Innovations

# Apprenticeship System and Performance of Family-Owned Businesses in South – East, Nigeria

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***Abstract***

*This study focused on apprenticeship system and performance of Family-Owned Businesses in South – East, Nigeria. The study investigated the effect of cheap labour offered by apprenticeship on effective product pricing, the effect of distribution network created during apprenticeship on the market share, and the effect of graduate apprentice on market expansion of FOBs in South-East, Nigeria. The research adopted the descriptive survey design. The study was carried out in Abia, Anambra, Ebonyi, Enugu and Imo States. The study was carried out on the Family-Owned Businesses (FOBs). The response rate was 91.8% of the estimated sample size of 572. The study used multi-stage sampling technique for the sample selection. Data were analyzed using descriptive and inferential statistics. Hypotheses were tested using binomial logistic regression. Findings indicated that cheap labour offered by apprenticeship significantly and positively affect effective product pricing, distribution network created during apprenticeship has a significant positive on the market share and that graduate apprentice significantly and positively affected the market expansion. The study concluded that FOBs can benefit from these programs by accessing affordable labor, expanding their distribution capabilities, and leveraging the skills and knowledge of graduates. The study recommended among others that FOBs should collaborate with educational institutions, vocational training centers, and government agencies to design comprehensive and well-structured apprenticeship programs, and that these initiatives should concentrate on improving technical skills, fostering business acumen, and deepening product knowledge.*

***Keywords:*** *Apprenticeship System, Cheap Labour, Effective Product Pricing, Distribution Network, Market Share, Market Expansion*

## Introduction

In today's rapidly changing and interconnected business world, the apprenticeship system presents individuals with a valuable opportunity to acquire the essential skills necessary to navigate and thrive in a highly competitive and uncertain environment. This system has the potential to reshape the economic landscape by inspiring a large number of aspiring entrepreneurs to take innovative actions towards achieving business success and embarking on exciting ventures. It enables organizations across various industries to foster a more entrepreneurial mindset and approach as part of their corporate culture. Consequently,

apprenticeship training plays a crucial role in transferring entrepreneurial expertise and facilitating a smooth transition towards self-employment and self-reliance. According to Sofian and Mukhta (2021), the apprenticeship system allows young individuals to gain valuable work experience while simultaneously developing their entrepreneurial skills, knowledge, character, and other distinctive qualities that are vital for thriving in demanding business environments. Throughout the apprenticeship training, individuals are exposed to and encouraged to cultivate important traits and attributes such as resilience, determination, self-management, project management, customer service, and networking. These qualities serve as valuable inputs and values that are instilled in individuals throughout their apprenticeship journey. The implementation of a standardized apprenticeship system further strengthens the establishment of sustainable, productive, and innovative enterprises within an economy (Orugun & Nafiu, 2014; Ezenwakwelu, Egbosionu, & Okwo, 2019).

The apprenticeship system, particularly in the context of the South-East Nigeria, often arises in situations where families experience financial difficulties that prevent them from affording school fees and other formal educational expenses. Individuals pursue a trade apprenticeship by serving as an apprentice under a skilled "master" or learn a specific skill, known locally as "Igbaodibo" and "Imu Oru Aka" respectively. These alternative paths are frequently considered when formal education is not deemed feasible. Within the realm of family business, the apprenticeship system holds particular relevance. Family businesses often see apprenticeships as a valuable approach for preparing the next generation to inherit and continue the family business (Hoon, Brinkmann, & Baluch, 2023; Randerson, Seaman, Daspit, & Barredy, 2020). When families face financial constraints or when a family member is not performing well academically, the apprenticeship system provides an alternative pathway for acquiring practical skills and knowledge that are directly applicable to the family business. It is important to note that Nigeria did have a formal apprenticeship scheme called the National Open Apprenticeship Scheme, organized under the Nigerian Directorate of Employment in 1987. However, informal apprenticeships within family businesses or local trade networks continue to play a significant role in career development and skill acquisition, particularly for individuals who face challenges in traditional educational settings.

Family-Owned Businesses (FOBs) in the South-East region of Nigeria face a range of challenges that have a significant impact on their business performance. These challenges primarily revolve around product pricing, market share, and market expansion among others. Effective product pricing is vital for FOBs to remain competitive and profitable in the South-East. However, determining the optimal pricing strategy is a complex task. Studies have not unveiled how apprenticeship system affect product pricing of FOBs in the South-East region of Nigeria. FOBs aspire to achieve a significant market share within their respective industries. To achieve this, it is crucial to understand how apprenticeship system contribute to FOBs' market share. Also, market expansion is a crucial aspect for the long-term success and sustainability of FOBs. However, expanding into new markets beyond their local area presents numerous obstacles for FOBs in the South-East. Apprenticeship programs offer businesses the advantage of accessing labour at a reduced cost in comparison to hiring experienced and skilled workers. This cost advantage arises from the fact that apprentices are usually in a training phase and may receive lower wages initially. However, it is important to note that the purpose of apprenticeships extends beyond merely providing cheap labour. Apprenticeship programs have the potential to indirectly enhance distribution networks. As apprentices undergo training, they acquire valuable knowledge and skills that can be applied across different areas of the business, including distribution. This means that apprentices, upon completion of their training, can contribute to improving and expanding distribution networks within the organization. Research is necessary to investigate the theoretical effect of apprenticeship system on product pricing, market share, and market expansion. This study bridged the gap.

**Objectives of the Study**

The aim of the study is to examine apprenticeship system and performance of FOBs in South-East, Nigeria. The specific objectives are to:

- Determine the effect of cheap labour offered by apprenticeship on effective product pricing of FOBs in South-East, Nigeria.
- Ascertain the effect of distribution network created during apprenticeship on the market share of FOBs in South-East, Nigeria.
- Examine the effect of graduate apprentice on market expansion of FOBs in South-East, Nigeria.

## Review of Related Literature

**Concept of Apprenticeship**

Apprenticeship is a training method aimed at equipping young and middle-aged individuals with trade or craft skills to ensure their future livelihood and well-being. Through a formal agreement, apprentices commit to working in a specific trade, art, or business while receiving instruction and a predetermined payment. The practice of apprenticeship can be categorized into three main models: traditional, informal, and modern. In the traditional model, skills are passed down within families, ensuring the preservation of specific trades across generations. The informal model retains some traditional elements but allows non-family members to participate in apprenticeship programs. On the other hand, the modern apprenticeship scheme focuses on providing structured vocational training through well-designed learning programs. This model incorporates various aspects, such as the duration of training, payment terms, working hours, and the integration of vocational training with formal education.

In Nigeria, apprenticeship is particularly prevalent among tribes like the Nupes, Ibos, Fulanis, and others who possess specialized skills that are transmitted from one generation to the next. The range of trades covered by apprenticeships in Nigeria is diverse, including blacksmithing, welding, trading, block molding, motor mechanics and repair, barbing, electronics repair, and more. Participating in apprenticeships within these fields has played a crucial role in enabling young individuals to acquire valuable skills, fostering their ability to be self-employed and self-reliant (Olulu & Udeorah, 2018).

An apprenticeship is a structured training program designed to cultivate a new generation of skilled professionals in various trades or professions. It combines practical, on-the-job training with complementary theoretical studies, such as classroom work and reading materials. Apprenticeships are particularly valuable as they can lead to licensure in regulated professions (Lahiff et al., 2019; Mpi, 2019). The majority of an apprentice's training occurs while working under the guidance of an employer who facilitates their skill development. In return, apprentices commit to providing labour for a predetermined period after acquiring specific competencies. The duration of apprenticeships can vary significantly, depending on the industry, profession, role, and cultural context. Upon successfully completing an apprenticeship, individuals may attain the level of competence known as a "journeyman" or achieve professional certification. Alternatively, they may be offered permanent employment by the company that provided the apprenticeship placement. While the specific terms and nomenclature associated with the apprentice/journeyman/master system are primarily observed within guilds and trade unions, the fundamental concept of acquiring competence through on-the-job training over several years applies to any skilled labour field (Piercy, 2018; Toksöz & Memiş, 2018).

**Concept of Performance**

The performance of FOBs refers to the assessment and evaluation of the effectiveness, competitiveness, and success of businesses that are owned or controlled by family entities. Performance can be measured through multiple lenses, considering both financial and non-financial aspects. In this study, the non-financial aspect of performance is considered. In analyzing the performance of FOBs, three key indicators (product pricing, market share, and market expansion) were employed as proxies. By examining these factors, we can gain valuable insights into the competitiveness and growth potential of FOBs.

Firstly, product pricing plays a critical role in determining the performance of FOBs. Pricing strategies directly impact consumer behavior, market positioning, and profitability (Faith & Agwu, 2018; Kwok & Xie, 2018). FOBs need to strike a delicate balance between offering competitive prices to attract customers while maintaining sustainable profit margins. Effective pricing strategies should consider factors such as production costs, market demand, competition, and perceived value. Monitoring pricing dynamics allows for an evaluation of FOBs' ability to optimize their product pricing strategy, adapt to market conditions, and achieve a favorable position in the market.

Secondly, market share serves as a crucial performance metric for FOBs. It reflects the portion of the total market that a business captures, indicating its relative position and competitiveness. FOBs with higher market shares often possess a greater influence and market power, enjoying economies of scale, stronger distribution networks, and enhanced brand recognition. Monitoring changes in market share provides valuable insights into the performance of FOBs over time, allowing for comparisons against competitors and industry benchmarks. Increasing market share demonstrates the effectiveness of a FOB's market penetration strategies, customer acquisition efforts, and overall business performance.

Lastly, market expansion serves as a significant proxy for the performance of FOBs. It indicates the ability of a FOB to expand its operations into new markets, both domestically and internationally. Successful market expansion signifies the FOB's adaptability, innovation, and competitive strength. Expansion can be measured through factors such as geographic reach, customer base diversification, entry into new product segments, or establishment of new distribution channels (Osano, 2019; Shi et al., 2018). Monitoring market expansion enables an assessment of a FOB's strategic decision-making, market entry capabilities, and potential for sustained growth.

**Theoretical and Hypotheses Development**

In this study, Social Learning Theory (SLT) is applied to explain the effects and relationships described in the context of cheap labour offered by apprenticeship, distribution network created during apprenticeship, and graduate apprenticeships on the market dynamics of FOBs in South-East Nigeria.SLT suggests that individuals acquire knowledge, attitudes, and behaviors through observation, imitation, and social interaction with others. In the case of cheap labour offered by apprenticeship and effective product pricing of FOBs, Social Learning Theory proposes that FOBs in South-East Nigeria may observe and learn from other successful businesses in the region. They may observe how these businesses utilize apprenticeship programs to leverage cheap labor, which in turn influences their product pricing strategies. The utilization of cheap labour offered by apprenticeship is seen as a means to leverage the core competences of FOBs (Sofian & Mukhta, 2021). The literature on this topic largely promotes and encourages the integration of apprenticeship programs into FOBs. However, previous studies on cheap labour offered by apprenticeship have yielded inconclusive results, and it cannot be definitively stated that increased reliance on such labour is always advantageous. There is no one-size-fits-all solution for determining how to best integrate apprenticeship programs into FOB operations, and limited managerial advice is available regarding the specifics of integration (Fabbe-Costes &

Jahre, 2008). Previous studies lack a thorough analysis on the role cheap labour offered by apprenticeship plays in improving performance and profitability in Family-Owned businesses. Van-Duijn, Breunesse and Malindz (2007) also advocate for examining individual FOB relationships to gain a better understanding of cheap labour offered by apprenticeship. An ongoing challenge in management research is to conduct an in-depth exploration of cheap labour offered by apprenticeship and determine its potential to improving performance of FOBs. Thus, a hypothesis is developed that:

**$H_1$:** Cheap labour offered by apprenticeship has no significant effect on effective product pricing of FOBs in South-East, Nigeria.

Social Learning Theory also helps explain the relationship between the distribution network created during apprenticeship and the market share of FOBs in South-East Nigeria. According to this theory, individuals learn from observing and interacting with others in their social environment. In the case of FOBs, apprenticeship programs provide opportunities for individuals to learn about distribution networks from experienced professionals (Ugwu & Mbah, 2022; Mohammed & Ewuim, 2023). Through apprenticeship, FOBs in South-East Nigeria can establish and expand their distribution networks by observing and learning from the practices of established businesses. There is need forresearch attention on "effect of distribution networks created during apprenticeship on the market share of FOBs" in the field of entrepreneurial management. It is theorized that distribution networks can influence market dynamics. Thus, a hypothesis is developed that:

**$H_2$:** Distribution network created during apprenticeship has no significant effect on the market share of FOBs in South-East, Nigeria.

When examining the effect of graduate apprenticeships on the market expansion of FOBs in South-East Nigeria, Social Learning Theory emphasizes the importance of learning through observation, imitation, and interaction. Graduate apprenticeships provide a platform for young professionals to acquire knowledge, skills, and industry-specific competencies (Blanford et al., 2019) through hands-on experience within FOBs. Through social interaction with experienced professionals, these apprentices learn about market dynamics, customer preferences, and successful market expansion strategies. By applying what they have learned and emulating the behaviors of successful FOBs, graduate apprentices contribute to the market expansion of FOBs in South-East Nigeria. Approximately half of the businesses that engaged graduate apprentices in their first year of inception have expressed a need for additional intakes in 2018/19 due to the value created and added by the program (Clark, 2019).There is need to prove that utilization of graduate apprenticeships has a significant impact on the market expansion of FOBs. These apprenticeships offer tangible business benefits that contribute to the growth and development of FOBs, leading to increased market reach and expansion opportunities. Graduate apprentices bring fresh perspectives, knowledge, and skills to FOBs, enabling them to innovate and adapt to changing market dynamics. By combining theoretical learning with practical experience, graduate apprentices become valuable assets in driving the growth and competitiveness of FOBs. The expanding network of graduate apprentice employers and the growth of graduate apprenticeship frameworks provide FOBs with a wider pool of talent to recruit from. This increased access to skilled graduates allows FOBs to build a strong workforce that can support their market expansion strategies. Sequel to this, a hypothesis is developed that:

**$H_3$:** Graduate apprentice has no significant effect on the market expansion of FOBs in South-East, Nigeria.

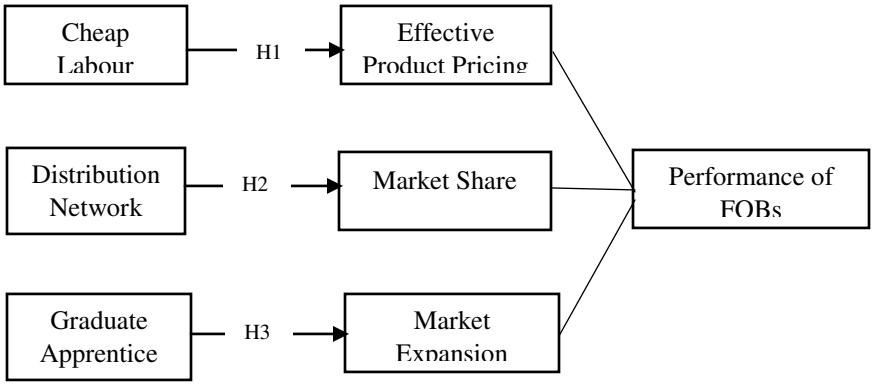


**Fig 1 Hypothetical Model**

**Methodology**

The research adopted the descriptive survey design. This method is appropriate because it helps the researcher to describe, examine record, analyze, and interpret the variables that exist in the study. It is also useful because of the relatively large population from which the information was collected. The study was carried out in Abia, Anambra, Ebonyi, Enugu and Imo States. The study was carried out on the Family-Owned Businesses (FOBs). The population of the study consists of 11242 graduate apprentices who operates a FOBs. The Cochran sample size determination was used. This was adopted to enable adequate and manageable sample size that will make a good representation of the entire population.

The formula is given by

$$n = \frac{Z^2 Npq}{Ne^2 + Z^2 pq}$$

Where,
- n = sample size
- z = statistics to be used usually at 95%, confidence interval 1.96
- p = proportion of the population likely to be included in the sample (50% or 0.50 is assumed),
- q = proportion of failure in the population from pilot survey = 0.50
- e = level of significance (assumed to be 5% or 0.05)
- N = population size

Substituting in the formula, we obtain:

$$\frac{1.96^2 x\ 11242\ (0.5)(0.5)}{11242\ (0.05)^2 + 1.96\ (0.5)(0.5)}$$

$$n = \frac{10.796.8168}{28.330625} = 381$$

However as suggested by Smith (1983), the sample size of the study if not established to be sufficient can be increased by a determined percentage of the obtained sample size. This sample size was increased by 50% of 381 which yielded an approximated whole number of 191. The total sample size is 381+191 = 572. The sample size of the study is 572 respondents. The study used multi-stage sampling technique for the sample selection. The instrument used was well-structured questionnaire. To measure the validity of the instrument, content validity was adopted. Content validity was done by ensuring that the questions in the test instrument contained the variables being investigated. The research instrument passed through the vetting of 5 experts in the field of FOB, and 3 Professors in the Department of Management, University of Nigeria, Enugu Campus. It is the ability of a test to produce similar results when repeated measurements are made under identical condition. Reliability is therefore the stability, dependability and predictability of the measuring instrument. The Cronbach Alpha reliability test was utilized to conduct the reliability test where Cronbach Alpha coefficient of 0.70 and above was considered acceptable. Data were analyzed using descriptive and inferential statistics. All the tests were conducted at 5% level of significance (i.e. 5% error). All hypotheses were tested using binomial logistic regression.

**Data Analyses and Results**

572 copies of questionnaire were distributed, and the return rate was 91.8%. Thus, the 525 returned copies of questionnaire forms the basis for subsequent analysis and test of hypotheses. Table 1 shows the profile of respondents.

**Table 1 Participant profile**

| **Profile** | **Response** | **No.** | **Percent** |
|---|---|---|---|
| Gender | Male | 299 | 57 |
| | Female | 226 | 43 |
| Age Distribution | 18 - 30years | 277 | 53 |
| | 31 - 40years | 180 | 34 |
| | 41- 50years | 44 | 8 |
| | 51 years and above | 24 | 5 |
| Marital Status | Single | 306 | 58 |
| | Married | 219 | 42 |
| Academic Qualification | WAEC/SSCE | 57 | 11 |
| | OND/NCE | 399 | 76 |
| | HND/B.Sc | 58 | 11 |
| | MBA/M.Sc | 11 | 2 |
| **Business Experience** | 1 - 10 | 277 | 53 |
| | 11 - 20 | 180 | 34 |
| | 21 - 30 | 44 | 8 |
| | 31 years and above | 24 | 5 |
| | 1 - 10 | 277 | 53 |

**Source:** Field Survey (2023)

The data displayed in table 1 indicates the presence of both male and female respondents in the markets under study. Specifically, 299 respondents (57%) were identified as males, while 226 respondents (43%) were females.

Table 1 provides an overview of the age distribution within the respondent pool. Out of the total sample of 525 participants, 277 (53%) were aged between 18 and 30 years, 180 (34%) fell within the 31-40 years' age range, 44 (8%) were in the 41-50 years bracket, and 24 (5%) were 51 years or older.

The information gathered from the respondents' marital status, as presented in table 1, reveals that 306 individuals (58%) were single, while 219 respondents (42%) were married. This suggests that, during the study period, there was a higher proportion of single graduate apprentices among the FOBs in the examined markets.

Table 1 offers an overview of the educational qualifications held by the respondents. It is evident from the data that among the participants, 57 respondents (11%) possessed WAEC/SSCE as their highest academic qualification, 399 (76%) held OND/NCE, 58 (11%) had HND/B.Sc degrees, and only 11 (2%) held MBA/M.Sc degrees. None of the respondents had obtained a Ph.D.

The business experience of the respondents is presented in table 1. The data illustrates that 277 individuals (53%) had a business experience ranging from 1 to 10 years, 180 (34%) had experience spanning 11 to 20 years, 44 (8%) had experience between 21 and 30 years, and 24 (5%) had over 31 years of business experience.

**Table 2 Analysis of the effect of cheap labour on effective product pricing of FOBs**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.213975 | 0.146744 | 1.458154 | 0.1454 |
| Cheap Labour | 0.919759 | 0.031523 | 29.17750 | 0.0000 |
| R-squared | 0.619450 | Mean dependent var | | 4.413333 |
| Adjusted R-squared | 0.618722 | S.D. dependent var | | 1.062284 |
| S.E. of regression | 0.655936 | Akaike info criterion | | 1.998295 |
| Sum squared resid | 225.0217 | Schwarz criterion | | 2.014536 |
| Log likelihood | -522.5524 | Hannan-Quinn criter. | | 2.004655 |
| F-statistic | 851.3268 | Durbin-Watson stat | | 1.588995 |
| Prob(F-statistic) | 0.000000 | | | |

***Source**: Researchers' computation, 2023*

The table 2 focused on examining the effect of cheap labour on effective pricing of products for FOBs. The coefficient for the constant term (C) is 0.213975, indicating a small positive effect on effective product pricing. However, this effect is not statistically significant. On the other hand, the coefficient for the variable "Cheap Labour" is 0.919759, revealing a strong positive effect on effective product pricing of FOBs. The t-statistic for the constant term is 1.458154, with a corresponding probability (p-value) of 0.1454. In contrast, the t-statistic for the variable "Cheap Labour" is 29.17750, and the associated p-value is 0.0000. This indicates that the effect of cheap labour on effective product pricing is highly significant. The R-squared value is 0.619450, implying that approximately 61.95% of the variation in effective product pricing can be explained by the included variables. This suggests a moderate level of explanatory power. The adjusted R-squared value, which considers the number of variables and sample size, closely aligns with the R-squared value. This implies that the chosen variable is relevant in explaining the variation in effective product pricing of FOBs in South-East, Nigeria.

The standard error of regression is 0.655936, representing the average distance between the observed values and the regression line. The mean value of the dependent variable, effective product pricing, is 4.413333. The standard deviation of the dependent variable is 1.062284, indicating the spread of data around the mean. The

Akaike information criterion (AIC) is 1.998295, which assesses the relative quality of the statistical model. The Schwarz criterion is 2.014536 and penalizes models with a larger number of variables. The Hannan-Quinn criterion is 2.004655, providing an alternative measure of model fit. The F-statistic is 851.3268, indicating the overall significance of the regression model. This suggests that the model as a whole is statistically significant. The associated p-value for the F-statistic is 0.000000, further confirming the statistical significance of the regression model. The Durbin-Watson statistic is 1.588995, indicating a good value. This suggests that there is no presence of significant autocorrelation in the regression residuals.

**Table 3 Analysis of the effect of distribution network on the market share of FOBs**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.184348 | 0.120493 | 1.529952 | 0.1266 |
| Distribution Network | 0.947724 | 0.025987 | 36.46961 | 0.0003 |
| R-squared | 0.717760 | Mean dependent var | | 4.493333 |
| Adjusted R-squared | 0.717220 | S.D. dependent var | | 1.018181 |
| S.E. of regression | 0.541438 | Akaike info criterion | | 1.614627 |
| Sum squared resid | 153.3204 | Schwarz criterion | | 1.630869 |
| Log likelihood | -421.8397 | Hannan-Quinn criter. | | 1.620987 |
| F-statistic | 1330.032 | Durbin-Watson stat | | 1.675509 |
| Prob(F-statistic) | 0.000000 | | | |

***Source**: Researchers' computation, 2023*

The analysis of the effect of the distribution network on the market share of FOBs is revealed in the table 3. The variable coefficients indicate that the constant term (C) has a positive but relatively small effect on the market share of FOBs, while the variable "Distribution Network" has a strong positive effect. The t-statistics and probabilities further support these findings. The t-statistic for the constant term suggests that its effect may not be statistically significant, while the t-statistic for the "Distribution Network" variable is highly significant, indicating its substantial effect on the market share of FOBs.

The R-squared value of 0.717760 suggests that approximately 71.776% of the variation in the market share of FOBs can be explained by the included variable, indicating a relatively high level of explanatory power. The adjusted R-squared value closely aligns with the R-squared value, reinforcing the relevance of the variables in explaining the variation in the market share of FOBs. The standard error of regression, mean value of the dependent variable, and standard deviation provide insights into the precision of the model and the spread of data around the mean. Information criteria such as the Akaike information criterion (AIC), Schwarz criterion, and Hannan-Quinn criterion assess the quality and fit of the statistical model. The F-statistic, with a high value of 1330.032, indicates the overall significance of the regression model in explaining the market share of FOBs. The associated p-value of 0.000000 confirms the statistical significance of the model. However, the Durbin-Watson statistic of 1.675509 suggests that there is no presence of significant positive autocorrelation in the regression residuals.

**Table 4 Analysis of the effect of graduate apprentice on the market expansion of FOBs**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.251542 | 0.133988 | 1.877348 | 0.0610 |
| Graduate Apprentice | 0.919958 | 0.028897 | 31.83548 | 0.0000 |
| R-squared | 0.659615 | Mean dependent var | | 1.030992 |
| Adjusted R-squared | 0.658965 | S.D. dependent var | | 1.826953 |
| S.E. of regression | 0.602081 | Akaike info criterion | | 1.843194 |
| Sum squared resid | 189.5883 | Schwarz criterion | | 1.833313 |
| Log likelihood | -477.5751 | Hannan-Quinn criter. | | 0.118208 |
| F-statistic | 1013.498 | Durbin-Watson stat | | 1.030992 |
| Prob(F-statistic) | 0.000000 | | | |

***Source**: Researchers' computation, 2023*

Analysis of the effect of graduate apprentices on the market expansion of FOBs is presented in Table 4. The constant term (C) coefficient of 0.251542 suggests a positive effect on the market expansion of FOBs, although it falls just below the conventional threshold for statistical significance. The coefficient for the variable "Graduate Apprentice" is 0.919958, indicating a strong positive effect on the market expansion of FOBs. The high t-statistic of 31.83548 and the very low probability (p-value) of 0.0000 provide strong evidence of the significant effect of graduate apprentices on market expansion.

The R-squared value of 0.659615 suggests that approximately 65.96% of the variation in the market expansion of FOBs can be explained by the variable. This indicates a reasonably good level of explanatory power, meaning that the variable "Graduate Apprentice" contribute significantly to understanding the market expansion of FOBs. The adjusted R-squared value closely aligns with the R-squared value, indicating that the variable is relevant and continue to contribute to explaining the variation in the market expansion of FOBs. The standard error of regression, 0.602081, represents the average distance between the observed values and the regression line. This suggests the precision of the regression model's estimation. The mean value of the dependent variable (market expansion of FOBs) is 1.030992, providing a reference point for understanding the average market expansion. The standard deviation of the dependent variable, 1.826953, indicates the spread of data around the mean, highlighting the variability in market expansion among FOBs. The Akaike information criterion (AIC), Schwarz criterion, and Hannan-Quinn criterion provide different measures of model fit and relative quality. The values of 1.843194, 1.833313, and 0.118208, respectively, help assess the goodness of fit of the statistical model and can be used for model comparison.

The F-statistic of 1013.498 indicates the overall significance of the regression model. This suggests that the model as a whole is highly significant in explaining the market expansion of FOBs. The associated p-value of 0.000000 further confirms the statistical significance, implying that the regression model is a reliable tool for understanding market expansion in the context of FOBs. The Durbin-Watson statistic of 1.030992, close to the ideal value of 2, suggests the absence of significant autocorrelation in the regression residuals. This indicates that the independence assumption of the regression model holds, supporting the reliability of the statistical inferences.

**Discussion of Findings**

Hypothesis one was tested to determine the effect of cheap labour offered by apprenticeship and effective product pricing of FOBs in South-East, Nigeria. Findings indicate that cheap labour offered by apprenticeship significantly and positively affect effective product pricing ($p = 0.0000 < 0.05$) of FOBs in South-East, Nigeria. The result is in agreement with the study of Udu (2015) that carried out a research on apprenticeship

orientation and performance of micro businesses in Ebonyi state, Nigeria. The study found that there is nexus between apprenticeship orientation and the performance of micro businesses that provide the direct training services in Ebonyi state Nigeria.

Hypothesis two was tested to ascertain the effect of distribution network created during apprenticeship on the market share of FOBs in South-East, Nigeria. Findings revealed that distribution network created during apprenticeship has a significant positive on the market share p= 0.0003 <0.05) of FOBs in South-East, Nigeria. The outcome is in agreement with the finding of Onyima, Nzewi and Chiekezie (2017) that apprenticeship and social capital have effects on new business creation process of Igbo Immigrant entrepreneurs in Wukari Taraba State using descriptive statistics. The study also revealed that while apprenticeship had significant effects on pre-founding activities- when the business was taking off, social capital became important when the business had been established.

Hypothesis three was tested to examine the effect of graduate apprentice and market expansion of FOBs in South-East, Nigeria. It was discovered that graduate apprentice significantly and positively affected the market expansion (p = 0.0000 <0.05) of FOBs in South-East, Nigeria. The finding has a relationship with the research of Fajobi, Olatujoye, Amusa and Adedoyin (2017) that found that Nigerian economy cannot develop until apprenticeship is encouraged among the youths. The study recommends that incentive should be provided for the Youths that earnestly want to engage in skill acquisition and apprenticeship should be encouraged among them as a career pathway for poverty alleviation in the economy.

**Conclusion**

The results of the study indicate that apprenticeship programs, particularly those involving cheap labour, distribution network development, and the engagement of graduate apprentices, play a crucial role in the success and growth of family-owned businesses in the South-East of Nigeria. FOBs can benefit from these programs by accessing affordable labor, expanding their distribution capabilities, and leveraging the skills and knowledge of graduates.

**Recommendations**

Based on the findings, the following recommendations are:

i. To fully leverage the advantages of cost-effective labor provided by apprenticeships, it is crucial to invest in programs that enhance skills development and training for apprentices. Family-owned businesses should collaborate with educational institutions, vocational training centers, and government agencies to design comprehensive and well-structured apprenticeship programs. These initiatives should concentrate on improving technical skills, fostering business acumen, and deepening product knowledge. By delivering high-quality training, businesses can ensure that apprentices make effective contributions to the production process, ultimately leading to enhanced product pricing and competitiveness.

ii. Acknowledging the positive effect of the distribution network established during apprenticeships on market share, it is recommended to foster collaborative partnerships among family-owned businesses and various stakeholders in the South-East region of Nigeria. Businesses can collaborate on joint marketing campaigns, share distribution channels, and coordinate logistical activities to expand their market reach and gain a competitive advantage. Partnerships with suppliers, distributors, and industry associations can facilitate access to broader markets and strengthen the distribution network. Through effective collaboration, FOBs can leverage collective resources and expertise, thereby increasing market share and overall profitability.

iii. To capitalize on the positive effect of graduate apprentices on market expansion, it is important to provide support for entrepreneurship and initiatives aimed at expanding markets in the South-East of Nigeria. This can be achieved by offering mentorship programs, facilitating access to financing, and providing tailored business development resources for graduate apprentices. Business incubation centers and entrepreneurial support organizations play a crucial role in providing guidance and assistance to aspiring entrepreneurs. Additionally, government policies and incentives focused on fostering entrepreneurship and market expansion can create an enabling environment for graduates to establish and grow their businesses. By encouraging entrepreneurial endeavors, the market expansion of family-owned businesses can be further stimulated, leading to economic growth and the creation of job opportunities in the region.

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