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PERFORMANCE OF MICRO BROILER BUSINESSES IN CALABAR METROPOLIS, CROSS RIVER STATE, NIGERIA

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Abstract

This study was embarked upon to evaluate the performance of micro broiler businesses in Calabar metropolis. The objectives of the study included; to describe the socioeconomic characteristics of broiler business owners, to analyse the effects of selected socio-economic characteristics of micro broiler business owners on the survival of micro broiler businesses in Calabar metropolis, and to analyze the marketing mix and managerial practices of business owners in Calabar metropolis. It made use of primary data obtained from a random sample of 112 micro broiler operators. The data were analyzed using descriptive statistics, and Ordinary Least Square Multiple regression approach. The result of analysis revealed that micro broiler business ownership is almost evenly distributed among males 47.32 percent and females 52.68 percent; and that more than half (56.25 percent) of the respondents are within the age brackets of 36-45 years. The study also revealed that respondents had one form of formal education or the other with tertiary education accounting for 75.89 percent. On the survival/competitive advantage of micro broiler firms in the study area, the result of Ordinary Least Square analysis showed that output of broiler, flock size, business experience, mortality and extension contact significantly contributed to a firm survival in broiler business. The study revealed that firms applied some management practices and marketing mix activities in operating their businesses. The managerial practices adopted and their mean weights included; planning (M = 3.80), organizing (M = 3.47), directing (M = 3.80), coordinating (M = 3.63) and controlling (M = 3.91). Also, the analysis showed that the marketing mix practices adopted and their mean values were; product (M = 3.23), price (M = 3.04), place (M = 3.77) and promotion (M = 2.26). The study shows that micro broiler operators showed positive attitude to all the management function and marketing mix practices. The study recommended that micro broiler operators should organize themselves into cooperative societies to enable them enjoy the benefits of economies of size and credit facilities from lending agencies. It was also recommended that relevant extension services should be made available to broiler operators to improve their skills and knowledge in broiler business operations. Policy action of government should be directed towards capacity utilization of operators. Also, subsidies should be provided for cost of feeds and day old chicks as well as instituting a flexible credit policy to reduce cost of production.

Key words**:** *performance, survival, micro broiler, marketing mix*

INTRODUCTION

Presently, there is an urgent need to diversify Nigeria's economy by engaging in non-oil related businesses. The broiler farming (business) offers a fertile ground for this initiative. Broiler business is the rearing of meat-type birds like chickens, turkey, geese, ducks, guinea fowls, quails, etc. with chickens constituting about 70 percent of the total production. According to Food and Agriculture Organization of the United Nations (FAO, 1999) [20, 42], broiler production is an important aspect of poultry business in which the birds are kept for the purpose of providing meat for the population; since broiler meat is in very high demand accounting for 30 percent of meat production worldwide.

Unfortunately, entrepreneurship in agriculture has not fared well as a result of many socioeconomic, political and environmental factors militating against its performance. According to Harper (1984) [22], the performance of small scale agribusiness enterprises in Nigeria has been greatly hampered by the physical, institutional and economic environment. A large chunk of the agro-based micro and small enterprises in Nigeria are still at a low level of development in terms of number of jobs, wealth and value creation (Babajide, 2011) [6]. This is largely

attributed to the fact that a number of the active population that constitute the potential entrepreneurs remains unserved by the formal financial institutions; as a result of several factors ranging from lack of collateral security, poor feasibility studies, poor management and supervision, coupled with the fact that agribusinesses are seasonal and proned to environmental and natural hazards which explains the high risk factor associated with agribusinesses (Saunders, Blake, Hayes & Shadbolt, 2007) [40]. Apparently, this has impinged negatively on the performance of micro broiler businesses in no small measure.

Effiong and Umoh (2010) [13] observed that t he poultry industry as a whole has performed dismally in recent times as a result of inefficiency in resource use. Also the business environment for poultry is volatile and hostile due to a plethora of challenges which includes; high cost of inputs especially feeds, poor management, diseases and pests, lack of adequate extension coverage, problem of marketing, lack of infrastructure, absence of functional regulatory institutions to ensure that farmers conform to laid down standards for product safety and quality and lack of credit facilities. The combined effect of these problems has not only led to low output, but has also militated against capacity building for existing firms as well as making things difficult for new entrants to cope.

To stem this tide, successive administrations in Nigeria have come up with various interventionist programmes to alleviate poverty through agribusiness development, skills acquisition and training as well as provision of capital for start-ups and existing businesses. Yet, more still has to be done in this regard in view of the high rate of poverty and unemployment that has continued to plague a large section of the Nigerian population. Encouraging broiler businesses has the potential to change the fortunes of this great nation by bringing sustained economic development and growth especially at a time that there is dire need for diversification of the economy.

According to FAO report (2003) [18], the demand and supply gap for animal protein intake is quite high and therefore recommends that the minimum intake of protein by an average person should be 65g per day; of which 36g (55 percent) should come from animal sources. Nigeria is presently unable to meet this minimum standard. The animal protein consumption is less than 8g per person per day which falls far short of the FAO minimum standard (Niang & Jubrin, 2001) [33]. This has led to severe hunger and malnutrition in the country. Broiler business has considerable potential to bridge this nutritional gap since high yielding and exotic breeds are available and easily adaptable to our environment and the technology of production is relatively simple with high returns on investment. Glancey (1998) [21], Jaunch and Glueck (1998) [24] are of the opinion that performance can be measured in both financial and non-financial terms. Financial through sales, profitability return on capital, turnover, efficiency, leverage, liquidity, growth and non-financial involving customer-satisfaction, quality of products, employment generation, social responsibility and market share.

Statement of the problem

Over the years, there has been great concern about the state of broiler business in Nigeria arising from the fact that successive governments have since independence fashioned out several poverty alleviation programmes in the country to encourage the growth of Micro Small and Medium Enterprises (MSMEs). Despite the efforts of government, broiler business is still at a very low level of growth and development in terms of job creation, engagement of available local resources, local technology utilization, improved standard of living as well as contributing to the Gross Domestic Product (GDP).

New broiler businesses are started everyday but few survives and grow to become significant contributors to the GDP. The International Finance Corporation in 2002 [23] reported that, in every ten newly established businesses in Nigeria, only two survive up to the fifth year. The Small and Medium Enterprises Agency of Nigeria

(SMEDAN) [41] in supporting this assertion reported that, only 15 percent of newly established businesses survive the first five years in Nigeria. According to Babajide (2011) [6, 7] new firms spring up every time, but few grow rapidly to become significant international competitors. For majority of the small businesses in Nigeria, long term growth is uncertain. This is even worst in agribusinesses especially broiler farming where environmental factors beyond human control causes a lot of hazards, risks and uncertainties. According to Saunders *et al.* (2007) [40], environmental factors tend to play a larger role in agribusinesses planning and operations than other types of businesses. The biological basis of production for many firms means that production tends to be influenced by a range of physical factors largely outside the control of the business (e.g. climate, pest, diseases and weather). As a result, production is largely influenced by the seasons, restricting when some activities can be undertaken and creating peaks and troughs in the work and cash flows.

Plausible as these views expressed on the decline of broiler businesses may be, it is not based on systematic and empirical studies. In fact, systematic and painstaking studies to examine these issues are limited. Several studies on broiler agribusinesses in Nigeria such as Olasunkanmi (2008) [36], Olasunkanmi, Abiodun and Isaac (2013) [37], Anwasia (2015) [4], Folorunso, Abia, Okoroji, Dawang and Binuyo (2016) [19], dwelled mainly on the profitability, production and economic efficiency and not the low level of growth and development and the high exit rate prevalent in the industry. Also, effective government policies have been put in place to reduce unemployment through stimulating the number of new businesses without worrying about how to sustain those businesses and minimize the number of exits. It is therefore necessary and imperative to investigate and understand the performance of micro broiler firms in Calabar metropolis. It is in furtherance of the above quest for knowledge that this study was designed.

Objectives of the study

The specific objectives included:

(i)to describe the socioeconomic characteristics of broiler business owners;

(ii)to analyse the effects of selected socio-economic characteristics of micro broiler business owners on the survival of micro broiler businesses in Calabar metropolis; and

(iii)to analyze marketing mix and managerial practices of business owners in Calabar metropolis.

MATERIALS AND METHODS

Description of the study area

The study was carried out in Calabar metropolis covering the two Local Government Areas (Calabar south and Calabar Municipality) in Cross River State, Nigeria. Calabar South has its headquarters at Anantigha and situates on an area of 264 km^2 (102.2 square miles) and has a population of about 191,630 persons as at 2006 census. Calabar municipality has its headquarters at Marian Road Extension and lies on an area of 142km^2 (55 square miles) and has a population of 179,392 persons as at 2006 census. It is a tourist destination of the State. The combined landmass of the two local government areas lies on latitude 04º34’27’’N and longitude 6º 58’32’’E and is bounded by Odukpani Local Government Area in the North, Calabar River to the West; the Great Kwa River to the East and the Wetlands of Cross River Estuary to the South.

Languages spoken are Efik, Qua and Ejagam. Crops grown include: waterleaf, fluted pumpkin, cassava, cocoyam, plantain. Fishing activities take place in view of the coastal nature. Rearing of chickens in homestead is common in Calabar metropolis both for subsistence and commercial purposes as a poverty alleviation strategy. Their major delicacies include: fufu or garri with afang soup, vegetable soup, abak soup and ekpang nkukwo.

Rainfall ranges between 2,942mm to 3,424 mm and is evenly distributed making it a coastal town. Mean temperature ranges between 21.7 ºC and 31.3 ºC and a high relative humidity (NAAR, 1995) [32].

Calabar's climate is classified as tropical, and has a short dry spell that has little effect. Precipitation is lowest in January with an average of 29mm with most of the precipitation being seen in July averaging 426 mm at an average temperature of 27.3 ^{o}C. March is the hottest month of the year and August the coldest with 21.7^{o}C (climate. data.org) [10]

Sampling procedure and sample size

The study population comprised of all micro broiler business owners in Calabar metropolis. A sampling frame for each Local Government Area consisting of a list of practicing broiler business owners were obtained from the Department of Livestock, State Ministry of Agriculture. Broiler businesses in the metropolis were then categorized into micro, small and medium enterprises. All micro enterprises were identified to form the population of the study. The Taro Yamane formula (1960) was applied to each of the list to draw samples.

The formula was stated as follows:

$$n = \frac{N}{1 + N(e)^2}$$

where:

n	=	sample size
N	=	population size
1	=	unity of constant
e	=	tolerable error

The samples drawn from each of the Local Government Area (Calabar municipality – 76 and Calabar south – 36) were then merged to obtain a total and final sample size of 112 micro broiler business owners. The essence of using the formula is to ensure that, samples drawn from each Local Government Area was proportionate to the population size for each Local Government Area and to avoid lopsidedness. Simple random technique was then used to select firm owners. However, since some of the practicing broiler firms were not registered at the time and most of the registered firms were out of business and could not be located, veterinary operators and feed sellers (shops/outlets) were used to reach some of the unregistered operators. These unregistered ones were used to make up the sample size of 112 micro broiler operators.

Method of data collection

Data were generated from primary sources. Primary data were collected through field survey from operators of broiler businesses in the study area using questionnaire, interviews and observations. Information were also collected from records of broiler operators such as invoices, sales day books, etc.

Research instruments

Since the study involved a survey design, the main instruments used in gathering data were structured questionnaire and interviews. The questionnaire was developed to adopt the closed-ended/structured statements. The questionnaire were self-administered and retrieved. Oral interviews were conducted to enable the researcher obtain some clarity on certain issues that questionnaire could not adequately address. The interviews were self-administered.

Validity of instruments

Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concepts or constructs under consideration (Etuk, 2010) [17]. Validity in its simplest form indicates whether or not the measuring instrument will test what it is meant or designed to test. The instruments were subjected to thorough scrutiny in relation to its ability to achieve the research objectives as stated, level of coverage, comprehensibility, logicality and suitability for prospective respondents by other experts to ensure that errors of ambiguity and incorrect wording or instructions were eliminated and that the questions or statements follow the right sequence. The instrument was modified where necessary. This ensured validity and accuracy of the instrument.

Data analysis technique

The questionnaire were checked for completion and then coded. Qualitative analysis consisted of examining, categorizing, tabulating and recombining evidences to address research questions. The data were grouped into meaningful patterns and themes according to observations to help in

summarizing and organization of data. Descriptive statistical techniques such as frequency counts, percentages, arithmetic mean were used for analysis. Inferential statistics used was multiple regression analysis.

(i)Objective I was analyzed using frequency tables and percentages to describe the socioeconomic characteristics of broiler farmers.

(ii)Objective II was analyzed using multiple regression model to examine the variables that enhance or influence business survival.

(iii)Objective III was analyzed using descriptive statistics (frequency count and means) to measure the managerial and marketing mix practices adopted by broiler operators.

Model specification

The multiple regression model

The multiple regression model was adopted from Dziwornu (2014) [12]:

$$S_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \beta_6 x_{6i} + \beta_7 x_{7i} + \beta_8 x_{8i} + ei$$

where:

S_i =firm survival or competitive advantage measured as average variable cost per broiler bird produced per farmer

x_1= output (number of birds at maturity)

x_2 = flock size (number of birds stocked)

x_3 = age of firm owner (years)

x_4 = experience in years

x_5 =educational level in years (years of schooling)

x_6 = training/seminar (in poultry) (Dummy 1 = received training, 0 = no training)

x_7 = mortality (number of death birds)

x_8 = extension contact per cycle (number of contacts)

β_0 = Y intercept

$\beta_1 - \beta_8$ = the parameters estimated and measures slope coefficient of the dependent variables (survival/competitive advantage)

e = error term

The main variable inputs required in broiler production include feed, day-old chicks, labour, vaccines, medication, water, energy among others. These inputs are important in the production of broiler and their cost has the tendency to affect the total cost of production. The higher the cost of these variable inputs, the higher the cost of broiler production will be and hence reducing competitive advantage and thereby threatening the survival of the business. If variable cost continues to increase, it gets to a point where sales cannot cover variable cost of production and the firm losses competitive advantage and thereby closes down. The average variable cost of production per bird in this study is taken to mean survival of the broiler firm.

$$\text{Average variable cost (AVC)} = \frac{\text{TVC}}{\text{Q}}$$

where:

TVC = Total variable cost
AVC = Average variable cost
Q = Output
TC = Total cost
TFC = Total fixed cost
TVC = Total variable cost

Total variable cost (TVC) consisted of all the operating cost incurred by the firm, from stocking to point of sale (market size) times the number of production cycles in a year.

Total revenue (TR) consist of receipts from total sales (Gross revenue = Quantity produced x price per bird ₦).

Fixed costs: Are cost which do not vary with output. Fixed cost in this study includes rent on land, cost of housing, drinkers, feeders, lantern, stoves, generators and shovel/spades. The values of the fixed cost items were subjected to depreciation except rent on buildings.

Depreciation is the allowance in monetary terms for the value of fixed cost being used up in production activities. The straight line depreciation was used because the method is best suited for assets with short and predictable useful life (Certified Practicing Accountant of Australia, 2012) [9].

$$\text{Depreciation} = \frac{\text{Cost} - \text{Salvage value}}{\text{Useful life}}$$

Depreciation is the annual depreciation. Cost is the purchase cost of the item. Salvage value

is the value of items after their useful life. In this study, since the fixed cost items are not resold after use, their salvage values are assumed to be zero. Useful life refers to the length of time that a fixed cost item is used until it is no longer useful for its purposes.

Variable cost (VC) refers to cost that varies according to output level. They are directly proportional to output volume and increases as output increases and decreases as output decreases. In this study, variable cost includes; cost of day old chicks, feeds, medication/vaccines, labour, transportation, energy, water, sawdust/wood shaving, etc. Revenue in this study refers to all cash receipts from the sale of broilers and litter.

Managerial practices

Five functions of management were identified, viz., planning, organizing, directing, coordinating and controlling and were analyzed. Each of these business management skills comprised of a number of items/questions measuring the specific skills. In order to measure the respondents perspective to skill ability rate in all items/questions under each of the business management skill, five-point Likert scale was used. The Likert scale shows the level of business management skills which were ranked from 1 to 5 (1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = always). The mean of each statement was then used to rank their perception and level of adoption of the management practice as presented. Weighted mean that was used for comparison was (3.00). All means that were above 3.0 were considered high. All means that were lower than 3.0 were considered low.

RESULTS AND DISCUSSIONS

The socio-economic characteristics of micro broiler businesses in the study were analyzed based on gender (sex), age, marital status, household size, educational level, major occupation, source of fund for initial investment, years in business, working experience before business setup, training, extension contact and frequency of extension visits, access to credit, group membership, ownership structure (type of business organization), flock size, labour source and employee size of micro broiler business. In terms of respondents' gender, table 1 shows that, the ownership of micro broiler businesses in Calabar metropolis was almost evenly distributed among males 47.23 percent and females 52.68 percent. The strong gender sensitivity here is in line with the current drive to alleviate poverty and eradicate hunger among families through agriculture (SDG 1, 2, & 5). This also conforms to MSME (2013) [31] report which says that micro enterprises are more gender equal in both business owners and employees. According to Kehinde, Nduka, Uchendu and Kehinde (2016) [26], this is contrary to the a priori expectation that more men are involved in broiler business because of the capital and labour intensive nature.

It can be inferred also from Table 1 that, majority (56.25 percent) of the broiler operators fall within the age brackets of 36-45 years followed by 26-35 years with 33.04 percent. The result suggests that, the active population is using entrepreneurship in broiler production to stem the tide of unemployment that is rife in the country. The remaining chunk of 8.93 percent for people above 46 years of age may be those that are either retired or are planning for retirement. The result shows that, the economically active groups of respondent were predominantly involved in micro broiler businesses in the study area. On educational attainment, the study revealed that all respondents had one form of formal education with tertiary education accounting for 75.89 percent. The implication is that the respondents are highly literate and should be able to read labels and literature of feed and drugs, interpreting and using cost effective production techniques.

The educational level attained by the entrepreneur not only increases his productivity, but also enhances his/her ability to read, understand and evaluate new production technologies (Obasi, 1991) [34]. Also, it is observed from Table 1 that, majority (73.21 percent) of the respondents were married, 24.11 percent were single and

2.68 percent were separated. Access to pooled funds from married couple may be the reason why majority of the startup capital were from personal savings. Household sizes of 1-5, accounted for 75 percent, while household sizes of 6-10 accounted for 25 percent.
This suggest that, though family labour was rife dependency ratio was not high as well as drawing from business to attend to family needs.

Table 1. Gender, age, educational level, marital status and household size of respondents

	Frequency	Percentage
Gender		
Male	53	47.32
Female	59	52.68
Total	112	100.00
Age (years)		
18-25	2	1.79
26-35	37	33.04
36-45	63	56.25
46 and above	10	8.93
Total	112	100.00
Mean=35		
Educational level		
Primary (6)	4	3.57
Secondary (12)	23	20.54
Tertiary (16)	85	75.89
Total	112	100.00
Mean= 11.33		
Marital status		
Single	27	24.11
Married	82	73.21
Separated	3	2.68
Widowed	0	0
Total	112	100.00
Household size		
1-5	84	75
6-10	28	24.99
11-15	-	-
Above 15	-	-
Total	112	100.00
Mean= 5.5		

Source: Field survey, 2017.

Table 2 reveals that 86.61 percent of the respondents financed their businesses from personal savings while a negligible percentage relied on relatives (3.57 percent), cooperatives (2.68 percent) and banks (7.14 percent). This result implies that accessibility of credit is still difficult for micro broiler business operators or may be huge capital is not required because of the scale of production.

Also, respondents were asked of the major occupation they are engaged in. 48.21 percent of respondents were paid employment holders, 47.32 percent were into farming while 3.57 percent were artisans. The implication is that broiler business can conveniently be combined with other forms of employment like paid employment, trade and artisanry.

Table 2. Source of finance and major occupation

	Frequency	Percentage
Source of finance		
Personal savings	97	86.61
Relatives	4	3.57
Cooperative	3	2.68
Banks	8	7.14
Total	112	100.00
Major occupation		
Farming	53	47.32
Paid employment	54	48.21
Artisan	4	3.57
Others	1	0.89
Total	112	100.00

Source: Field survey, 2017.

Furthermore, Table 3 reveals that there are two main types of broiler business ownership that exist in the study area, viz, sole proprietorship (family based), accounting for 93.75 percent of the respondents and partnership accounting for 6.25 percent.

Table 3. Ownership structure, number of years in business, number of years in poultry business, number of years of working in poultry farm before setting up your own business

	Frequency	Percentage
Ownership structure		
Sole proprietorship	105	93.75
Partnership	7	6.25
Cooperative	0	0
Total	112	100.00
Years of setting up poultry business		
1-5	95	84.82
6-10	13	11.61
11-15	3	2.67
16-20	1	.89
Total	112	100.00
Mean = 10.5		
Working experience before business startup		
1-3	11	9.82
4-6	2	1.78
7-9	2	1.79
10 and above	-	-
Total	15	13.39
Mean = 5.0		

Source: Field survey, 2017.

It is apparent from the result that sole proprietorship is the main type of business ownership in Calabar metropolis and implies that entrepreneurs are involved as key decision makers in business operations.

Also, Table 3 shows that 84.82 percent of the respondents had been in business for between1 and 5 years, while a negligible 15.17 percent of the respondents had been in business for between 6 and 16 years. This may be an indication of high rate of exits from 6 years or it could be that businesses don't survive beyond 6 years. This corroborates SMEDAN (2007) [41] report that, only 15 percent of newly established businesses survive the first five years in Nigeria. More so, the table shows that only 13.39 percent of the respondents had various years of working experience in broiler businesses before business startup ranging from 1-8. This may be the reason for the inexperience displayed by some of the broiler business operators in handling operational activities. It also indicates that majority of the entrepreneurs were new entrants and embarked on micro businesses since they lacked experience and capital to handle larger businesses. This agrees with Mgbakor and Nzeadachie (2013) [30].

Table 4. Flock size, labour involved in operations

	Frequency	Percentage
Flock size		
<500	88	78.57
500-1000	24	21.43
1001-1500	0	0
Above 1500	0	0
Total	112	100.00
Mean = 525		
Labour involved		
Family	85	75.89
Hired	15	13.39
Both	12	10.71
Total	112	100.00

Source: Field survey, 2017.

Findings on Table 4 reveals that 78.57 percent of the respondents had flock size of less than 500 birds while a paltry 21.43 percent had flock size of between 500 and 1,000 birds. The predominant small flock size may be attributable to high cost of inputs required and inadequate capital faced by entrepreneurs as well as inexperience. Also, family labour accounted for 75.89 percent, hired labour 13.39 percent and both family and hired labour used together accounted for 10.71 percent. The result shows that micro-broiler business in the study area is mostly homestead and depends mostly on family labour to cut cost.

Table 5 shows that only 27.68 percent of the respondents had access to extension contacts while 72.32 percent had no extension contacts within the production cycle. This means that the broiler operators in the study area lacked certain knowledge of innovations and practices that are supposed to aid operations and hence enhance performance.

Table 5. Extension contact and number of visits, membership of cooperative, training/seminar, type of training and credit received

	Frequency	Percentage
Extension contact		
Yes	31	27.68
No	81	72.32
Total	112	100.00
Frequency of extension visit within a production cycle		
No contact	81	72.32
Once	13	11.61
Twice	15	13.39
Thrice	3	2.68
Total	112	100.00
Membership of cooperative		
Yes	27	24.11
No	85	75.89
Total	112	100.00
Training received		
Yes	109	97.32
No	3	2.68
Total	112	100.00
Credit received		
Yes	20	17.86
No	92	82.14
Total	112	100.00

Source: Field survey, 2017.

Of the 27.68 percent that had access to extension 2.68 percent had 3 visits, 13.39 percent had 2 visits and 11.61 percent had only 1 visit within the production cycle. The table also reveals that only 24.11 percent of the respondents were members of cooperative. This may be a contributing factor to their inability to access credit from lending agencies as concession is given mostly to cooperative groups. 17.86 percent had access

to credit while 82.14 percent had no access to credit from the table. From the table, 97.32 percent of respondents received training/seminar on poultry production while 2.68 percent had no training. According to Cooper and Gascon (1992) [11], training and experience are often considered to be directly related to business performance, apart from formal education.

It was found that most respondents in the study area had either managerial, technical or both trainings to equip them for operations.

Table 6. Status of employment according to gender

	Frequency	Percentage
Male workers		
Casual	40	25.48
Permanent	69	43.95
Sub total	109	69.43
Female workers		
Casual	10	6.37
Permanent	38	24.20
Sub total	48	30.57
Total	**157**	**100.00**
Summary		
Male workers	109	69.43
Female workers	48	30.57
Total	157	100.00
Mean	1.40	

Source: Field survey, 2017.

The findings on Table 6 shows labour information and statistics disaggregated into gender. It can be seen that a total of 157 workers were employed in micro broiler firms in the study area. 109 were males accounting for 69.43 percent and 48 were females accounting for 30.57 percent. Male workers were further disaggregated into casual (25.48 percent) and permanent (43.95 percent). Also, female employees were disaggregated into casual (6.37 percent) and permanent (24.20 percent). It can be inferred from the result that fewer females were employed because of the labour intensive nature of micro broiler business. Also, majority of the workforce were on permanent basis (68.15 percent) while 31.85 percent were casual. The high percentage of permanent labour involved here is obviously a contributing factor to the high production cost witnessed in the study. 157 persons were engaged in the activities of the businesses and could earn an income. The overall essence of entrepreneurship in agriculture is job creation, reduction of hunger and poverty and improving standard of living and conforms with (SDG 1 & 2). The mean number of workers employed is approximately 1. This conforms to MSME (2013) report on the classification of number of employees in a micro enterprise being less than 10.

Survival of micro broiler businesses

Business survival is the ability of an enterprise to continuously remain in operation no matter the challenges of the environment and to meet the objectives of the business (Akindele,Ogimi & Omoyele.,(2012) [3].

According to Adeoye (2012) [2], environmental changes are continuously exerting new pressures on enterprises performance and survival is in terms of being able to cope with the changes by developing and implementing strategies to reorganize and reform the way products are produced and distributed to final consumers.

The business survival/competitive advantage was assessed using average variable cost (AVC) as proxy for survival of the firms. Of the four functional forms of multiple regression estimated, the linear model provided the best fit in terms of highest number of significant variables and largest R^2 value.

Table 7 shows that eight regressors accounted for 41 percent of the total variation in the average variable cost per bird of micro broiler businesses in Calabar metropolis. Five variables out of eight regressors were found to have significantly contributed to the variation in average variable cost (AVC), viz., output, flock size, business experience, mortality and extension contact per cycle.

Output of broiler was negative and significant at 10 percent level. This inverse relationship shows that as larger quantities of variable inputs are applied to fixed plant and equipment, average variable cost decline with the increase in output of broiler (Jhingan, 2009) [25].

Also, the units of output that a firm produces do not cost the same amount to the firm but they are sold at the same price.

Table 7. Factors that affect the survival of micro broiler businesses in Calabar metropolis

Variables	Linear (+)	Exponential	Semi-Log	Double Log
Output of broiler(X1)	-2.3799*	-0.0017	-271.1108	-0.1888
	(1.3468)	(0.0011)	(188.458)	(0.1608)
Flock size(X2)	2.0318*	0.0014	85.658	-0.0471
	(1.3582)	(0.0011)	(206.462)	(0.1762)
Age of firm owner (X3)	-0.4348	-0.0013	-6.6835	-0.0051
	(12.1027)	(0.0101)	(25.4461)	(0.0217)
Experience(X4)	-16.1896***	-0.0151***	-55.5935**	-0.0537**
	(5.7224)	(0.0018)	(25.0257)	(0.0217)
Educational level(X5)	4.6590	0.0034	49.1423	0.0334
	(6.1824)	(0.0052)	(68.7304)	(0.0587)
Training/Seminar(X6)	132.24	0.0932	-5.4887	0.0375
	(82.1619)	(0.0687)	(26.635)	(0.0694)
Mortality(X7)	-3.9366**	-0.0031**	24.173	-0.0090
	(1.7658)	(0.0014)	(17.3539)	(0.0227)
Extension contact per cycle (X8)	20.9950***	0.0171	58.3358	0.0194
	(17.7008)	(0.0148)	(81.3293)	(0.0148)
Constant	1225.96***	7.1320***	2159.16**	7.8603***
	(125.797)	(0.1052)	(260.39)	(0.2222)
Diagnostics				
R^2	0.4097	0.3999	0.4463	0.4142
Adj R^2	0.3638	0.3534	0.4033	0.3686
F-stat	8.9340***	8.5832***	10.3791***	9.1014***

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1
Source: Field survey, 2017.

Therefore, the per unit cost or average variable cost need to be determined in order to gain competitive advantage. The critical value of output is when the AVC is minimum but it begins to rise when diminishing returns sets in, and eventually it gets to a point when micro broiler businesses are thrown out of business as a result of loss of competitive advantage. Flock size is positive and significant at 10 percent level. The larger the flock size, the more cost advantage the business enjoys from economies of scale. In respect of cost and return, the total variable cost (TVC) and average variable cost (AVC) per bird were highest in smaller flocks than in larger flocks. This agrees with the work of El-Tahaway, Taha and Adel (2017) [14]. Large flock size gives higher output of broiler and consequently high sales as well as increased survival/competitive advantage. Majority of the broiler operators sampled in this study had small flock size which meant higher TVC and AVC and these had negative impact on survival of firm/competitive advantage.

Years of managing poultry business was equally negative and significant at 1 percent. The longer the years of broiler production, the more exposed the farmer becomes to broiler production techniques that minimize cost (Dziwornu, 2014) [12], and leads to low AVC; hence, high competitive advantage. Longer years of managing poultry business means experience which can be used to achieve survival/competitive advantage. Survival/competitive advantage is created when a firm uses its resources and capabilities to achieve a lower cost structure through good and efficient management practices. Factors that reduce per unit cost of production promote competitive advantage of micro broiler businesses (Porter, 1985) [38]. Continued survival and profitability of any agribusiness is guaranteed by competitive advantage (Sanchez & Perez, 2005) [39].

Mortality was negative and significant at 5 percent signaling an inverse relationship with AVC. High mortality implies increase in cost, reduction in batch size and sales and therefore affects the survival/competitive advantage of the micro broiler firm and vice versa. If the situation is not managed appropriately and promptly may lead to the distress of the business. This conforms with Lungu (2013) [29] who states that high bird mortality reduces the batch size and hence grossly affect the sales revenue. Extension contact

was positive and significant at 1 percent. The linear relationship here implies that firm owners that had access to extension contact were privy to better information that enabled them to adopt improved technologies/practices. This result conforms to Kehinde *et al.* (2016) [26] which states that improvement in extension contact to farmers would lead to better access to information which invariably would lead to better improved practices and more income.

Factors affecting performance of micro broiler businesses

Four functional forms with OLS regression were specified to analyze factors that affect performance. Performance of the firms was assessed using net farm income. The linear model gave the best fit with an R^2 of 95 percent and four significant variables.

Table 8. Factors that affect the performance of broiler businesses in Calabar metropolis

Variables	Linear (+)	Exponential	Semi-Log	Double Log
Marital status (X1)	-8,358 (16,165)	0.0368 (0.0871)	-10252.2 (20343)	0.0025 (0.0653)
Age of firm owner (X2)	-54.62 (819.6)	0.0006 (0.0057)	37694.7 (47873.9)	-0.1448 (0.1548)
Gender (X3)	-15,355 (12,268)	-0.0688 (0.0829)	1921 (18135)	-0.0544 (0.0591)
Educational level (X4)	2,325 (2,290)	0.0059 (0.0194)	6384.55 (50181.7)	-0.0874 (0.1620)
Household size (X5)	4,585 (5,427)	-0.0047 (0.0328)	10455.5 (25757.7)	0.0057 (0.0827)
Business experience (X6)	9092.03*** (1956.54)	0.0385** (0.0177)	34608.4* (17894.9)	0.1450** (0.0581)
Extension contacts received (X7)	12,638 (14,943)	-0.0591 (0.0650)	-6635.42 (13713.2)	-0.0493 (0.0454)
Training received (X8)	-6,343 (41,071)	-0.7294*** (0.2530)	83295.1 (56254.6)	-0.2440 (0.1822)
Member of cooperative(X9)	12,516 (28,778)	-0.1937 (0.1598)	-3418.32 (35622.1)	-0.0754 (0.1150)
Credit received(X10)	48,920** (21,850)	-0.0177 (0.1708)	16777.5 (36665.5)	0.0153 (0.1183)
Flock size(X11)	1,965*** (249.5)	-0.0045*** (0.0014)	-251087*** (86381.4)	-1.9180*** (0.2785)
Man hours per day(X12)	-9,432 (5,903)	-0.0001 (0.0266)	55583.7** (25245)	0.0326 (0.0836)
Total variable cost(X13)	-1.026*** (0.221)	3.95e-06*** (6.964e-07)	547640*** (84679.1)	3.2731*** (0.2731)
Constant	-8,358 (16,165)	12.0449*** (0.5386)	-5.9e+06 (652210)	-19.3566*** (2.1142)
Diagnostics				
R^2	0.9477	0.7607	0.7941	0.8811
Adj R^2	0.9408	0.7283	0.7667	0.8650
F-stat	136.5878***	23.4799***	29.0668***	54.7175***

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source: Field survey, 2017.

Table 8 shows that thirteen explanatory variables accounted for 95 percent of the variability in the net income of micro broiler businesses in Calabar metropolis. Out of thirteen explanatory variables regressed; four were significant to the variation in net income. They include business experience (P<0.01), credit access (P<0.05), flock size (P<0.01) and total variable cost (P<0.01). F-value of 136.59 was significant at 1 percent, indicating an overall good fit of the model.

Years of managing poultry business (business experience) showed a positive relationship with net income and were significant at 1 percent. This indicates that the more the

number of years an operator puts in broiler production, the more experienced he/she becomes and the higher the net income achieved depending on the prevailing circumstances. This result is consistent with Emaikwu, Chikwendu and Sani, (2011) [15], Ojo (2003) [35] and Adebayo and Adeola (2005) [1]. Access to credit had a positive and significant effect on the net income at 5 percent level. The entrepreneurs that had access to credits or financial grants were able to increase their profits. This increase in profit may be attributable to the ability to buy and use efficient and innovative inputs that controlled and reduced wastages and production cost. This finding is in line with Ashaolu, Momoh, Phillip and Tijani (2011) [5] which revealed that, access to credit resulted in higher productivity and profitability of farms in Nigeria.

Flock size was positively significant at 1 percent level. This means that large flock size yielded high broiler output and likely to make high sales. Operators with large flock size also enjoyed economies of scale as reflected in lower TVC and AVC (total cost per bird). This had a positive effect on net income since total cost per bird is lower and the birds are sold for the same price. This is in line with Olasunkanmi (2008) [36] which revealed that, commercial poultry production in Nigeria earns higher profit from larger flocks. It also agrees with Etuah, Nurah and Yankyera (2013) [16].

Total variable cost (TVC) was negative and significant at 1 percent level. This implies that, as the micro broiler businesses incur high cost, the net income becomes lower and vice versa. For this study, the components of TVC included day old chicks, feeds, medication/vaccines, energy, labour, transportation, water and sawdust/wood shaving. These inputs are relevant in the production of broiler and their cost tends to affect the overall cost of production. The higher the cost of these variable inputs, the higher the overall production cost will be, thereby affecting the net income of the micro broiler business. This is in consonance with the work of Dziwornu (2014) [12] and Etuah, Nurah and Yankyera (2013) [16]. The ability of any entrepreneur to control production cost is key to the success of any business. Hence, the rising cost of broiler production with its implication on performance calls for great concern. Controlling the cost of variable inputs (day old chicks, feeds) will lead to significant reduction in the per unit variable cost of broiler, hence increasing the net income of broiler businesses.

Managerial and marketing mix practices of micro broiler business operators

Managerial practices adopted by micro broiler business operators

Planning functions help broiler business owners in selecting objectives/goals and determining ways and methods of attaining those goals. All the six statements were adopted with budget and implementation ranking top (4.73) followed by developing means of evaluating progress and adjustments ranking second. This result has implication on the business production and marketing as operators are able to identify the production and marketing targets. Table 9 also indicates that the average level of planning skill among broiler operators (3.8) is high. This result contradicts the findings of Baliyan and Marumo (2016) [8] which stated that average level of planning skills for broiler farmers was low to moderate (2.10). The organizing functions help micro broiler operators in making decisions on the best way to coordinate tasks, people and the workplace. Five statements were used to measure organizing functions in micro broiler operators in the study area.

From Table 9, establishing relationship among workers "ranked first (3.74), followed by determining jobs to be done by staff" (3.60). The mean organizing skill was (3.47). This shows that micro broiler operators are able to provide structural framework, number of tasks and duties, as well as establishment of an environment suitable for team work. Directing functions has to do with the leadership, supervision, communication, motivation and personnel development. Five statements were used to measure directing skills. Table 9 also shows that "routine

supervision to ensure that jobs are done properly" was top most (M = 4.28), followed by "delegating necessary authority" (M = 3.77). Average level of directing skills was 3.80. This implies that micro broiler operators in the study area work through people to actualize the goals and objectives of the firms.

Table 9. Managerial practices of business owners in Calabar metropolis

S/N	Managerial practices	N(1)	R(2)	S(3)	O(4)	A(5)	Sum	Mean	Rank
A	**Planning**								
	Situation Analysis to know opportunities/obstacles	3(3)	19(38)	29(87)	56(224)	5(25)	377	3.37	6th
	Forecasting future development	1(1)	23(46)	28(84)	53(212)	7(35)	378	3.38	5th
	Set Specific, Realistic and achievable goals	2(2)	9(18)	26(78)	56(224)	19(95)	417	3.72	3rd
	Establish alternative action to be used in achieving goals	-	11(22)	28(84)	56(224)	17(85)	415	3.71	4th
	Developing Means of evaluating progress and adjustments	-	5(10)	26(78)	57(228)	24(120)	436	3.89	2nd
	Budget and implementation	3(3)	2(4)	6(18)	29(145)	72(360)	530	4.73	1st
	Grand mean							**3.80**	
B	**Organizing**								
	Set up structures for various activities	4(4)	16(32)	28(84)	55(220)	9(45)	385	3.44	4th
	Determining jobs to be done by staff	6(6)	11(22)	17(51)	66(264)	12(60)	403	3.60	2nd
	Selecting allocating and training of workers	7(7)	27(54)	39(117)	32(128)	7(35)	341	3.05	5th
	Defining lines of activities	6(6)	14(28)	29(87)	44(176)	19(95)	392	3.50	3rd
	Establishing relationships amongst workers in biz setting	3(3)	10(20)	18(54)	63(252)	18(90)	419	3.74	1st
	Grand mean							**3.47**	
C	**Directing**								
	Assign Duties and responsibilities	4(4)	12(24)	21(63)	64(256)	11(55)	402	3.59	5th
	Establish Results to be achieved	4(4)	7(14)	17(51)	76(304)	8(40)	413	3.69	3rd
	Delegating Necessary Authority	5(5)	10(20)	30(90)	48(192)	19(95)	422	3.77	2nd
	Creating desire for success through motivation	5(5)	8(16)	28(84)	48(192)	23(115)	412	3.68	4th
	Routine supervision to ensure jobs done properly	3(3)	3(6)	6(18)	48(192)	52(260)	479	4.28	1st
	Grand mean							**3.80**	
D	**Coordinating**								
	Providing for growth and development of workers	6(6)	10(20)	29(87)	54(216)	13(65)	394	3.52	3rd
	Keeping in touch with workers and keeping a sense of perspective	4(4)	8(16)	23(69)	67(268)	10(50)	407	3.63	2nd
	Providing for free flow of information	4(4)	6(12)	22(66)	63(252)	17(85)	419	3.74	1st
	Grand mean							**3.63**	
E	**Controlling**								
	Checking that plans are on target	1(1)	7(14)	11(33)	80(320)	13(65)	433	3.87	4th
	Checking that plans are on schedule		7(14)	12(36)	80(320)	13(65)	435	3.88	3rd
	Establishing predetermined goals/standards of performance in terms of cost	2(2)	6(12)	21(63)	53(212)	30(150)	439	3.92	2nd
	Measuring Performance against Predetermined goals standards through information gathering system	2(2)	13(26)	16(48)	48(192)	33(165)	433	3.87	4th
	Taking actions to correct deviation from goals and standards	2(2)	8(16)	14(42)	49(196)	39(195)	451	4.03	1st
	Grand mean							**3.91**	

Source: Field survey, 2017.

This is contrary to Lucas (1978) [28] who stated that owners of small businesses hardly delegate most of their day-to-day responsibilities and control functions to an enlarged and specialized team.

Coordinating involves synchronizing and unifying the actions of a group of people (workers). Coordination is a process of achieving orderly group effort and unity of action in pursuit of a common goal/purpose. Three statements were used to measure coordinating skills.

Providing for free flow of information (3.74) was topmost followed by "keeping in touch with workers" (3.63). On the average (M = 3.63), micro broiler owners were able to harmonize the parts and individuals of the enterprise and ensure that efforts were directed toward the set objectives of the enterprise. Controlling functions involve making decisions that concentrates on how well things are getting done according to plan and the achievement of predetermined goals. Five statements were used to measure controlling skills. "Taking actions to correct deviation from goals and standards" (4.03) ranked first followed by "Establishing predetermined goals/standards of performance in terms of cost" (3.92). Mean controlling skills was (3.91). This means that respondents were able to make activities/events conform to plan and targets.

Marketing mix activities adopted by micro broiler business owners

The marketing mix strategies are presented in Table 10.

Table 10. Marketing mix of business owners in Calabar metropolis

S/N	Marketing mix	N(1)	R(2)	S(3)	O(4)	A(5)	Sum	Mean	Rank
A	**Product**								
	Dressing of broiler birds neatly	4(4)	5(10)	40(120)	40(160)	23(115)	409	3.65	1st
	Packaging broiler meat in carrier bags	8(8)	5(10)	41(123)	43(172)	15(75)	388	3.46	2nd
	Availability of Products at all times	2(2)	11(22)	58(174)	39(156)	2(10)	364	3.25	3rd
	Storage/Preservative facility for dressed birds	4(4)	26(52)	26(78)	35(140)	2(10)	284	2.54	4th
	Grand mean							**3.23**	
B	**Pricing**								
	Adoption of competitive Pricing	1(5)	2(4)	1(3)	78(312)	30(150)	474	4.23	1st
	Use of Discount Pricing	23(23)	27(54)	47(141)	12(48)	3(15)	281	2.51	3rd
	Equating Price and quality of broiler	4(4)	2(4)	10(30)	68(272)	28(140)	450	4.02	2nd
	Offer Credit sales	33(33)	33(66)	39(117)	6(24)	1(5)	245	2.19	4th
	Temporarily reducing prices to increase short run sales	29(29)	35(70)	40(120)	5(20)	3(15)	254	2.27	5th
	Grand mean							**3.04**	
C	**Place**								
	Physical distribution of broilers to customers where they want	4(4)	4(8)	34(102)	47(188)	23(115)	417	3.72	3rd
	Selling the right quantity to the right customers at the right time	1(1)	-	5(15)	82(328)	24(120)	464	4.14	1st
	Accessibility of firm site	1(1)	1(2)	12(36)	83(332)	15(75)	446	3.98	2nd
	Sell to middlemen	5(5)	4(8)	69(207)	27(108)	7(35)	363	3.24	4th
	Grand mean							**3.77**	
D.	**Promotion**								
	Offer Special Season discount	43(43)	37(74)	31(93)	-	1(5)	215	1.92	2nd
	Free Processing of birds	65(65)	27(54)	16(48)	2(8)	2(10)	185	1.65	5th
	Advertise through sign post and fliers	61(61)	33(66)	4(12)	14(56)	-	195	1.74	4th
	House to house adverts	56(56)	27(54)	22(66)	5(20)	2(10)	206	1.84	3rd
	Place calls to customers on maintain personal contact and interpersonal communication	4(4)	7(14)	7(21)	44(176)	50(250)	465	4.15	1st
	Grand mean							**2.26**	

Note: N = Never, R = Rarely, S = Sometimes, O = often, A = Always.
Source: Field survey, 2017.

Product means the good and services combination that the firm offers to the target market. Four statements were used to measure the products offered in the market by respondents. "Dressing of broiler birds neatly" (3.65) was ranked first followed by "packaging broiler meat in carrier bags" (3.46). Storage/preservative facility for dressed birds was least with (2.54). This means that most respondents faced the risk of spoilage of broiler meat that is unsold, and this can reduce the profit margins of the enterprises.

Price refers to the amount of money that customers must pay to obtain the product or service. If customers perceive that a product price is greater than its value, they will not buy. If a producer prices a product below its cost, profit will suffer. Between the two extremes, the right pricing strategy is the one that delivers both values to the customer and profit to the producer (Kotler & Armstrong, 2013) [27]. Of the five statements used to measure the pricing abilities of respondents, "adoption of competitive pricing" ranked first (4.23) followed by "equating price and quality" (4.02).Average pricing skills by respondents of 3.04, implies that respondents were able to adopt a pricing strategy that combined both value to the customer and profit to the enterprise.

Place includes enterprise activities that makes the product available to the target customers. Five statements were used to assess place. All the statements surpassed the average of 3.00 with "selling the right quantity to the right customers at the right time ranking first (4.14). Average "place" skill was 3.77 implying that respondents were able to produce broiler birds and made them available to consumers through creating relationships with suppliers and customer as well as resellers.

Promotion includes activities that communicate the merits of the product and persuade target customers to buy it. Of the five statements measured, only "placement of calls to customers to maintain personal contact surpassed the threshold of 3.00 (4.15). The implication of this is that respondents did not strive to win new customers or even to keep the ones already had. The average figure for promotion is 2.26 implying that respondents did not take the issue of promotion seriously. This situation may be the reason why most broiler operators keep bird beyond the standard 8 weeks thereby incurring more cost and depleting profits.

CONCLUSIONS

On the managerial and marketing mixed practices adopted by the micro broiler operators, the study revealed that the entrepreneurs displayed a positive attitude to all the management practices and marketing mix activities. The study also revealed that, applying a combination of the managerial and marketing mix practices leads to better performance in terms of high output, sales and profit maximization. Indeed, if the micro broiler operators are able to harness the marketing mix and adopt a good marketing strategy that is aimed at customer satisfaction, then they will be able to make high sales and profits. Overall, good management practices and a competitive marketing strategy can help micro broiler operators achieve competitive advantage and high performance that will make them remain in business for long.

The following recommendations were made to enhance performance of micro broiler businesses in Calabar metropolis:

(i)Broiler operators should organize themselves into cooperative associations to put them in good stead to be able to access the much needed capital from funding agencies. This will enable them to be able to pay for some of the innovative technologies and inputs that are required in modern day broiler operations.

(ii) Adequate extension personnel should be deployed to provide relevant extension services to broiler operators to improve their skills and knowledge in the operation of broiler businesses.

(iii) Policy action of government should be directed towards the technical know-how and capacity utilization of micro broiler operators to enable them adopt proper business

management practices aimed at ensuring efficient resource utilization. This will bring considerable reduction in the cost of variable cost per bird and enhance competitiveness of the business.

(iv) There should be deliberate and conscious efforts to subsidize the cost of feeds and day old chicks as a policy action as well as instituting a flexible credit policy for broiler operators in the area to reduce cost and increase profits made by broiler operators.

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