PERFORMANCE IMPLICATION OF TRAINING AMONG SELECTED SMALL MINING BUSINESSES IN NASARAWA STATE: THE ROLE OF MENTORSHIP AND INCUBATION

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Abstract
The fundamental aim of entrepreneurship training for small businesses is to equip entrepreneurs with necessary knowledge and skills to navigate the complexities of the business environment and attain superior performance. The role of mentorship and incubation in the performance of mining businesses in Nasarawa sate was, therefore, explored given the characteristically low performance of the industry. This was achieved via a causal research design based on quantitative methods including the collection of self-reported survey data from a cross-section of 298 small mining business owners in the state. Partial Least Square Structural Equation Modelling (PLS-SEM0 was employed to analyse the data collected. Both Mentorship and Incubation were found to be positive and statistically significant predictors of performance among the businesses. It is therefore important that small mining businesses actively seek mentors with relevant industry experience to establish strong relationships that can enhance their performance. These mentorship arrangements should incorporate structured training sessions, regular check-ins, and feedback mechanisms to facilitate continuous support and knowledge sharing. The provision of dedicated incubation centres for small mining businesses in the State by the government and other stakeholders, is also crucial enhancing sector performance. These centres should offer vital resources, including modern equipment, technical training, and business advisory services, while also focusing on developing tailored business plans that align with market demands and sustainable practices to enable effective and sustainable scaling.
Keywords: ***Mentorship, Incubation, training, SMEs, Nasarawa.***

Introduction

The mining industry plays a significant role in the country's economy, contributing to employment generation, revenue generation, and foreign exchange earnings. In Nasarawa State, located in north-central Nigeria, mining activities have been prevalent, particularly in the extraction of solid minerals. Small mining businesses in Nasarawa State, however, face numerous challenges, within a dynamic operating environment, that hinder their growth and sustainability. As the strategic decision making of these businesses is solely controlled by the

owner-managers, the study explored the role training plays in ensuring the attainment of superior performance among these enterprises. Improving competency of small mining operators through training could be a panacea for the poor performance in the sector. Abdul (2018) emphasises the essentiality of sufficient entrepreneurial training for business owners, both for startups and existing businesses, as well its usefulness throughout the enterprise's life cycle. Through training, Fizel and Itri (2014) add that business owners acquire specialise knowledge and skills they require to perform their roles and carry out strategic decisions and actions that can benefit their business.

Training can take various forms as pointed out by Ladzani and van Vuuren (2017). Importantly, mentorship and incubation have gained extensive recognition and application, especially among small businesses across a range of industries. The former, as defined by Uchenna et al. (2015), involves a seasoned and experienced entrepreneur providing guidance, support, and advice to a less-experienced individual or business owner. Through such an avenue, small business owners can tap into the mentor's experience, gain valuable insights, and develop the skills necessary to overcome challenges and improve their business performance.

Incubation, on the other hand, provides comprehensive support to small mining businesses in their early stages of development by offering access to shared facilities, funding opportunities, and networking platforms. By participating in an incubation or acceleration program, small mining businesses can benefit from a supportive environment that nurtures their growth, helps them refine their business models, and provides access to critical resources and expertise (Karambakuwa & Bayat, 2022).

Training holds promise for enhancing the performance of small mining businesses, so that there is the need for empirical research to evaluate its effectiveness, especially in the Nasarawa state mining industry. Accordingly, the study aimed to achieve the following objectives.

i. To assess the effect of mentorship on performance of small mining businesses in Nasarawa state.

ii. To examine the extent to which incubation predicts performance among small mining businesses in Nasarawa state.

In line with these objectives, the following hypotheses were formulated for testing.

H_{O1}: Mentorship does not have significant effect on performance among small mining businesses in Nasarawa state.

H_{O2}: Incubation does not have significant effect on the performance of small mining businesses in Nasarawa state.

Concept of Mentorship

Mentorship generally reflects a learning relationship between two individuals, where one is more experienced and skilled than the other. The goal is for the former to pass on expertise in a training process, whether formal or informal, to the latter. Ofobruku and Nwakoby (2015) define a mentor as the person that facilitates the personal and professional growth of an individual by sharing the knowledge and insight that have been learned through the years. As a result of having a mentor, therefore, Allen (2017) explains that the mentee, or protégé, benefits from increased skills and knowledge, increased potential for career mobility and promotion, improved understanding of their roles in the organisation, insights into the culture and unwritten rules of the organisation and a supportive environment in which successes and failures can be evaluated in a non-confrontational manner. Catherine and Mike (2014) add that the primary function of mentoring is to promote the protégé's progress in specific areas and to

facilitate success in business activities. Researchers consider mentoring a meaningful individual developmental relationship between a mentor and a protégé (Ragins & Scandura, 2020).

Mentoring is an old concept that has been practiced in many places, the world over. Doherty (2019), point out that the tradition of mentoring began with Mentor, a character in Greek Mythology. Noe (2018) conceptualises mentoring in two dimensions - career and psychosocial support functions. Career support function include sponsorship, coaching, exposure to important contacts and resources, visibility, facilitating protection of the mentee and assignment of challenging work to enhance the protégé's career (Kram, 2018). Psychosocial support functions embrace the role modelling, friendship, counselling, acceptance, and confirmation of the mentee (Kram, 2018). Peretomode (2017) notes that mentoring is more than giving advice on how to work more effectively or handle a specific problem; it involves the mentor taking personal interest in seeing that a mentee develops talent, skills, expertise and knowledge needed to succeed and have a successful career (Barthauer et al., 2018).

Incubation

Most often what happens in incubation hubs remains within the hubs themselves and what people ordinarily see are the outputs. Start-ups' financial knowledge, marketing capabilities, and business strategy are frequently improved through training programs offered by incubation hubs. According to Tselepis (2018), training programs at the incubation hubs allow startups to participate in innovative endeavours while also leveraging the hub's connections with formal businesses to gain access to markets outside their close environment. According to Tende (2014), entrepreneurship development centres on broadening the base of entrepreneurs to increase the pace at which start-ups are developed, as well as focusing on individuals who want to start or broaden emerging businesses. Access to necessary programs, lines of credit, and infrastructure and coordinated teamwork and cooperation between organizations involved, regardless of fragmented bureaucracy, are prerequisites for entrepreneurship development. Entrepreneurial development addresses the issues of speeding up the economy's transformation, ensuring marketplace saturation with goods and services, sustaining a competitive climate, financial sustainability, and job creation (Yaluner et al., 2019).

Incubation is a crucial step in the entrepreneurial process which includes a variety of different tasks, the goal of which is to promote startup development. The process may last a few years before the start-up has reached a sustainable level with resources such as coaching, finance, and access to office space (Jakobsen et al., 2017). An incubation framework can play a crucial role in the success of a business. For example, the incubator can track the success of its tenant firms and offer guidance to help mitigate risk by stopping them from making errors. When issues occur, the incubator can offer business support services if appropriate (Hausberg & Korreck, 2020).

Empirical Review

Mentorship and Business Performance

In a study carried out in Lagos by Odunayo (2022), an analysis of self-reported survey data from a random sample of 370 business owner-managers indicated that mentorship was positive and significant in predicting performance among SMEs. In a similar study conducted among business owners in Makurdi metropolis, Adudua et al. (2022) collected primary data from a cross-section of 152 respondents, made up of business owners and their employees. Regression analysis of the collected data indicated that the effect of mentoring, through knowledge

transfer, career support and psychological support, on performance was positive and statistically significant.

Vivian and Kiprono (2016), in an empirical study done in Garissa County, assessed the effect of mentorship on performance among manufacturing firms. From the multiple regression carried out, it was found that mentorship was a positive and statistically significant determinant of business performance. Similar conclusion was arrived at in the study done by Peace (2015) among family businesses in the Abuja construction industry. Correlation analysis of 367 survey responses indicated mentoring to be crucial for business success, and the achievement of planned objectives.

Incubation and Business Performance

Mutuku et al. (2022) carried out a study to determine whether incubation programmes influenced the level of performance of SMEs in the Kenyan hotel and restaurant sector. Analysis of field data obtained from a sample of 20 SME business owners in Nakuru City showed that incubation was positive and significant in predicting performance among businesses in the study area. Similarly, Karambakuwa and Bayat (2022) examined the effect of business incubation on new businesses in Zimbabwe. The study adopted qualitative methods involving focus group discussions with 21 startup founders, the obtained data from which was analysed using thematic processes. It was found that incubation was positive and significant in determining performance among businesses in the study area.

With a focus on measuring the impact of entrepreneurship training programmes on enterprise performance, Maisara et al. (2021) applied a mixed methods research design in a study involving the analysis of primary data collected from a total of 217 entrepreneurs. Incubation was found by the study to be instrumental in predicting business performance by improving skills of business owners. In a related study, Almeida et al. (2020) carried out a comparative study, in Portugal, measuring relative performance outcomes of incubated companies compared to non-incubated ones in their first year of life. Findings from the study's analysis indicated that incubated companies exhibited relatively higher level of performance. Furthermore, in an empirical study carried out in Oyo state, Asikhia et al. (2020) investigated the effect of business incubation on performance of SMEs. The application of multiple regression analysis to primary data collected from a cross-section of 386 business owners indicated that incubation was positive and statistically significant in predicting performance through financial support, market expertise and technological support.

Methodology

A causal research design was adopted for the study for the purpose of measuring the cause-and-effect relationship existing between exogenous constructs of Mentorship and Incubation, as components of training; and Business Performance, as the endogenous construct. The population of the study comprised owner-managers of all 1,133 registered small mining businesses across Akwanga, Karu, Keffi, Kokona and Nasarawa Local Government Areas (LGAs) (Miners Association of Nigeria Nasarawa State, Chapter 2022). However, a representative sample of 296 was determined using the Yamane (1967) formula for finite population, given margin of error of 5%. This number was, further, increased by 10% to 326 to accommodate possible non-response problems that are common with empirical studies.

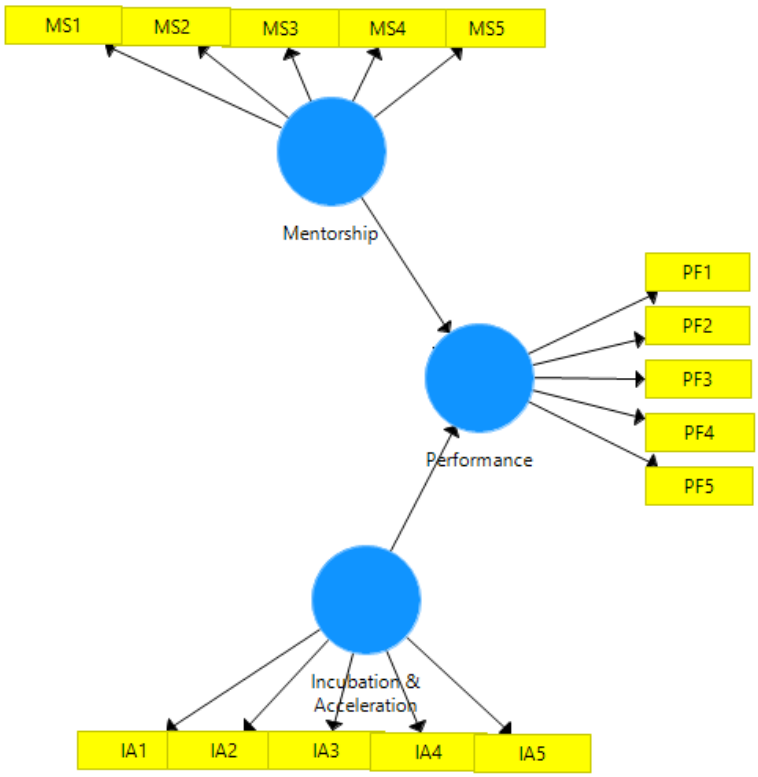
Multistage sampling, involving stratified and purposive techniques were adopted in selecting respondents for the study. Firstly, sample proportions were computed based on the population of each LGA and the total sample size. Accordingly, 58 respondents were selected from

Akwanga; for Karu, sampling proportion was 86 and the proportion of the sample selected from Keffi was 43. For Kokona and Nasarawa LGAs, the proportion was 64 and 75 respectively. Purposive sampling was subsequently used in the selection of respondents within each LGA. Data was collected in primary form through the administration of a structured questionnaire using the drop-off/pick-up method. Both face and content validity, as well as internal consistency reliability were employed by the researcher in ensuring the accuracy of the instrument, facilitated by a pilot study involving 30 respondents.

In testing research hypotheses, the collected data was analysed with the use of the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach to path analysis. Figure 1 gives the specified model of the study.

Figure 1

Specified Model for the Study



Note. Researcher's Compilation Using SmartPLS (version 3).

Results and Discussion

Out of the 326 questionnaire copies administered, 298 were retained and determined to be usable after preliminary analysis and screening. This was a satisfactory number as it met the necessary sample size criterion for the study. From the responses collected, most of the respondents were determined to be male (71.2%), married (67.6%) and had been in business for more than 7 years (41.2%).

Both measurement and structural model evaluation were done out in the PLS estimation process carried out. The former involved both reliability and validity measures to ensure construct accuracy. Reliability was determined using factor loadings, Cronbach's Alpha and Composite Reliability (CR) statistics, while convergent validity was confirmed with Average Variance Extracted (AVE) values (see table 1).

Table 1
Reliability and Convergent Validity Statistics

Indicator	Loading	Cronbach's Alpha	CR	AVE
MS1	0.909	0.924	0.943	0.767
MS2	0.902			
MS3	0.886			
MS4	0.798			
IA3	0.884	0.926	0.944	0.773
IA4	0.940			
IA5	0.870			
PF1	0.867	0.880	0.913	0.679
PF2	0.852			
PF3	0.782			
PF5	0.726			

Note. Extracted from SmartPLS Output.

Table 1 shows indicator and internal consistency reliability, as well as convergent validity statistics for the measurement model. To ensure indicator reliability, indicators with loadings lower than 0.708 (i.e. MS5, IA1, IA2 and PF4) were removed. Furthermore, both alpha and CR values were determined to be above 0.7, and AVE above 0.5 as recommended by Hair et al. (2019), confirming both internal consistency reliability and convergent validity for model constructs.

Divergent validity was also computed using the Heterotrait-Monotrait (HTMT) ratio. Values of less than 0.9 are recommended by Henseler, et al. (2015). All computed values were well below this threshold as can be seen in the results presented in table 2. Divergent validity was, therefore, confirmed for model constructs.

Table 2
Heterotrait-Monotrait Ratio (HTMT)

	Performance	Mentorship
Mentorship	0.314	
Incubation	0.337	0.363

Note. Extracted from SmartPLS Output.

Estimating the structural model was the next step after the accuracy of the measurement model was confirmed. This was, however, preceded by a check for multicollinerity among constructs via evaluation of Variance Inflation Factor (VIF) statistics, as shown in table 3, for the inner model. As recommended by Hair et al. (2019) VIF figures should be less than 5 to ensure that collinearity is not a problem. VIF values computed met this criterion as can be seen in presented values.

Table 3
Variance Inflation Factor (VIF) Statistics

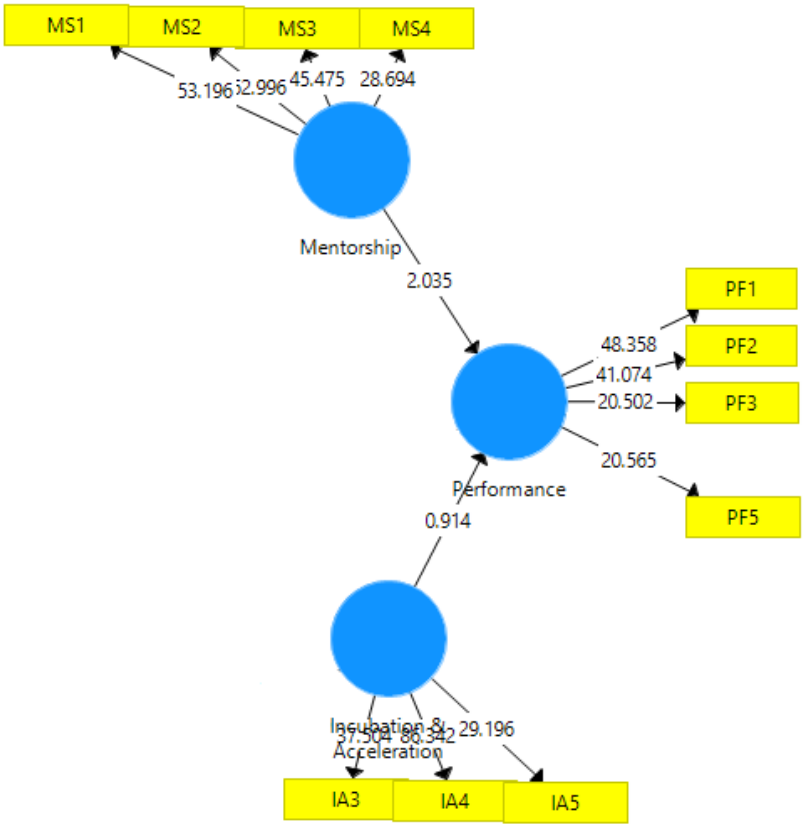
Construct	VIF
Mentorship	1.586
Incubation	1.621

Note. Extracted from SmartPLS Output.

The estimated path model for the study is illustrated in figure 2, being the result of a bootstrapping process involving 5000 subsamples. Both Mentorship and Incubation were estimated to be positive determinants of Performance.

Figure 2

Estimated Path Model of the Study



Note. Extracted from SmartPLS Output.

Table 4 provides estimated path coefficients for the study with hypothesis testing based on statistical significance as determined by p and t values. Both Mentorship and Incubation were estimated to be positive and significant in predicting Performance among small mining businesses in Nasarawa state based on satisfactory p and t values. The null hypothesis, therefore, was not accepted in both cases.

Table 4

Estimated Path Coefficients with p and t values

	β	Std Dev.	t	P value	H_O Decision
Mentorship->Performance	0.131	0.063	2.035	0.042	Not Accepted
Incubation-> Performance	0.143	0.056	2.500	0.013	Not Accepted

Note. Extracted from SmartPLS Output.

Conclusion and Recommendations

The overarching aim of the study was an examination of the role of training in the performance of small mining businesses in Nasarawa state, with specific focus on components of mentorship and incubation. Both forms of training were found to positively determine performance among these businesses to such an extent that was statistically different from zero. This highlighted the importance of effectively committing to mentorship practices by recognising the value of mentorship, actively seek out mentors who have relevant experience and expertise in the

mining industry and establishing strong relationships with them in order to keep improving the overall performance of their businesses. Such arrangements should include structured training sessions, regular check-ins, and feedback mechanisms to ensure continuous support and knowledge sharing. Furthermore, the establishment of dedicated incubation centres specifically for small mining businesses in Nasarawa State is crucial for improving performance in the sector. Such centres should provide essential resources such as access to modern equipment, technical training, and business advisory services. Furthermore, the incubation program should focus on developing tailored business plans that align with market demands and sustainable practices, ensuring that incubated businesses can scale effectively and sustainably.

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