

## MANAGEMENT OF THE NATIONAL OPEN APPRENTICESHIP SCHEME AND TRAINEES' ENTREPRENEURIAL SATISFACTION IN CROSS RIVER STATE, NIGERIA

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### Abstract

This study examined the relationship between the management of the National Open Apprenticeship Scheme (NOAS), specifically the provision of training personnel, training facilities, and funding, and trainees' entrepreneurial satisfaction in Cross River State, Nigeria. Anchored on Fayol's administrative theory, the study adopted a correlational research design. The population comprised master craftsmen/women and apprentices drawn from NOAS and School-On-Wheels centres across Cross River State, from which a sample of 476 respondents was drawn using stratified and proportionate sampling techniques. Data were collected with a structured, Likert-type questionnaire, vetted for face and content validity by the supervisor and two research-measurement experts and trial-tested for internal-consistency reliability on 50 non-sample respondents using Cronbach's alpha. Simple linear regression was used to test each hypothesis at the .05 level of significance. Results showed that provision of training personnel significantly predicted trainees' entrepreneurial satisfaction ( $R = .487$ ,  $R^2 = .237$ ,  $F(1, 474) = 146.994$ ,  $p < .05$ ). Provision of training facilities also significantly predicted satisfaction ( $F(1, 474) = 77.537$ ,  $t = 8.806$ ,  $p < .05$ ). Provision of funding significantly predicted satisfaction as well, but in the opposite direction to theoretical expectation ( $R = .632$ ,  $R^2 = .400$ ,  $F(1, 474) = 315.572$ ,  $B = -1.129$ ,  $t = -17.764$ ,  $p < .05$ ): higher reported funding provision was associated with lower entrepreneurial satisfaction, a pattern consistent with the disbursement irregularities recently documented in comparable federal youth-empowerment programmes in Nigeria. The study concludes that NOAS management inputs are significant, though unevenly signed, predictors of entrepreneurial satisfaction, and recommends that the National Directorate of Employment (NDE) strengthen the recruitment and continuous development of master trainers, invest further in centre facilities, and institute an independent audit of how funding is disbursed and reaches trainees.

**Keywords:** Management, National Open Apprenticeship Scheme, Entrepreneurial Satisfaction.

### Introduction

The capacity of citizens to create jobs and become self-reliant is one of the surest markers of economic viability in a developing economy, and Nigeria is no exception. As citizens are drawn into self-employed ventures and informal enterprise, unemployment tends to fall, the Gross Domestic Product rises, and the social pathologies that attend idle youth populations, such as crime, unrest, and dependency on government, recede (Ndem, Effiong & Obot, 2018, as cited

in Eyam, 2021). It was this understanding that drove the Nigerian government, in November 1986, to establish the National Directorate of Employment (NDE), a federal agency mandated to mobilise the formal and informal sectors of the economy toward increased productivity and employment, principally through labor-intensive programmes and policies designed to arouse the job-creation potential of citizens (Fasokun, 2005).

Research on apprenticeship as a vehicle for entrepreneurial development in Nigeria has grown increasingly active in recent years. Irene et al. (2024), tracing the entrepreneurial learning process within the un-codified Igbo Apprenticeship System, found it to function as a coherent, culturally embedded pathway from dependent trainee to independent entrepreneur. Government-run schemes were explicitly conceived to formalise this same logic at national scale: among the instruments through which the NDE pursues this mandate is the National Open Apprenticeship Scheme (NOAS), a structured, government-supervised apprenticeship arrangement that pairs unemployed youths with master craftsmen and women for a fixed period of skill transfer, with the explicit long-term goal of converting trainees into self-employed entrepreneurs and, in turn, employers of others (Fasokun, 2005; Okojie, 2020, as cited in Eyam, 2021). Nearly four decades after its establishment, however, the promise of NOAS remains only partially realised. Nigeria's unemployment and poverty indicators have continued to worsen rather than improve (Eko, Utting & Udousoro, 2019, as cited in Eyam, 2021), and the condition is especially pronounced in Cross River State, where Essia and Yusuf (2013) describe a growing population of "active poor" youths unable to secure stable jobs or sustain businesses, and where Sule, Odigwe, Okpa, Essien and Ushie (2020, as cited in Eyam, 2021) report that youth unemployment continues to rise at a geometric rate despite federal intervention. Okoro (2020, as cited in Eyam, 2021) links this deterioration directly to a surge in kidnapping and other violent crime in the state, much of it attributed to idle, unskilled youth.

A scheme cannot convert unemployed youths into entrepreneurs, however, unless it is competently managed. Administrative theory (Fayol, 1949) holds that an institution achieves its objectives only to the extent that its managers are able to plan, organise, direct, coordinate and control the resources placed at their disposal. Applied to NOAS, this means that the National Directorate of Employment can only expect satisfied, entrepreneurially capable graduates of the scheme to the degree that it succeeds in providing three interdependent inputs: competent training personnel to transfer skill, adequate training facilities on which that skill can be practised, and sufficient, well-directed funding to sustain both. Where any of these three pillars is weak, or, per Fayol's controlling function, poorly monitored once allocated, the theory predicts that the scheme's output, trainee satisfaction and eventual entrepreneurial success, should suffer correspondingly.

Despite this clear theoretical link, empirical evidence connecting the specific management inputs of NOAS to how satisfied its trainees are with their entrepreneurial outcomes remains scarce, particularly in Cross River State. Existing Nigerian studies of NDE schemes have tended either to assess a single input in isolation, such as facility adequacy (Adebisi & Oni,

2012), funding (Onyekwelu & Efodu, 2021, as cited in Eyam, 2021), or personnel competence (Bello, 2013, as cited in Eyam, 2021), or to measure how satisfied beneficiaries are with the programme in general, rather than with the entrepreneurial ambitions the programme was designed to serve (see, e.g., Anowai & Anyakoha, 2016, as cited in Eyam, 2021; Makinde & Bamiro, 2023). None has examined, in one correlational model and specifically for Cross River State, whether the three management inputs of NOAS jointly and severally predict entrepreneurial satisfaction. This paper addresses that gap.

### **Objectives of the Study**

The study sought to:

1. examine the relationship between provision of training personnel in NOAS and trainees' entrepreneurial satisfaction
2. ascertain how provision of training facilities in NOAS relates to trainees' entrepreneurial satisfaction.
3. determine the relationship between provision of funding in NOAS and trainees' entrepreneurial satisfaction, all in Cross River State, Nigeria.

### **Hypotheses**

Three null hypotheses were tested at the .05 level of significance:

1. Provision of training personnel in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.
2. Provision of training facilities in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.
3. Provision of funding in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.

### **Methodology**

The study adopted a correlational research design, an approach suited to exploring the nature of a non-causal, naturally occurring relationship between variables that cannot be manipulated by the researcher; this design was considered appropriate because the study sought to establish the statistical relationship between the management of NOAS and trainees' entrepreneurial satisfaction as they exist in the field, rather than under experimental control. The study was carried out in Cross River State, Nigeria, a coastal state in the south-south geopolitical zone created in 1967 and reconstituted in its present form in 1976, comprising 18 local government areas across three senatorial districts and served by NOAS and School-On-Wheels (SOW) training centres administered by the National Directorate of Employment. The study population comprised master craftsmen/women and apprentices engaged in the informal apprenticeship schemes operated by the NDE in Cross River State; across the two schemes covered by the parent dissertation, NOAS and School-On-Wheels, the population totalled 626 master trainers and 1,880 apprentices, 2,506 subjects in all, according to the 2021 NDE Report for the state, and this paper draws its analysis from the NOAS portion of that combined population and sample. A combination of stratified and proportionate sampling techniques was used to draw

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the study sample, with strata constructed around scheme type and trade group, and proportionate sampling applied to select an equal percentage of respondents from each stratum; the effective sample size for the NOAS regression analyses reported in this paper was 476 respondents, a figure confirmed by the total degrees of freedom (474 residual + 1 regression = 475, i.e.,  $N = 476$ ) reported consistently across every regression table for this study, namely training personnel, training facilities, funding, and the parallel School-On-Wheels analyses. Data were collected using a structured questionnaire built on a four-point Likert-type scale (Strongly Agree/Agree through Disagree/Strongly Disagree), with items constructed from ideas drawn from the literature related to each variable under study; a draft copy of the instrument was submitted to the supervisor and two experts in research, measurement, and evaluation in the Faculty of Education Foundation Studies, University of Calabar, for face and content validation, and items judged ambiguous or irrelevant were dropped, revised, or replaced with new items on the strength of that review. The instrument's internal-consistency reliability was established by trial-testing it on 50 respondents who were part of the wider population but not part of the study sample; responses from this trial administration were coded and subjected to statistical analysis using the Cronbach's alpha method, yielding the reliability coefficients reported in the parent dissertation for each construct.

The questionnaire was administered to respondents by the researcher personally, in the schools/training centres, with the assistance of four trained research assistants. Master craftsmen and apprentices were allowed three days to complete the questionnaire independently, after which the researcher and the four research assistants returned to each location to retrieve the completed copies; only copies that were correctly completed and successfully retrieved were used in the analysis, while copies that were improperly completed or not retrieved were treated as attrition and excluded. Collected data were prepared for statistical analysis using a coding schedule designed to score and code respondents' item-level responses, with the questionnaire itself organised in the order of the study's variables to simplify this process, and simple linear regression analysis was used to test each of the three hypotheses examined in this paper, consistent with the study's aim of establishing whether each management input independently predicts trainees' entrepreneurial satisfaction, with each hypothesis tested at the .05 level of significance.

## **Results**

**HO<sub>1</sub>:** Provision of training personnel in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.

**Table 1:** Simple linear regression analysis

| Statistic                              | Value   | df     | Sig.      |
|----------------------------------------|---------|--------|-----------|
| F-ratio                                | 146.994 | 1, 474 | $p < .05$ |
| Regression coefficient (R)             | .487    | n/a    | n/a       |
| Coefficient of determination ( $R^2$ ) | .237    | n/a    | n/a       |
| Unstandardized coefficient (B)         | .658    | n/a    | n/a       |
| Standardized coefficient (Beta)        | .487    | n/a    | n/a       |
| t-value                                | 12.124  | n/a    | $p < .05$ |

The analysis of variance for the regression produced an F-ratio of 146.994, statistically significant at the .05 probability level against a critical F-ratio of 3.86 ( $df = 1, 474$ ). The data for provision of training personnel therefore fit the model significantly better than a model without this predictor. The regression coefficient ( $R = .487$ ) and coefficient of determination ( $R^2 = .237$ ) indicate that provision of training personnel accounts for approximately 23.7% of the variance in trainees' entrepreneurial satisfaction in Cross River State, with the remaining 76.3% attributable to other factors. The positive unstandardized and standardized coefficients ( $B = .658$ ,  $Beta = .487$ ,  $t = 12.124$ ,  $p < .05$ ) show that a unit improvement in the provision of training personnel is associated with a more than proportionate improvement in trainees' entrepreneurial satisfaction. The null hypothesis was therefore rejected: provision of training personnel in NOAS significantly, and positively, predicts trainees' entrepreneurial satisfaction in Cross River State.

**HO<sub>2</sub>:** Provision of training facilities in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.

**Table 2:** Simple linear regression analysis

| Statistic | Value  | df     | Sig.      |
|-----------|--------|--------|-----------|
| F-ratio   | 77.537 | 1, 474 | $p < .05$ |
| t-value   | 8.806  | n/a    | $p < .05$ |

The analysis of variance produced an F-ratio of 77.537, statistically significant at the .05 probability level against a critical F-ratio of 3.86 ( $df = 1, 474$ ), and the associated t-value for the predictor ( $t = 8.806$ ,  $p < .05$ ) was likewise significant, confirming that provision of training facilities contributed significantly to the variation observed in trainees' entrepreneurial satisfaction. The null hypothesis was therefore rejected: provision of training facilities in NOAS significantly predicts trainees' entrepreneurial satisfaction in Cross River State.

**HO<sub>3</sub>:** Provision of funding in NOAS does not significantly predict trainees' entrepreneurial satisfaction in Cross River State.

**Table 3:** Simple linear regression analysis

| Statistic                              | Value   | df     | Sig.      |
|----------------------------------------|---------|--------|-----------|
| F-ratio                                | 315.572 | 1, 474 | $p < .05$ |
| Regression coefficient (R)             | .632    | n/a    | n/a       |
| Coefficient of determination ( $R^2$ ) | .400    | n/a    | n/a       |
| Unstandardized coefficient (B)         | -1.129  | n/a    | n/a       |
| Standardized coefficient (Beta)        | -.632   | n/a    | n/a       |
| t-value                                | -17.764 | n/a    | $p < .05$ |

The analysis of variance produced an F-ratio of 315.572, statistically significant at the .05 probability level against a critical F-ratio of 3.86 ( $df = 1, 474$ ). The regression coefficient ( $R = .632$ ) and coefficient of determination ( $R^2 = .400$ ) indicate that provision of funding accounts for approximately 40.0% of the variance in trainees' entrepreneurial satisfaction in Cross River State, the largest share explained by any of the three NOAS predictors examined in this paper. Unlike training personnel and training facilities, however, the relationship is negative: the unstandardized and standardized coefficients ( $B = -1.129$ ,  $Beta = -.632$ ,  $t = -17.764$ ,  $p < .05$ ) indicate that higher reported provision of funding in NOAS is associated with lower, not higher, trainees' entrepreneurial satisfaction. The null hypothesis was therefore rejected, but in a direction opposite to what the study's theoretical framework would predict.

### Discussion of Findings

The finding that provision of training personnel significantly and positively predicts trainees' entrepreneurial satisfaction in NOAS ( $R^2 = .237$ ) lends strong empirical weight to Fayol's (1949) contention that an organisation's output is bounded by the competence with which its human resources are directed and coordinated. The magnitude of the effect is also consistent with, and arguably strengthens, the qualitative picture painted by Evawoma-Enuku and Mgbor (2005, as cited in Eyam, 2021) and Bello (2013, as cited in Eyam, 2021), both of whom found NOAS-adjacent instructors relying on arbitrary or under-qualified training methods: where personnel quality varies as widely as these studies suggest, a personnel-satisfaction correlation of this magnitude is consistent with expectation, and it identifies personnel investment as one of the more tractable levers available to the National Directorate of Employment for improving trainee outcomes in the short term. The finding also converges with Makinde and Bamiro's (2023) more recent evidence that instructional service quality predicts trainee satisfaction across Nigerian TVET provision generally, suggesting that the personnel-satisfaction relationship identified here for NOAS is not an isolated result but part of a broader, currently active pattern in the Nigerian vocational-training literature.

The significant positive relationship between provision of training facilities and entrepreneurial satisfaction ( $F(1, 474) = 77.537$ ,  $t = 8.806$ ,  $p < .05$ ) corroborates the facility-outcome link identified by Adebisi and Oni (2012) and Onyekwelu and Efodu (2021, as cited in Eyam, 2021) in other NDE contexts, and by Usman (2010, as cited in Eyam, 2021) in a related vocational-training setting. Taken together with the personnel finding above, this suggests that the two

most immediately perceptible management inputs to a trainee, namely who is teaching them and on what equipment they train, bear a direct and readily interpretable relationship to how satisfied they subsequently report being with their entrepreneurial prospects.

The funding result is both the strongest, in terms of variance explained ( $R^2 = .400$ ), and the most theoretically striking of the three NOAS findings. Read at face value, it suggests that NOAS centres reporting higher levels of funding provision have less satisfied trainees, the opposite of what Fayol's (1949) administrative theory, and prior Nigerian evidence such as Okwori, Eze and Duru (2019, as cited in Eyam, 2021), would predict on their own. A literature-consistent reading, however, draws on Atuwokiki (2013), who found that the majority of apprenticeship participants in a comparable Nigerian context financed their training out of personal loans and business proceeds rather than through structured programme funding. If a similar pattern holds within NOAS in Cross River State, "provision of funding" as recorded by the instrument may capture funding as officially allocated or disbursed to centres, rather than funding that reliably reaches individual trainees in usable form; on this reading, higher officially recorded funding at a centre may coincide with, rather than cause, greater administrative friction, delay, or diversion in how that funding reaches trainees, a dynamic squarely within the "controlling" function of Fayol's (1949) framework, and one that falls to the National Directorate of Employment to monitor and correct.

This interpretation is not merely speculative extrapolation from a decade-old study: it is corroborated by considerably more recent evidence from a directly comparable Nigerian federal youth-empowerment programme. Osimen et al. (2025), evaluating the N-Power programme, one of the most prominent federal youth-empowerment initiatives operating alongside NOAS, found that irregular payment of allowances and corruption among programme personnel were among the principal challenges reported by beneficiaries, and recommended prompt, timely stipend disbursement as a corrective measure. That a large, high-profile, and separately administered federal programme exhibits precisely the disbursement and integrity failures hypothesised here for NOAS lends considerable, contemporary weight to the interpretation offered above, and suggests that the funding-satisfaction reversal identified in this study may reflect a structural feature of how Nigerian federal youth-directed funding is administered more broadly, rather than an anomaly specific to NOAS in Cross River State. This interpretation converges with this paper's central policy recommendation on funding, in section 6 below: that disbursement and end-use tracking, not the headline volume of funding, is the more decisive lever for improving trainee satisfaction.

### **Conclusion**

The study concludes that NOAS management is a significant, but unevenly signed, predictor of entrepreneurial satisfaction: the human and infrastructural dimensions of management behave as theory would predict, while the funding dimension points to a control and disbursement problem rather than a resourcing problem.

## Recommendations

The study recommends that the National Directorate of Employment should:

1. Strengthen the recruitment criteria for NOAS master trainers to include a minimum demonstrable standard of both technical and pedagogical competence, and institutionalise regular, mandatory retraining of the kind already piloted through NDE's Saturday Theory Classes, to close the pedagogical gap identified.
2. increase and better maintain the physical training facilities available at NOAS centres, consistent with the infrastructure recommendations.
3. commission an internal audit of how funding allocated to NOAS centres is disbursed and tracked down to the level of individual trainees.

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