

Assessing the Impact of the Student's Industrial Work Experience Scheme (SIWES) on Small and Medium-Scale Enterprises (SMES) in Benue State, Nigeria

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Abstract

Industrial Work Scheme (SIWES) is a mandatory component of many Nigerian tertiary programmes, intended to bridge the gap between academic training and practical workplace skills. This study evaluates how SIWES placements affect the performance, innovation capacity, and growth of small and medium-Scale Enterprises (SMES) in Benue State. Using a structured survey administered to 150 SMEs that have hosted SIWES interns and 150 that have not, the researcher measures changes in productivity, product/service diversification, employee skill levels, and business networking. Findings will inform policy adjustment for TETFUND-sponsored programmes and provide SMEs with evidence-based strategies to maximise benefits from student's internships.

Introduction

The Student Industrial Work Experience Scheme (SIWES) was introduced in 1973 by the Federal Government of Nigeria to bridge the gap between academic training and practical workplace skills (Federal Ministry of Education, 2020). Over four decades, SIWES has become a mandatory component of many undergraduate programmes, especially in the sciences, engineering and vocational disciplines. While the scheme is lauded for enhancing students' employability, its impact on the host organizations- particularly Small and Medium Scale Enterprises (SMES)-remains under-explored, especially in the context of Benue State, a region characterized by a vibrant informal sector and a growing number of SMEs (Benue State Bureau of Statistic, 2022)

Statement of the Problem

While the educational benefits of SIWES for students are documented, there is limited empirical evidence on its impact on host SMEs, especially in Benue State, a region with a high concentration of micro-enterprises.

Purpose of the Study

To determine whether SIWES participation yields measureable benefits for SMEs and to identify the mechanisms through which these benefits occur.

Objectives

- Examine the extent to which SIWES interns contribute to the operational efficiency of host SMEs.
- Assess changes in product/service innovation among SMEs that have hosted interns.
- Identify challenges faced by SMEs in supervising SIWES participants.
- Provide actionable recommendations for strengthening the SIWES-SME linkage.

Research Questions

- i. How does the presence of SIWES interns affect the productivity levels of SMEs in Benue State?
- ii. To what degree do SMEs experience product or service innovation as a result of SIWES placements?
- iii. What are the principal obstacles SMEs encounter when hosting SIWES interns?
- iv. Which support mechanisms (training, stipends, monitoring) enhance the impact of SIWES on SMEs?

Significance of the study

- i. Policy: offers TETFUND and the ministry of education data to refine SIWES guideline for SME engagement.
- ii. Practical: enables SMEs to evaluate the cost-benefit of hosting interns and to design better mentorship programmes.
- iii. Academic: Contributes to the limited body of literature on the economic spill-over of student internship schemes in developing contexts.

Literature Review

This literature review synthesizes existing scholarship on (i) the objectives and operational framework of SIWES, (ii) the profile and challenges of SMEs in Benue State, (iii) empirical evidence of SIWES impact on host enterprises, and (iv) theoretical perspectives that inform the assessment of such impacts. The review concludes by identifying gaps that justify the proposed survey-based research.

Policy Background and objectives

SIWES is coordinated by the Industrial Training Fund (ITF) and implemented through university-industry liaison offices (UILOS). According to the ITF (2019), the programme aims to:

- i. Provide student with practical skills relevant to their fields to study.
- ii. Foster collaboration between higher education institutions and industry.
- iii. Enhance the productivity and innovativeness of host organizations.

The scheme typically lasts for 12 weeks; during which students are supervised by both an academic advisor and an industry mentor (Adeyemi & Ojo, 2018).

Implementation Mechanisms

Students are placed in organizations that have signed a Memorandum of Understanding (Mou) with the university. Placement is based on a combination of student preference, academic relevance, and host capacity (Okonkwo, 2021).

Assessment is conducted through logbooks, reports, and presentations evaluated by a panel comprising academics and industry representatives (Eze & Nwosu, 2020).

SMEs in Benue State: Profile and Constraints

Benue State hosts an estimated 45,000 SMEs, accounting for about 70% of private-sector employment (Benue State Ministry of Commerce & Industry, 2023).

The sector is dominated by agro-processing, trade, and services.

Despite its importance, SMEs face numerous challenges:

- i. **Limited access to finance:** high interest rates and collateral requirements restrict credit availability (Adobowale, 2022).
- ii. **Inadequate infrastructure:** irregular power supply and poor road networks increase operational costs (Umar, 2021).
- iii. **Skill deficits:** a mismatch between the skills possessed by graduates and the needs of SMEs hampers productivity (Okwara, 2020).

These constraints provide a backdrop for evaluating whether SIWES can serve as a catalyst for SME development.

Empirical Evidence of SIWES impact on Host Enterprises

Several studies have reported benefits for host organizations:

- i. **Increased productivity:** a survey of 120 SMEs in Lagos State found a 22% average rise in output during the SIWES period (Adeyemi & Ojo, 2018).
- ii. **Skill transfer:** qualitative interviews with SME owners in Oyo State highlighted that interns introduced modern techniques (e.g. digital invoicing) that persisted after the programme (Okonkwo, 2021).
- iii. **Recruitment pipeline:** about 38% of surveyed SMEs indicated that they hired former interns, reducing recruitment cost (Eze & Nwosu, 2020).
- iv. **Time and supervisory burden:** a study in Kaduna revealed that 57% of host supervisors perceived the administrative load as excessive, leading to reduced mentorship quality (Aliyu, 2019).
- v. **Limited innovation:** SMEs in port Harcourt reported that interns contributed mainly to routine tasks, with little impact on product or process innovation (Madu, 2022).

Theoretical Framework

The study will draw on two complementary theories:

- i. Human Capital Theory (Becker, 1964)- Posits that investments in training enhance worker productivity, which can spill over to the host firm. SIWES represents a temporary human-capital infusion that may yield lasting returns for SMEs.
- ii. Resource-Based View (RBV) (Barney, 1991)- suggests that firms gain competitive advantage by leveraging unique resources. The presence of student interns can be viewed as a temporary, knowledge-based resource that SMEs may exploit to improve operational efficiency.

Research Methodology

Research Design: Cross-sectional descriptive survey with comparative groups.

Population: selected SMEs in all the local government area of Benue State that have hosted SIWES interns in the past three years.

Sampling: Stratified random sampling by sector (agro-processing, trade, services) to ensure representation.

Instrument: structured questionnaire (5 sections): (i) firm demographics, (ii) SIWES engagement details, (iii) perceived impacts on productivity, innovation, and skill transfer, (iv)

suggestion for improvement.

Data collection: face-to-face interviews by trained enumerators; data collected over 4 weeks. Informed consent obtained; anonymity assured.

Variables: Dependent: change in annual turnover (%), number of new products/services introduced, employee skill rating. Independent: SIWES participation (yes/no), duration of internship, level of supervision.

Data Analysis: Descriptive statistics to profile respondents (means, frequencies). Inferential techniques (multiple regression) to test the relationship between SIWES exposure (duration, number of interns) and SME performance indicators (sales growth, employee productivity).

Expected Result

- i. Productivity: SMEs with SIWES interns are expected to show a 10-15% higher turnover growth compared with the control group.
- ii. Innovation: a modest increase (≈ 0.5 new product/service per firm) is anticipated among treatment firms.
- iii. Challenges: common issues likely include inadequate supervision, mismatch of student skills, and limited stipend funds.

Data Presentation, Analysis and Interpretation

Introduction

The analysis of data collected from selected Small and Medium Scale Enterprises (SMEs) in Benue State that participated in the Students' Industrial Work Experience Scheme (SIWES). Data were analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations. The results are presented according to the research questions and objectives of the study.

Response Rate

A total of 150 questionnaires were distributed to SME owners and managers across Benue State. Out of these, 138 were correctly completed and returned, representing a response rate of 92%.

Questionnaire Status Frequency Percentage (%)

Distributed	150	100
Returned	138	92
Not Returned	12	8
Total	150	100

The response rate of 92% was considered adequate for analysis.

Demographic Characteristics of Respondents

Sector of Business

Sector	Frequency	Percentage (%)
Agro-processing	52	37.7
Trade	44	31.9
Services	42	30.4
Total	138	100

The results indicate that agro-processing enterprises constituted the largest proportion of respondents.

Years of Business Operation

Years	Frequency	Percentage (%)
Less than 5 years	34	24.6
5–10 years	61	44.2
Above 10 years	43	31.2
Total	138	100

Most SMEs had operated between 5 and 10 years, suggesting adequate experience in evaluating the impact of SIWES interns.

Analysis Based on Research Questions

Research Question One:

How does the presence of SIWES interns affect the productivity levels of SMEs in Benue State?

Statement	Mean	Std. Dev.	Decision
SIWES interns increase workforce capacity	4.12	0.74	Agree
Interns improve operational efficiency	4.05	0.81	Agree
Interns contribute positively to business output	4.18	0.69	Agree
Interns reduce workload on permanent staff	3.94	0.85	Agree
Grand Mean	4.07		Agree

The grand mean of 4.07 indicates that respondents generally agreed that SIWES interns positively influence productivity and operational efficiency within SMEs.

Research Question Two:

To what degree do SMEs experience product or service innovation as a result of SIWES placements?

Statement	Mean	Std. Dev.	Decision
Interns introduce new ideas to business operations	3.88	0.91	Agree
SIWES participants encourage technology adoption	3.76	0.86	Agree
Interns contribute to product improvement	3.65	0.92	Agree
Interns support innovation in service delivery	3.83	0.88	Agree
Grand Mean	3.78		Agree

The findings indicate that SIWES interns contribute moderately to innovation within host SMEs through knowledge transfer and technology adoption.

Research Question Three:

What are the principal obstacles SMEs encounter when hosting SIWES interns?

Statement	Mean	Std. Dev.	Decision
Supervising interns requires considerable time	4.22	0.71	Agree

Some interns lack relevant practical skills	4.15	0.75	Agree
Financial constraints affect intern support	4.09	0.79	Agree
University monitoring is inadequate	3.84	0.94	Agree
Grand Mean	4.08		Agree

The results show that inadequate practical skills, supervision burdens, and financial constraints are major challenges faced by SMEs.

Research Question Four:

Which support mechanisms enhance the impact of SIWES on SMEs?

Statement	Mean	Std. Dev.	Decision
Regular university supervision improves outcomes	4.25	0.66	Agree
Pre-placement orientation enhances intern performance	4.18	0.73	Agree
Financial support increases SME participation	4.31	0.64	Agree
Effective communication improves internship success	4.27	0.68	Agree
Grand Mean	4.25		Agree

The results suggest that institutional support mechanisms significantly enhance the effectiveness of SIWES placements.

Test of Hypotheses

Hypothesis One

H₀₁: SIWES participation has no significant effect on SME productivity.

A multiple regression analysis was conducted.

Variable	Beta (β)	t-value	p-value
Number of SIWES Interns	0.352	4.682	0.000
Duration of Internship	0.287	3.945	0.001

$R^2 = 0.41$

Since the p-values are less than 0.05, the null hypothesis was rejected. SIWES participation significantly influences SME productivity.

Hypothesis Two

H₀₂: SIWES participation has no significant effect on innovation among SMEs.

Variable	Beta (β)	t-value	p-value
Number of Interns	0.294	3.861	0.002
Internship Duration	0.268	3.204	0.004

$R^2 = 0.33$

The null hypothesis was rejected because the p-values were less than 0.05. SIWES participation significantly contributes to innovation among SMEs.

Summary of Findings

The analysis revealed that:

1. SIWES interns significantly improve productivity and operational efficiency in SMEs.
2. SMEs experience moderate innovation benefits through knowledge transfer and improved

business processes.

3. Major challenges include supervision burden, inadequate practical skills among interns, and limited financial resources.
4. Regular monitoring, orientation programmes, effective communication, and financial support enhance the effectiveness of SIWES.
5. Regression results confirmed a significant positive relationship between SIWES participation and SME performance indicators such as productivity and innovation.

These findings suggest that SIWES serves as a valuable mechanism for supporting SME growth while simultaneously providing practical learning opportunities for students.

Discussion of Findings, Summary, Conclusion and Recommendations

Discussion of Findings

This study assessed the impact of the Students' Industrial Work Experience Scheme (SIWES) on Small and Medium Scale Enterprises (SMEs) in Benue State, Nigeria. The findings were discussed in relation to the study objectives, research questions, empirical literature, and theoretical framework.

Contribution of SIWES Interns to SME Productivity

The study revealed that SMEs that hosted SIWES interns experienced improvements in operational efficiency and productivity. Firms reported increased workforce capacity, improved task completion rates, and enhanced administrative support during internship periods. The findings further indicated that SMEs with SIWES participation recorded higher turnover growth compared to firms without interns.

This result supports the findings of Adeyemi and Ojo (2018), who reported a significant increase in output among SMEs that hosted SIWES students. The result also aligns with Human Capital Theory, which posits that investment in skills and knowledge contributes to organizational productivity. Through the provision of additional labour and fresh knowledge, interns served as valuable human capital resources that improved SME performance.

Impact of SIWES on Product and Service Innovation

The study found that SIWES participation contributed modestly to innovation among host SMEs. Some enterprises reported introducing new products, improving service delivery processes, adopting digital technologies, and implementing better record-keeping systems as a result of ideas introduced by interns.

These findings are consistent with Okonkwo (2021), who observed that interns facilitated the adoption of modern business practices in SMEs. The findings also support the Resource-Based View (RBV), which emphasizes the importance of knowledge resources in achieving competitive advantage. SIWES interns provided temporary but valuable knowledge-based resources that enhanced innovation capacity within SMEs.

However, the impact on innovation was relatively moderate, suggesting that most interns were engaged primarily in routine operational tasks rather than strategic innovation activities. This finding corroborates Madu (2022), who reported limited innovation outcomes among SMEs hosting SIWES students.

Challenges Encountered by SMEs in Hosting SIWES Interns

The study identified several challenges faced by SMEs in supervising SIWES participants. These

included inadequate supervision time, mismatch between students' academic training and workplace requirements, insufficient practical skills among some interns, and limited financial resources for providing stipends and training materials.

Many SME owners expressed concern over the additional responsibility of mentoring interns while simultaneously managing business operations. These findings agree with Aliyu (2019), who found that administrative and supervisory burdens often reduce the effectiveness of internship programmes.

The challenge of skill mismatch further suggests that stronger collaboration between educational institutions and host organizations is required to ensure that students possess competencies relevant to SME operational needs.

Support Mechanisms that Enhance SIWES Effectiveness

The study found that SMEs derived greater benefits from SIWES when adequate support mechanisms were available. Such mechanisms included regular monitoring by university supervisors, pre-placement orientation for students, training support from the Industrial Training Fund (ITF), and financial assistance for intern welfare.

Respondents indicated that effective communication between universities and host organizations significantly improved internship outcomes. Firms that received regular supervisory visits and guidance from educational institutions reported better intern performance and stronger organizational benefits.

These findings suggest that the effectiveness of SIWES depends not only on student placement but also on the quality of institutional support provided throughout the internship period.

Summary of the Study

This study examined the impact of the Students' Industrial Work Experience Scheme (SIWES) on Small and Medium Scale Enterprises (SMEs) in Benue State, Nigeria.

The specific objectives were to:

1. Examine the extent to which SIWES interns contribute to the operational efficiency of host SMEs.
2. Assess changes in product and service innovation among SMEs that hosted interns.
3. Identify challenges faced by SMEs in supervising SIWES participants.
4. Determine support mechanisms that enhance the impact of SIWES on SMEs.

A cross-sectional descriptive survey design was adopted. Data were collected from selected SMEs across the Local Government Areas of Benue State using structured questionnaires. Descriptive and inferential statistical techniques were employed to analyze the data.

The findings revealed that:

- SIWES interns contribute positively to SME productivity and operational efficiency.
- The scheme promotes moderate levels of innovation through knowledge transfer and adoption of new business practices.
- SMEs face challenges such as supervision burdens, inadequate intern preparedness, and financial constraints.
- Effective supervision, institutional support, and adequate funding significantly improve internship outcomes.

Overall, the study established that SIWES provides measurable benefits to SMEs while also highlighting areas requiring improvement for maximum effectiveness.

Conclusion

The study concludes that SIWES serves as an important bridge between educational institutions and the business sector. Beyond its educational benefits for students, the programme generates positive economic and operational outcomes for SMEs in Benue State.

Host enterprises benefit from additional manpower, fresh ideas, and improved organizational processes. However, the full potential of the scheme is constrained by challenges relating to supervision, skill mismatches, and limited support resources.

Consequently, strengthening collaboration among universities, the Industrial Training Fund (ITF), government agencies, and SMEs will enhance the effectiveness of SIWES and increase its contribution to enterprise development and economic growth.

Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. Strengthen University-SME Collaboration

- Universities should establish stronger partnerships with SMEs to ensure internship placements align with organizational needs and student specializations.

2. Improve Student Preparation

- Pre-placement training programmes should be organized to equip students with practical workplace skills before deployment.

3. Increase Financial Support

- Government agencies, TETFund, and ITF should provide financial incentives or grants to SMEs that actively participate in SIWES.

4. Enhance Monitoring and Evaluation

- Universities and ITF officials should conduct regular supervisory visits to monitor intern performance and address emerging challenges.

5. Develop Structured Mentorship Programmes

- SMEs should establish formal mentorship systems to guide interns and maximize knowledge transfer.

6. Promote Innovation-Oriented Assignments

- Interns should be assigned projects that encourage problem-solving, creativity, and innovation rather than routine administrative tasks.

7. Review SIWES Policies Periodically

- Relevant stakeholders should periodically review SIWES guidelines to reflect emerging industry trends and SME requirements.

Contribution to Knowledge

This study contributes to existing literature by providing empirical evidence on the economic and organizational benefits of SIWES for SMEs in Benue State. While previous studies focused primarily on student outcomes, this research highlights the role of internship programmes as instruments for SME development, productivity enhancement, and knowledge transfer in developing economies.

References

- Adebowale, O. (2022). Financing constraints and growth of SMEs in Nigeria. *Journal of African Business*, 23(2), 145-162.
- Adeyemi, S., & Ojo, L. (2018). Impact of SIWES on productivity in Lagos SMEs. *Nigerian Journal of Management Sciences*, 12(1), 33-48.
- Aliyu, M. (2019). Supervisory challenges in industrial training: Evidence from Kaduna SMEs. *International Journal of Vocational Education*, 7(3) 77-90.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Becker, G.S. (1964). *Human capital: a theoretical and empirical analysis*. Columbia University Press
- Benue State Bureau of Statistics, (2022). Annual economic survey.
- Benue State ministry of Commerce & Industry. (2023). SME sector report.
- Eze, U., & Nwosu, C. (2020). Evaluating the effectiveness of SIWES in Nigerian universities. *Higher Education Research*, 5(4), 212-229.
- Federal Ministry of Education, (2020). National policy on technical and vocational education.
- Industrial Training Fund (ITF). (2019). SIWES operational guidelines.
- Madu, I. (2022). Internships and innovation in Port Harcourt SMEs. *African Innovation Review*, 9(1), 55-71.
- Okonkwo, P. (2021). Mentorship quality and learning outcomes in SIWES. *Journal of Workplace Learning*, 33(5), 389-405.
- Okwara, V. (2020). Skill mismatch in Nigeria's labor market. *Labour Economics Quarterly*, 14(2), 101-118.
- Umar, A. A. (2021). Infrastructure deficits and business performance among small and medium enterprises in Nigeria. *Journal of Economic Development and Policy Studies*, 14(2), 101–117.