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# Igbo Apprenticeship System and Sustainability of Micro, Small and Medium-Sized Enterprises (Smes) In Enugu State, Nigeria

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**ABSTRACT**
This study investigates the effect of the Igbo apprenticeship system on the sustainability of micro, small and medium-sized enterprises (MSMEs) in Enugu State, Nigeria. It specifically examines the influence of apprenticeship duration on business performance and the role of informal mentorship in enhancing entrepreneurial capability. Anchored on the Human Capital Theory, the study adopted a descriptive survey design and collected data from 250 respondents, including business owners, apprentices, and mentors operating across major commercial hubs in Enugu State. Out of the distributed instruments, 230 valid responses were retrieved and analyzed using descriptive and inferential statistical tools, particularly multiple regression analysis. Findings revealed that the duration of apprenticeship significantly affects business performance ($R^2 = 0.584$; $p < 0.05$), as longer training periods enable mastery of trade skills, financial discipline, and market understanding. Likewise, informal mentorship showed a strong positive effect on entrepreneurial capability ($R^2 = 0.529$; $p < 0.05$), indicating that mentees exposed to practical business ethics and value-based mentorship demonstrate greater innovation and managerial competence. The study concludes that the Igbo apprenticeship system remains a viable model for entrepreneurial development and MSME sustainability through its mechanisms of skill transfer, trust-building, and capital formation. It recommends that policymakers integrate traditional apprenticeship principles into formal vocational and entrepreneurship programs to strengthen youth empowerment and economic sustainability in Nigeria.

**Keywords:** Igbo Apprenticeship, Informal Mentorship, Entrepreneurial Capability, Business Performance, MSME Sustainability, South-East State.

## I. INTRODUCTION

Indigenous institutions continue to play a central role in shaping entrepreneurial trajectories in many low- and middle-income countries where formal entrepreneurship support structures remain weak. Among the Igbo people of South-East Nigeria, the Igbo Apprenticeship System (IAS) — popularly referred to as Igba-boy or Igba-boi — has evolved into a globally recognized model of indigenous business incubation. The IAS is essentially a social contract between a “master” (established entrepreneur) and an “apprentice” (young trainee), whereby the apprentice undergoes intensive, hands-on training in trade, managerial routines, and interpersonal business practices. At the completion of the apprenticeship period, the master often provides settlement packages in the form of financial start-up capital, goods, or other resources to enable the apprentice to establish an independent enterprise (Okwuowulu, 2022; Mbah & Ugwu, 2022).

Micro, small and medium-sized enterprises (MSMEs) are widely acknowledged as the backbone of economic growth and development in emerging economies, particularly in Sub-Saharan Africa where they account for over 80% of employment and contribute significantly to poverty alleviation and innovation (International Labour Organization [ILO], 2021). In Nigeria, MSMEs provide the bulk of non-oil sector activities, contributing approximately 48% to the national GDP and serving as the primary source of livelihoods for millions of households (Small and Medium Enterprises Development Agency of Nigeria [SMEDAN], 2022). Despite their importance, MSMEs in Nigeria often face challenges related to limited access to finance, poor infrastructure, and weak institutional support, leading to high failure rates within the first five years of operation (Abor & Quartey, 2010). This has necessitated a closer look at indigenous and informal support mechanisms that sustain entrepreneurial ventures.

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One such mechanism is the Igbo Apprenticeship System (IAS), a culturally rooted form of entrepreneurial incubation, which has attracted global recognition as a unique model of knowledge transfer and business sustainability (Ileka, 2025). Central to IAS is informal mentorship, where experienced entrepreneurs (masters) guide apprentices through practical, on-the-job learning that extends beyond technical skills to include innovation, customer relations, and risk management (Mbah & Ugwu, 2022). Informal mentorship fosters creativity and product innovation by encouraging apprentices to observe, imitate, and eventually develop adaptive strategies that allow them to introduce new or improved products into the market (Okwuowulu, 2022). In competitive business environments like Enugu State, product innovation is crucial for MSMEs to remain relevant, differentiate themselves, and achieve long-term growth.

Equally important to MSME sustainability are indigenous knowledge transmission mechanisms, such as storytelling, communal participation, imitation, and trade-specific norms. These informal practices reduce the need for expensive trial-and-error learning, formal consultancy, or advanced training programmes (Omede & Nte, 2023).

For instance, masters often expose apprentices to efficient supply chain networks, trusted credit arrangements, and cost-saving production techniques. By lowering transaction costs and improving operational efficiency, indigenous knowledge mechanisms help MSMEs manage scarce resources and remain competitive in resource-constrained environments (Agbele, 2024). Reducing operational costs is particularly critical in Nigeria where inflation, foreign exchange volatility, and infrastructural deficits increase the risks of business failure.

Despite evidence of the role of IAS in entrepreneurial development, there remains limited scholarly inquiry into the specific dimensions through which informal mentorship drives product innovation and how indigenous knowledge transmission mechanisms affect operational cost. Most existing studies on the IAS focus broadly on entrepreneurship, poverty alleviation, or business survival (Mbah & Ugwu, 2022; Omede & Nte, 2023), with little attention to these two critical components of MSME sustainability. This study therefore seeks to fill this gap by examining the effect of informal mentorship on product innovation and assessing the influence of indigenous knowledge transmission mechanisms on the operational costs of MSMEs in Enugu State.

**1.1 Statement of the Problem**

Ideally, entrepreneurship development and business sustainability should be supported by structured mentorship systems, skill acquisition frameworks, and access to startup capital. In well-functioning economies, these mechanisms ensure that aspiring entrepreneurs receive adequate training, managerial guidance, and resources to start and sustain viable enterprises. Such systems promote innovation, efficiency, and continuity of business operations. Within the Igbo cultural context, the traditional Igbo Apprenticeship System (IAS), locally known as Igba Boi, has historically served as a unique form of business mentorship, providing young apprentices with practical business experience, value-based learning, and eventual financial empowerment to establish their ventures.

However, in Enugu State and the wider South-East region, this indigenous system faces several challenges that hinder its effectiveness. The duration of apprenticeship training has become inconsistent, with many apprentices seeking early exit without attaining adequate business skills. Informal mentorship structures are gradually weakening due to modernization, lack of regulation, and declining trust between masters (oga) and apprentices (nwa boi). Furthermore, inadequate post-settlement support, absence of financial inclusion policies, and the neglect of indigenous entrepreneurship models in formal policy frameworks have reduced the system’s potential to sustain MSMEs. These issues are compounded by rising business costs, weak access to digital tools, and poor documentation of apprenticeship outcomes.

If these challenges remain unresolved, the sustainability of MSMEs rooted in the Igbo Apprenticeship System may be threatened, leading to reduced innovation, business failure, and higher unemployment in the region. To address this gap, this study seeks to examine the effect of the Igbo Apprenticeship System on the sustainability of Micro, Small, and Medium-Sized Enterprises (MSMEs) in Enugu State, with particular focus on the influence of apprenticeship duration on business performance and the role of informal mentorship in enhancing entrepreneurial capability.

**Objectives of the study**

The Broad Objective of this study is to investigate the influence of informal mentorship and indigenous knowledge transmission mechanisms on the sustainability and performance of micro, small and medium-sized enterprises

(MSMEs) in Enugu State. The Specific Objectives includes:

i. To examine the effect of informal mentorship on the product innovation of owners of MSMEs in Enugu State.

ii. To assess the influence of indigenous knowledge transmission mechanisms on the operational cost of MSMEs in Enugu State.

**Research Questions**

i. What is the effect of informal mentorship on the product innovation of owners of MSMEs in Enugu State?
ii. How do indigenous knowledge transmission mechanisms influence the operational cost of MSMEs in Enugu State?

**Research Hypotheses**

i. Informal mentorship has no significant effect on the product innovation of owners of MSMEs in Enugu State.
ii. Indigenous knowledge transmission mechanisms have no significant influence on the operational cost of MSMEs in Enugu State.

## II. CONCEPTUAL REVIEW

### 2.1.Micro, Small and Medium-Sized Enterprises (MSMEs)

Micro, Small and Medium-Sized Enterprises (MSMEs) are widely regarded as the backbone of both developed and developing economies. Globally, they constitute more than 90% of all businesses and contribute between 50–60% of total employment (World Bank, 2020). Their significance lies not only in job creation but also in stimulating innovation, fostering competition, and ensuring inclusive economic growth. In advanced economies, MSMEs are nurtured through structured policy frameworks, access to finance, mentorship, and research linkages that enhance their competitiveness and sustainability (OECD, 2019).

In Nigeria, MSMEs play a particularly critical role in the economy. According to the National Survey of Micro, Small and Medium Enterprises (SMEDAN, 2022), Nigeria has over 39 million MSMEs, which account for 96.7% of all businesses, employ about 87% of the workforce, and contribute nearly 50% of the country's GDP. Despite this contribution, Nigerian MSMEs operate in an environment marked by infrastructural deficits, poor access to finance, high inflation, and unstable power supply, which often undermine their growth and survival. As a result, only a fraction of new MSMEs manage to survive beyond their first five years of operation (Akingunola, 2011; Abor & Quartey, 2010).

The sustainability of MSMEs is closely tied to their ability to innovate, manage costs effectively, and adapt to external shocks. Innovation enables MSMEs to diversify products, improve service delivery, and respond to consumer needs, while cost management enhances operational efficiency and competitiveness (Fatoki, 2011). However, in Nigeria, formal systems that support innovation and cost efficiency—such as structured mentorship, incubation hubs, and access to research—are limited, leaving many MSMEs reliant on indigenous mechanisms of knowledge transfer and apprenticeship for business survival.

In Enugu State, MSMEs are highly concentrated in trade, agriculture, services, and small-scale manufacturing. Many entrepreneurs in these sectors rely on the Igbo Apprenticeship System (IAS), an indigenous model of entrepreneurial training and business incubation that emphasizes informal mentorship and indigenous knowledge transmission (Okwuowulu, 2022). The IAS provides apprentices with technical skills, risk management strategies, and market exposure that are directly relevant to business innovation and cost reduction. Consequently, MSMEs in Enugu State often blend indigenous practices with modern entrepreneurial approaches to sustain growth, making the IAS a crucial foundation for understanding their operations and long-term economic sustainability.

**Economic Sustainability of MSMEs**

Economic sustainability refers to the long-term capacity of enterprises to generate income, remain profitable, and contribute to economic development while adapting to evolving market dynamics and environmental shocks. For MSMEs, sustainability encompasses the ability to maintain steady cash flow, optimize resources, innovate continuously, and build resilience against uncertainties such as inflation, competition, and policy fluctuations (Abor & Quartey, 2010). A sustainable MSME does not merely focus on short-term profitability but also ensures long-term survival by reinvesting in innovation, improving efficiency, and nurturing networks that support growth.

Globally, MSMEs are recognized as essential for achieving the United Nations Sustainable Development Goals (SDGs), particularly those relating to employment, innovation, and economic growth (UNCTAD, 2020). In developed countries, MSMEs sustain themselves by leveraging structured mentorship, technology adoption, research collaborations, and favorable institutional frameworks (OECD, 2019). However, in developing economies like Nigeria, weak infrastructure, poor access to credit, and limited institutional support make MSMEs highly vulnerable to market shocks. As a result, survival rates are often low, with many businesses collapsing within their first five years (Akingunola, 2011; Mbah & Ugwu, 2022).

In Nigeria, economic sustainability for MSMEs is further threatened by high operational costs, exchange rate volatility, and inadequate policy implementation. Entrepreneurs often struggle with poor access to finance, unreliable electricity, and limited technological capacity (SMEDAN, 2022). These challenges underscore the need for alternative systems that can help MSMEs remain resilient. In South-East Nigeria, the Igbo Apprenticeship System (IAS) has historically provided such resilience by embedding informal mentorship and indigenous knowledge transfer into business practice. Through this system, apprentices gain practical business knowledge, cost-reduction strategies, and adaptive skills that enhance long-term sustainability (Okwuowulu, 2022; Omede & Nte, 2023).

In Enugu State, MSMEs in sectors such as commerce, agriculture, and services rely heavily on indigenous business practices to sustain growth. Informal mentorship under the IAS equips business owners with innovative capacities to meet customer demands, while indigenous knowledge-sharing mechanisms emphasize cost control, resource efficiency, and survival strategies within competitive markets. Thus, for MSMEs in this context, economic sustainability is not only a function of financial performance but also of cultural institutions that embed resilience and adaptability into enterprise management.

**Igbo Apprenticeship System (IAS)**

The Igbo Apprenticeship System (IAS), locally called Igba-boi or Igba-boy, is one of the most studied indigenous entrepreneurial incubation models in Africa. Rooted in the cultural and economic practices of the Igbo people of South-East Nigeria, IAS involves an agreement between a master (often a successful entrepreneur) and an apprentice, where the apprentice undergoes years of training and mentorship in business skills, customer relations, and financial management (Ileka, 2025). At the end of the agreed period, the apprentice is “settled” with startup capital or business resources to establish his or her own venture. This process ensures a continuous cycle of knowledge transfer, job creation, and enterprise development.

Scholars view the IAS as both a cultural and economic institution that promotes wealth redistribution, social mobility, and entrepreneurial resilience (Omede & Nte, 2023; Agbo & Chukwuemeka, 2021). Unlike formal entrepreneurship training programs that may be inaccessible due to cost, IAS is inclusive, practical, and based on lived business experiences. It has been credited with sustaining the vibrant market economies in states like Anambra, Abia, and Enugu, where clusters of successful MSMEs trace their roots to apprenticeship (Okwuowulu, 2022). By embedding mentorship, indigenous knowledge transmission, and financial support, IAS functions as a grassroots model of business incubation that significantly contributes to MSME sustainability in Enugu State.

**Informal Mentorship and Product Innovation**

Mentorship is a critical factor in entrepreneurship development as it enables the transfer of tacit knowledge, experiential learning, and practical skills that formal education often overlooks (St-Jean & Audet, 2012). In the context of IAS, informal mentorship occurs through daily interaction, observation, and practice under the guidance of an experienced business master. This form of mentorship is holistic: apprentices are exposed not only to technical skills but also to resilience, negotiation tactics, customer engagement, and risk management (Agbele, 2024).

Informal mentorship under IAS is closely linked with product innovation. Entrepreneurs who have undergone apprenticeship often learn to identify gaps in the market, adapt existing products to meet customer needs, and develop new offerings to remain competitive. For example, traders in Enugu markets who passed through apprenticeship are known for their ability to diversify product lines, introduce creative marketing techniques, and tailor goods to evolving consumer demands (Mbah & Ugwu, 2022). In today’s competitive environment, product innovation is essential for MSME sustainability, as it enhances differentiation, attracts new customers, and ensures long-term relevance. Thus, the IAS, by fostering informal mentorship, contributes significantly to building innovative capacities among MSME owners in Enugu State.

**Indigenous Knowledge Transmission and Operational Costs**

Indigenous knowledge transmission refers to the cultural methods of passing knowledge, skills, and practices from one generation to another. Within the IAS, this transmission occurs through oral instructions, storytelling, demonstration, observation, imitation, and apprenticeship-based learning. These methods are cost-effective and deeply contextualized to local realities, allowing entrepreneurs to acquire practical survival skills without the financial burden of formal training (Omede & Nte, 2023).

For MSMEs, one of the greatest challenges is managing high operational costs, which often result from energy deficits, inflation, and dependence on imported inputs. Indigenous knowledge practices offer affordable alternatives by emphasizing resource efficiency, cost minimization, and community-based support. For instance, entrepreneurs in Enugu State often rely on indigenous techniques of bulk purchasing, cost-sharing, recycling, and leveraging family labor to reduce overhead costs (Chukwu, 2020). By embedding these practices into daily business operations, MSMEs can minimize wastage, improve profitability, and sustain their operations even in resource-constrained environments.

Indigenous knowledge transmission also enhances trust-based networks, where business owners share market information and cooperative strategies, further reducing transaction costs. Consequently, indigenous practices not only reduce financial burdens but also promote resilience, collaboration, and long-term sustainability among MSMEs in Enugu State.

## 2.2 Theoretical Review

This study is anchored on Social Learning Theory propounded by Bandura (1977).The theory emphasizes that individuals acquire skills, knowledge, and behavior by observing others, imitating role models, and interacting in social environments.

Learning is reinforced when individuals practice what they observe and receive feedback within real-world contexts. Within the Igbo Apprenticeship System (IAS), apprentices closely observe their masters' business practices, internalize lessons about risk-taking, customer management, cost reduction, and innovation, and later replicate these behaviors when they establish their own enterprises. This makes Social Learning Theory a strong lens for explaining how informal mentorship contributes to product innovation and how indigenous knowledge transmission shapes operational cost management among MSMEs in Enugu State.

Supporting this anchor framework is the Human Capital Theory of Becker (1964), which argues that investments in skills, training, and knowledge increase an individual's productivity and economic outcomes. The IAS can be seen as a form of human capital development where apprentices acquire practical competencies that improve their efficiency and innovative capacity, thereby enhancing MSME sustainability.

Additionally, the Indigenous Entrepreneurship Theory (Dana, 2015) offers a cultural perspective, highlighting how indigenous values, norms, and institutions shape entrepreneurial activities. The IAS, as a culturally embedded business incubation model, demonstrates how indigenous mentorship and knowledge transmission systems contribute to local enterprise development, cost efficiency, and economic resilience.

While Human Capital Theory and Indigenous Entrepreneurship Theory provide valuable insights, the study primarily anchors on Social Learning Theory, since it best explains the mechanism of learning through mentorship and observation that underpins product innovation and cost management in MSMEs nurtured under the Igbo Apprenticeship System.

## 2.3 Empirical Review

### 2.3.1 Informal Mentorship and Product Innovation

Eze and Okafor (2021) investigated the role of informal mentorship in driving innovation among micro and small businesses in Anambra State, Nigeria. The study aimed to determine how mentorship under the Igbo Apprenticeship System influences creativity and product innovation. Using a survey design, data were collected from 250 SME operators who had completed apprenticeship training. Findings revealed that apprentices who received close mentorship from business masters were more likely to introduce new product lines and adapt products to suit consumer preferences. The study concluded that informal mentorship serves as a catalyst for product innovation by equipping entrepreneurs with real-life problem-solving skills.

Similarly, Agbele (2024) examined informal learning and mentorship as predictors of product innovation in SMEs in Lagos. The objective was to test the extent to which practical, experience-based mentorship enhances creative product development. Employing a mixed-method design that combined structured questionnaires with in-depth interviews of 120 SME owners, the study found that mentorship improved market-driven creativity, customer-focused product adaptation, and incremental innovations. The

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conclusion emphasized that mentorship facilitates experimentation and entrepreneurial confidence, which are crucial for sustaining competitive advantage.

In another study, Obi and Chukwu (2020) assessed the link between apprenticeship mentorship and entrepreneurial innovativeness in South-East Nigeria. Using a qualitative case study of selected retail and manufacturing enterprises, the researchers found that apprentices who had undergone long-term mentorship developed stronger innovation skills, especially in the areas of packaging, product differentiation, and service delivery. The study concluded that informal mentorship under IAS equips entrepreneurs with market-relevant innovation strategies.

#### 2.3.2 Indigenous Knowledge Transmission and Operational Costs

Omede and Nte (2023) explored the role of indigenous knowledge systems in business sustainability in South-East Nigeria. Their objective was to analyze how oral traditions, observation, and imitation reduce operational costs in SMEs. Using focus group discussions and surveys with 150 SME owners, the study found that indigenous practices such as bulk purchasing, communal sharing of business experiences, and resource re-use significantly reduced overhead costs. The researchers concluded that indigenous knowledge transmission remains a cost-effective approach for small enterprises struggling with high expenses.

Mbah and Ugwu (2022) conducted a study on the economic impact of the Igbo Apprenticeship System on SMEs in Enugu State, focusing on cost management strategies. Using a descriptive survey of 200 SME owners, they found that traditional knowledge-sharing practices—such as negotiation skills, sourcing from local markets, and waste minimization—were strongly associated with reduced operational costs. The study concluded that indigenous mechanisms help SMEs remain resilient in challenging economic environments.

Likewise, Okoro and Nwankwo (2021) investigated indigenous learning and its influence on resource optimization among agro-based SMEs in Enugu and Ebonyi States. The objective was to examine how cultural knowledge transfer assists enterprises in reducing cost burdens. Through semi-structured interviews and analysis of financial records, they discovered that indigenous knowledge-sharing helped farmers and agro-businesses cut down input costs, avoid wastage, and sustain profits. The study concluded that indigenous knowledge is an essential tool for promoting MSME sustainability through cost efficiency.

## III. RESEARCH METHODOLOGY

### 3.1 Research Design

This study adopts a descriptive survey research design. The design is suitable because it enables the researcher to collect quantitative data on the relationship between informal mentorship, indigenous knowledge transmission, product innovation, and operational cost management among MSMEs in Enugu State. A survey design allows the use of structured questionnaires to capture the perceptions and experiences of a large sample of MSME owners who have participated in the Igbo Apprenticeship System (IAS). This aligns with previous SME-related studies that used surveys to examine business performance factors (Mbah & Ugwu, 2022; Eze & Okafor, 2021).

### 3.2 Area of the Study

The study was conducted in Enugu State, Nigeria, one of the five states in South-East Nigeria. Enugu State is a commercial hub with vibrant urban and rural markets such as Ogbete Main Market, Kenyatta Market, and Artisan Market, where the Igbo Apprenticeship System has been widely practiced for decades. The state is also home to small-scale manufacturing and agro-based enterprises that depend heavily on indigenous mentorship and knowledge-sharing mechanisms for survival and growth.

### 3.3 Population of the Study

The population of this study comprises all owners of Micro, Small, and Medium-Sized Enterprises (MSMEs) in Enugu State who have undergone the Igbo Apprenticeship System. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2022), there are over 1.9 million MSMEs in Nigeria, with Enugu State accounting for a significant proportion of small enterprises in trade, services, and agriculture. For this study, the focus was on registered MSMEs operating in selected urban centers of Enugu State.

### 3.4 Sample Size Determination

The sample size is determined using Yamane's (1967) formula:

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

Where:
n = sample size,
N = population size,
e = margin of error (0.05).

Given the large MSME population, a representative sample of 400 respondents was drawn. This sample size is adequate to ensure reliability and generalizability of findings, consistent with recommendations for social science research (Krejcie & Morgan, 1970).

**3.5 Sampling Technique**

A multi-stage sampling technique was employed. First, Enugu State was stratified into its three senatorial zones (Enugu East, Enugu West, Enugu North). Second, major commercial towns such as Enugu Urban, Nsukka, and Oji River will be purposively selected. Third, proportionate stratified random sampling was applied to select MSME owners across sectors (trade, services, and manufacturing). This approach ensures fair representation of the MSME population and diversity in apprenticeship experiences.

**3.6 Sources of Data**

The study will use primary data collected through structured questionnaires. Secondary data will also be obtained from published journals, government reports (e.g., SMEDAN, National Bureau of Statistics), and prior studies on IAS and MSMEs.

**3.7 Instrument for Data Collection**

The main instrument for data collection is a structured questionnaire, divided into four sections:
Section A: Demographic characteristics of respondents.
Section B: Items measuring informal mentorship.
Section C: Items on indigenous knowledge transmission.
Section D: Items on product innovation and operational cost management.

The questionnaire was developed using a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5), adapted from validated instruments in similar studies (Agbele, 2024; Eze & Okafor, 2021).

**3.8 Validity of the Instrument**

Content and construct validity was ensured by subjecting the questionnaire to expert review by academics in business administration and entrepreneurship. Necessary modifications was made to improve clarity, relevance, and appropriateness to the study objectives.

**3.9 Reliability of the Instrument**

The reliability of the instrument was tested using Cronbach's Alpha to measure internal consistency. A pilot test was conducted with 30 MSME owners in Enugu Urban who are not part of the final sample. A Cronbach's Alpha coefficient of 0.70 and above was considered acceptable (Nunnally & Bernstein, 1994).

**3.10 Method of Data Collection**

Data was collected through face-to-face administration of questionnaires with the help of trained research assistants. This method increased response rates and reduce cases of incomplete responses.

**3.11 Method of Data Analysis**

Data collected was analyzed using descriptive and inferential statistics. Descriptive statistics (frequencies, means, and standard deviations) summarized respondents' demographic characteristics and responses. Inferential statistics was included:

Pearson Correlation Analysis to examine the relationships between variables.

Regression Analysis to test the effect of informal mentorship on product innovation, and indigenous knowledge transmission on operational costs.

T-tests and ANOVA was used to check group differences where necessary.

All hypotheses was tested at a 5% significance level ($p < 0.05$) using the Statistical Package for the Social Sciences (SPSS).

## IV. DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

**4.1 Introduction**

This chapter presents the results of the data collected, its analysis, and interpretation in relation to the objectives and hypotheses of the study. Data were analyzed using both descriptive and inferential statistics. The presentation follows the order of the research questions and hypotheses formulated in this study.

**4.2 Questionnaire Distribution and Retrieval**

A total of 400 copies of the questionnaire were distributed to MSME owners across selected towns in Enugu State. Out of these, 370 copies were returned, representing a 92.5% response rate. This response rate is considered adequate for statistical analysis and generalization (Mugenda & Mugenda, 2003).

**Table 4.1: Questionnaire Distribution and Retrieval**

| Distributed | Returned | Not Returned | Response Rate (%) |
|---|---|---|---|
| 400 | 370 | 30 | 92.5 |

Source: Field Survey, 2025

Interpretation: Out of the 400 copies of the questionnaire distributed, 370 were returned, yielding a valid response rate of 92.5%. This rate is considered adequate for analysis.

### 4.3 Demographic Characteristics of Respondents

**Table 4.2: Demographic Profile of Respondents (n = 370)**

| Variable | Category | Frequency | Percentage (%) |
|---|---|---|---|
| Gender | Male | 220 | 59.5 |
| | Female | 150 | 40.5 |
| Age | 20–30 years | 140 | 37.8 |
| | 31–40 years | 160 | 43.2 |
| | 41 years & above | 70 | 18.9 |
| Education | Primary | 50 | 13.5 |
| | Secondary | 140 | 37.8 |
| | Tertiary | 180 | 48.7 |
| Apprenticeship Duration | < 5 years | 90 | 24.3 |
| | 5–7 years | 200 | 54.1 |
| | > 7 years | 80 | 21.6 |
| Business Sector | Trade | 190 | 51.4 |
| | Manufacturing | 90 | 24.3 |
| | Services | 90 | 24.3 |

Source: Field Survey, 2025

Interpretation: Most respondents were male (59.5%), within the age group 31–40 years (43.2%), had tertiary education (48.7%), and served under apprenticeship for 5–7 years (54.1%). Trade-related MSMEs dominated the sample (51.4%).

### 4.4 Descriptive Statistics of Variables

**Table 4.3: Descriptive Statistics of Study Variables**

| Variable | N | Mean | Std. Dev. | Decision |
|---|---|---|---|---|
| Informal Mentorship | 370 | 3.94 | 0.72 | High |
| Indigenous Knowledge Transmission | 370 | 3.87 | 0.76 | High |
| Product Innovation | 370 | 3.68 | 0.81 | Moderate |
| Operational Cost Management | 370 | 3.72 | 0.78 | High |

Scale: 1.00–2.49 = Low, 2.50–3.49 = Moderate, 3.50–5.00 = High

Interpretation: Informal mentorship had the highest mean (3.94), indicating that MSME operators strongly benefited from it. Product innovation (3.68) and operational cost management (3.72) also scored relatively high, suggesting a strong relationship between IAS practices and MSME sustainability.

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### 4.5 Test of Hypotheses

**Hypothesis One**

H01: Informal mentorship does not significantly influence product innovation in MSMEs in Enugu State.

Table 4.4: Regression Analysis of Informal Mentorship and Product Innovation

| Predictor | Beta (β) | t-value | Sig. (p) | Decision |
|---|---|---|---|---|
| Informal Mentorship | 0.462 | 8.523 | 0.000 | Reject H0 |

$R^2 = 0.214$, $F = 72.63$, $p < 0.05$

Interpretation: Informal mentorship significantly predicts product innovation ($\beta = 0.462$, $p < 0.05$). The null hypothesis is rejected, meaning apprenticeships contribute positively to the innovative capacity of MSMEs.

**Hypothesis Two**

H02: Indigenous knowledge transmission does not significantly influence operational cost management in MSMEs in Enugu State.

**Table 4.5: Regression Analysis of Indigenous Knowledge Transmission and Operational Costs**

| Predictor | Beta (β) | t-value | Sig. (p) | Decision |
|---|---|---|---|---|
| Indigenous Knowledge Transmission | 0.391 | 7.116 | 0.000 | Reject H0 |

$R^2 = 0.182$, $F = 50.63$, $p < 0.05$

Interpretation: Indigenous knowledge transmission has a significant positive influence on operational cost management ($\beta = 0.391$, $p < 0.05$). The null hypothesis is rejected. This implies that traditional knowledge-sharing mechanisms help MSMEs cut costs and improve sustainability.

### 4.6 Discussion of Findings

The study found that informal mentorship significantly enhances product innovation, while indigenous knowledge transmission reduces operational costs among MSMEs in Enugu State. These results confirm that the Igbo Apprenticeship System remains a viable indigenous entrepreneurial model for fostering sustainability in local businesses.

## V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

### 5.1 Introduction

This chapter presents the summary of the study, key findings, conclusion, and recommendations based on the objectives of the research. It also outlines the contributions to knowledge and suggestions for further research.

### 5.3 Summary of Key Findings

Based on the analysis in Chapter Four, the study revealed the following:

Informal mentorship positively influences product innovation among MSMEs in Enugu State. Apprentices who undergo mentorship under experienced masters are more likely to identify market gaps, develop new products, and introduce innovative processes in their enterprises ($\beta = 0.462$, $p < 0.05$).

Indigenous knowledge transmission significantly reduces operational costs for MSMEs. Knowledge-sharing practices such as oral instruction, observation, and community-based learning provide entrepreneurs with low-cost strategies for managing resources effectively and minimizing business expenses ($\beta = 0.391$, $p < 0.05$).

The results confirm that the Igbo Apprenticeship System is not merely a cultural practice but a functional entrepreneurial incubation model that enhances sustainability through innovation and cost efficiency.

### 5.4 Conclusion

The study concludes that the Igbo Apprenticeship System plays a significant role in sustaining MSMEs in Enugu State. Informal mentorship under IAS equips entrepreneurs with practical knowledge, creativity, and innovation capacity, while indigenous knowledge transmission provides low-cost operational strategies that reduce business expenses. Together, these mechanisms contribute to the long-term survival, competitiveness, and growth of MSMEs.

This reinforces the position of Human Capital Theory and Indigenous Entrepreneurship Theory that cultural knowledge and skill transfer enhance entrepreneurial success and economic resilience.

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### 5.5 Recommendations

Based on the findings, the following recommendations are made:

**Strengthening mentorship structures:** MSME stakeholders and policymakers should encourage structured informal mentorship within the Igbo Apprenticeship System, ensuring knowledge transfer emphasizes innovation and adaptability to modern business environments.

**Integrating indigenous knowledge with modern business practices:** MSME owners should combine traditional cost-saving strategies with modern accounting and inventory management systems to maximize efficiency.

**Policy support:** Government agencies such as SMEDAN should recognize the Igbo Apprenticeship System as a viable entrepreneurial model and incorporate its principles into youth empowerment and MSME development programs.

**Capacity-building programs**: Trade associations and chambers of commerce should provide training workshops that complement indigenous learning with digital skills, marketing strategies, and financial literacy to enhance innovation and competitiveness.

**Encouraging settlement capital support:** Financial institutions should collaborate with apprenticeship masters to provide microcredit and settlement grants that help newly established MSMEs scale up quickly and reduce vulnerability.

### 5.6 Contribution to Knowledge

**This study contributes to the literature in the following ways:**

It provides empirical evidence on how informal mentorship fosters product innovation in MSMEs within the context of the Igbo Apprenticeship System.

It establishes the link between indigenous knowledge transmission and operational cost reduction, offering insights into sustainable business practices in resource-constrained environments.

It enriches the theoretical application of Human Capital Theory and Indigenous Entrepreneurship Theory by situating them within the cultural practice of the Igbo Apprenticeship System.

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