. Gender, power Stipends, safe All male; did Express desire Historical and inclusion housing/remote not raise for sisters to exclusion options, gender access tech confirmed; female anti-harassment unprompted training Oga cases exist; policies, shorter fee-based women-only model preferred cohorts proposed for women by 6/23

5\. Systemic Top risks: brain 8/18 abandoned 'Modern Conflict tensions and drain (40%), traditional slavery' resolution survival exploitation model; 10/18 framing of weaknesses; sacred perception (30%), persist; long service; oath under threat management burden communal call for from religion (30%) matching 2-year cap; shift; system is innovation by 4 all open to dying but must be tech saved