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Analysis of the Profitability and Resource-Use Efficiency of Small-Scale Businesses in Ondo-State: A Panacea for Youth Unemployment

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Abstract: The study examined the profitability and resource-use efficiency of small-scale business in Ondo-State. Multi-stage sampling technique was used to select 120 small-scale business operators in bakery, tailoring and block making services from Akoko North East, Akoko South West and Akoko North West of Ondo State. The data collected were analysed with the aid of descriptive statistics, gross margin and production function analyses. Results showed that the sampled businesses were profitable in the study area with estimated gross margin of N46, 068.8, N3, 588.8 and N39, 900.5 with estimated net returns of N33,172.00, N2,889.8 and N30,368.0 for bakery, tailoring and block making services, respectively. The result of the production function analysis showed that the inputs involved were efficiently allocated under bakery services while they were inefficiently allocated under tailoring and block making services. Bakery service was in stage 2 while tailoring and block making were in stages 1 and 3 of the production cycle, with estimated RTS of 0.613, 1.384 and-0.235, respectively.

Key words: Profitability, resource-use, efficiency, small-scale buisness

INTRODUCTION

During the early post independence era, most governments in Nigeria adopted industrialization strategies in large-scale industries mostly of the assembly type. This coincided with the period when development was equated with rapid industrialization. However, this strategy has failed to achieve the stated objectives, as most of the industries set up tended to be capital intensive and hence inappropriate given our resource-endowment.

The inability of the large-scale businesses to propel meaningful sustainable economic development has brought into limelight the small-scale businesses. Hence, the promotion of small and medium scale enterprises has become an integral part of the process of reform and restructuring. The small-scale enterprises play vital roles in the process of industrialization and economic growth. It raises per capital income and output, creates employment opportunities, enhances rapid industrial development, promotes effective resource utilization and serves as stepping stones for large-scale enterprises. According to Innang and Ukpong (1992), small businesses stand a better chance of boosting employment and ensuring a more even distribution of industrial development in the country. This position was later reinstated by Olaniyan *et al.* (1998) emphasized the contribution of small scale businesses to the creation of employment opportunities, free competitive environment, input for large scale industries, industrial innovations and promotion of indigenous technology.

There has been no generally acceptable definition, both by the academics and the practitioners on what small scale business is. What constitutes small-scale business in one economy may be different from what obtains in some other countries. It should be realized that the definition given at a particular time and place would depend on the country's level of development. For this study, the third National Development Plan (1975-1980) where small scale business is defined as a business establishment employing less than 10 employees and whose investment in machinery and equipment do not exceed N60, 000, is adopted.

In realization of these important soles of small-scale enterprises, the various governments, federal and state, have embarked on various reforms and provision of incentives to promote the growth of small-scale businesses. Examples included the provision of finance through the small scale industrial credit scheme and Nigerian Industrial Development Bank, funding and setting up of industrial estates and encouraging and setting up of small scale industries through the National Directorate of Employment. Recently, the Federal, State and Local Government have embarked on series empowerment programmes, which have the development of small-scale businesses as one of the areas of focus. All

these programmes are aimed at making the small-scale businesses pivotal of sustainable development. Another major aim was to reduce the spate of unemployment especially among youth. As a matter of fact, the development of small-scale business is now one of the main platforms of government policy in Nigeria. To achieve this laudable objective, it is of utmost importance to examine those factors that determine the profitability and resource-use efficiency of the operators of small-scale businesses. Thus, the objectives of this study are to examine the socio-economic characteristics of small-scale business owners, to determine the level of profitability of small-scale business owners and to examine the resource-use efficiency for the factor inputs involved in small scale businesses.

MATERIALS AND METHODS

Data collection: The areas of study for this research include Akoko North East, North West and South West local government areas of Ondo-State.

Tailoring, Bakery and Block making services were selected for this study. This is because they are the prominent small-scale businesses in the study areas. A total number of 120 respondents i.e., 40 from each business, were randomly selected with the aid of a well-structured questionnaire using a multistage random sampling technique. Data collected included ages of business owners, their level of education, years of experience, sex, acquisition skill method and number of labour employed.

Analytical methods: Descriptive and quantitative techniques were used to analyse the data collected. The descriptive techniques used were frequency distribution mean and tables. The quantitative techniques used included profitability and production function analyses.

Profitability analysis

$$GM = TR - TVC \quad (1)$$

$$NR = TR - TC \quad (2)$$

Where:
GM = Gross Margin
TR = Total Revenue
TVC = Total Variable Cost
TC = Total Cost
NR = Net Returns

If GM > 0, the business is profitable only in the short run. NR>o, the business is profitable in the long run only.

The production functions for the three identified small-scale businesses in the study area were specified by the linearised Cobb Douglas production function as follows:

Baking

$$\text{Log } Q_B = \beta_0 + \beta_1 \log X_1 + \beta_2 \text{Log} x_2 + \beta_3 \text{Log} x_3 + \beta_4 \text{Log} x_4 + \beta_5 \text{Log} x_5 + \beta_6 \text{Log} x_6 + \beta_7 \text{Log} x_7 + \beta_8 \text{Log} x_8 + u \quad (3)$$

Where:
Q^B = Quantity of bread produced
X^1 = Quantity of flour in kg
X^2 = Age of the business owner in years
X^3 = Years of baking experience in years
X^4 = Amount of capital employed in N
X^5 = Labour employed
X^6 = Level of Education
X^7 = Season dummy (Dry = 1, Net = 0)
X^8 = Numbers of hours worked
U^i = Stochastic variable; normally distributed with zero mean aid constant variance.

$\beta_0, \beta_1, \ldots\ldots\ldots\ldots \beta_8$ = Parameters to be estimated.

Tailoring

$$\text{Log} Y = \partial_0 + \partial_1 \text{Log} C_1 + \partial_2 \text{Log} C_2 + \partial_3 \text{Log} C_3 + \partial_4 \text{Log} C_4 + \partial_5 \text{Log} C_5 + \partial_6 \text{Log} C_6 + \partial_7 \text{Log} C_7 + u_i \quad (4)$$

Where:
Y = Output measured in N
C_1 = Sewing materials
C_2 = Years if sewing experience
C_3 = Number of Apprentices
C_4 = Amount of capital employed
C_5 = Level of education
C_6 = Season dummy: festive = 1, Non-festive = 0
C_7 = Age of business owners
V_t = Error term
$\partial_0, \partial_1, \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \partial_7$ = Parameters to be estimated.

Block industry

$$\text{Log TBP} = P_0 + P_1 \text{Log} Z_1 + P_2 \text{Log} Z_2 + P_3 \text{Log} Z_3 + P_4 \text{Log} Z_4 + P_5 \text{Log} Z_5 + P_6 \text{Log} Z_6 + P_7 \text{Log} Z_7 + P_8 \text{Log} Z_8 + P_9 \text{Log} Z_9 + P_{10} \text{Log} Z_{10} + u_i \quad (5)$$

Where TBP = Total Blocks Produced

$2_1 \ldots\ldots\ldots\ldots\ldots, Z_{10}$ are total cement (kg), labour, capital (N), years of experience, season dummy (Dry = 1, wet = 0), price of block, level of education, number of moulding machines, access to credit dummy (yes = 1, No = 0) and number of delivering van, respectively.

The production models were estimated using the Ordinary Least Squares (OLS) estimation technique under

Table 1: Educational status of small-scale business operators in ondo-state

Level of education	Frequency	Relative frequency %
Primary	19	15.83
Secondary	88	73.33
Tertiary	13	10.84
Total	120	100.0

Table 2: Age distribution of respondents

Age bracket	Frequency	Relative frequency %
16-30	35	29.10
31-45	38	31.67
46-60	40	33.33
61 and above	7	6.00
Total	120	100.0

Table 3: Working experience of small-scale business operators in ondo-state

Years of experience	Frequency	Relative frequency %
< 10	66	55
10-20	37	30.8
21-30	10	8.3
30 and above	7	5.8
Total	120	100.0

Table 4: Profitability analysis of small-scale business in ondo-state

	Enterprises		
Variable	Bakery (Ton of 50 kg flour)	Tailoring (Monthly basis)	Block (Ton of 50 kg cement)
TR	155,445.00	8,635.00	120,515.00
TVC	100,318.4	5,126.25	83,614.53
FC	22,965.3	614.00	9,349.00
TC	122,681.11	5,745.25	92,961.05
GM	46,068.8	3,588.75	39,900.47
NR	33,172.00	2,889.75	30,368.03

the assumption that data fulfilled the assumptions of the multiple regression model (Koutsouyiannis, 1977). The estimated functions were evaluated in terms of statistical significance and magnitude of the coefficient of determination (R^2), size and signs of estimated coefficients, F-value and the magnitude of the standard error.

RESULTS AND DISCUSSION

Socio-economic characteristics of small business owners: Table 1 shows that 73.33% of total respondents had secondary education, while 15.83 and 10.84% had primary and tertiary education, respectively. Majority of the respondents were school certificate holders perhaps because of their inability to go for higher education which could be to lack of finance and failure in the school certificate examination.

The ages of operation ranged between 16 and 60 years. Approximately 60.7% of total respondents lie between ages 16 and 45 years while 39.3% were between 46 and 60 years and above. Hence one could safely say that majority of the business owners were within the active age brackets (Table 2).

Majority of the business sampled was still young as 55% of total number sampled were less than 10 years (Table 3). This shows the growing proliferation of small-scale businesses in Nigeria, which is specifically dominated by younger labour force. Table 3 also shows that 30.8, 8.3 and 5.8% of total sample were between 10-20, 20-30 and above 30 years, respectively.

Profitability analysis: The results of the profitability analysis are presented in Table 4. Findings show that the three businesses are profitable both in the short run and long run given the positive values of the gross margin and net returns. Table 4 shows that on the average, bakery will fetch the operator a gross margin of N46, 068.8 and a net return of N33, 172 per ton of flour (i.e., for 50 kg bag) all things being equal. On the other hand, block making recorded N39, 900.5 and N30, 368 as gross margin and net returns, respectively per ton of cement (i.e., 50 kg bag) all things being equal. For tailoring, the gross margin and net returns were N3, 588.8 and N2, 889.8, respectively per month, all things being equal. Nevertheless, bakery recorded the highest level of profitability in the study area. This could be due to the essential nature of bakery products in the diet of the respondents.

Estimated production function and resource-use efficiency: The estimated production functions of the three sampled small-scale businesses are presented in Table 5-7. The estimated R^2 showed that the postulated regressors explained 64.6, 49.1 and 87.0% in the variations in the dependent variable, for bakery, tailoring and block making businesses, respectively.

Under bakery, the estimated value of quantity of flour used, size of labour, level of education significantly influenced the quantity of bread produced. The coefficient of flour used was positive while the other two were negative. For tailoring, number of apprentices and level of education significantly influenced the output while number of bags of cement used and number of workers employed had significant influence on the number of blocks produced. Note that the positive sign of the coefficients implied that an increase in the use of such variables will increase the level of output, all things being equal while the negative values indicate a decrease in output as more of such variables are used. In other words, the inputs with positive values implied that such inputs are efficiently allocated i.e. inputs such as quantity of flour used (bread making); number of apprentices and

Table 5: Estimates of the production function for the baking business

Variable	Parameters	Coefficients	Std Errors	T-ratio
Constant	β_0	218528.79	119563.35	1.828
Quantity of flour consumed	β_1	4897.95	827.47	5.92
Age of respondents	β_2	-1445.63	1649.41	-.876
Years of experience	β_3	149.92	1641.33	.091
Amount of capital employed	β_4	0.0322	.034	.955
Labour	β_5	-4643.23	4079.34	-1.138
Hours used in work	β_6	-8.32	1002.31	-.008
Level of education	β_7	-4783.42	3819.89	-.1.252
Season	β_8	-73191.84	54572.46	-1.341

Table 6: Estimates of the production function for tailoring business

Variable	Parameters	Coefficients	Std Errors	T-Value
Constant	∂_0	5.137	13.358	0.385
Amount of sewing materials used	∂_1	-0.137	0.27	-0.500
Years of Experience	∂_2	0.5142	0.692	0.740
Number of (Apprentices)	∂_3	0.00003	0.000	1.812
Amount of Capital Employed	∂_4	-0.0724	0.780	-0.093
Level of Education	∂_5	0.0022	0.001	2.543
Season	∂_6	9.154	10.471	0.874
Age of the Tailoring	∂_7	-0.122	0.298	-0.411

Table 7: Summary of the multiple regression results for block business

Model	Parameters	Coefficients	Std Errors	T-Value
Constant	δ_0	768.015	1334.252	0.576
Bags of cement consumed (kgs)	δ_1	33.569	6.905	4.861
Labour	δ_2	92.201	101.433	0.909
Amount of capital employed	δ_3	0.00032	0.000	1.242
Years of experience	δ_4	-10.28	21.076	-0.485
Season	δ_5	-222.58	389.031	-0.572
Price of the block	δ_6	-9.608	71.629	-0.134
Educational level	δ_7	-8.521	10.275	-0.829
Number of molding machines	δ_8	105.790	237.283	0.446
Number of delivery vans	δ_9	-188.741	222.148	-0.850
Access to credit	δ_{10}	-113.947	257.153	-0.443

Table 8: Elasticity of production and returns to scale

A. Baking business	
Variables	Elasticities
Quantity of flour consumed	0.190
Age of respondents	0.0475
Years of experience	0.111
Amount of capital employed	-0.169
Workforce	0.706
Hours used in work	0.158
Level of education	-0.0068
Season	-0.424
RTS	0.6127
B.Tailoring business	
Variables	Elasticities
Amount of sewing materials used	0.093
Years of experience	-0.130
Workforce (Apprentices)	0.064
Amount of capital employed	0.065
Level of education	0.865
Season	-0.075
Age of the tailoring	0.502
RTS	1.384
C.The block industry	
Variables	Elasticities
Bags of cement consumed (50 kgs)	0.467
Workforce (workers)	0.672
Amount of capital employed	0.0018
Years of experience	-0.132
Season	0.266
Price of the block	-0.235
Education Level	-0.077
Number of molding machines	0.000
Number of delivery vans	0.000
Access to credit	-0.655
RTS	0.3078

level of education (tailoring business) and number of workers (block making). On the other hand, inputs with negative coefficients were inefficiently allocated as shown in Table 8.

The computed Return To Scale (RTS) for the three sampled businesses are shown in the lower part of Table 8 a-c. The estimated RTS of 0.613, 1.384 and -0.235 shows that bread making, tailoring business and block industry operated under stages of increasing, decreasing but positive and decreasing but negative returns to scale i.e., stages II, I and III of the production cycle. Hence resources were efficiently allocated under bread making while they were inefficiently allocated under tailoring and block industries. Note that the variables with negative elasticities are experiencing diminishing returns to factors.

CONCLUSION

The study examined the profitability and resources use efficiency of small-scale businesses in Ondo-State. A multi-stage sampling method was employed to select 120 small-scale business operators in Akoko North East, Akoko South west and Akoko North West. Data were collected with the aid of well-structured questionnaire. Data were analysed using descriptive statistics, gross margin and production function analyses. Results showed that small-scale businesses were profitable in the study area with bread making recording the highest level of profitability. Results also showed that quantity of flour used, size of labour and level of education were significant determinants of the quantity of bread produced. Number of apprentices and level of education significantly influenced tailoring while quantity of cement used and number of workers influenced block making. Among other things, findings showed that resources were efficiently allocated under bread-making while they were inefficiently allocated under tailoring and block industries in the study area.

For greater profitability and efficiency, the educational status of small-scale business operators should be improved through regular seminars on the organization of small-scale businesses and input maximization. Youth should also be encouraged into small-scale business especially bread baking through the provision of micro-credit facilities by the government.

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