



JAMD

Journal of Agricultural
Management & Development



E-ISSN: 3141-2297
Volume 1 Issue 1, April, 2026

ISSN 3141-2297



9 773141 229005

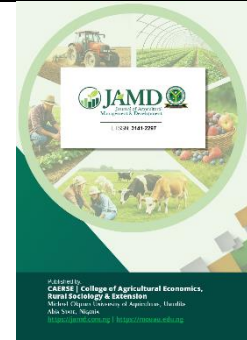
Published by:
**CAERSE | College of Agricultural Economics,
Rural Sociology & Extension**
MICHAEL OKPARA UNIVERSITY OF AGRICULTURE, UMUDIKE
ABIA STATE, NIGERIA
<https://jamd.com.ng> | <https://mouau.edu.ng>



Journal of Agricultural Management & Development

E-ISSN: 3141-2297

Volume 1 Issue 1, April, 2026



Determinants of Profitability among Rural Poultry Entrepreneurs in Imo State, Nigeria

¹Chukwu, J., ¹Agwu, N. M., ²Ahamefule, B.A., ¹Opara, E.D.

ARTICLE INFO

Author(s) Affiliation(s):

¹Department of Agribusiness and Management, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

²Department of Agricultural Economics, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

Correspondence:

Email: chukwu.john@mouau.edu.ng

Phone: +2348067202333

Keywords: Poultry, Profitability, Rural, Entrepreneurs, determinants, Constraints.



This is an open access article under the CC BY license

<https://creativecommons.org/licenses/by/4.0/>

ABSTRACT

The study examined the determinants of profitability among rural poultry entrepreneurs in Imo State, Nigeria. Using a regression analysis approach, the study identified key factors influencing profitability, including farming experience, credit access, cooperative membership, market distance, bird prices, extension services, and farm size. The results showed that farming experience, credit access, price of birds, and farm size positively affected profit of the rural poultry farmers, and were significant at 1%, while Cooperative membership and extension services also affected the entrepreneurial' profit positively but significant at 5% and 10% respectively. Conversely, distance to the market negatively affects profit, highlighting transportation costs as a critical barrier. The study also identified major constraints, including high transportation costs (88.33%), high feed costs (85%), and labor expenses (58.33%), which significantly hindered productivity. The findings emphasized the need for improved infrastructure, targeted financial interventions, and enhanced veterinary and extension services. The study therefore recommends increased investment in rural road networks to reduce transportation costs, the development of poultry-specific credit schemes with flexible repayment structures, and the expansion of veterinary and extension services to improve disease management and productivity. Addressing these challenges through policy interventions and strategic investments will enhance the sustainability and profitability of rural poultry enterprises, contributing to economic growth and improved livelihoods in rural communities.

Introduction

A major factor in the economic growth of the majority of African nations is agriculture. Nigeria's agriculture sector employs around two-thirds of the country's workforce (approximately 60%), generates 88% of non-oil profits, and contributes more than 40% of the GDP (Osai, et al., 2023). A growth in the production of animal-based products worldwide, particularly from chicken, has resulted from the global food basket issue, which is primarily caused by an inadequate supply of animal protein (FAO, 2010). Poultry farming is the domestication of birds like chickens, ducks, quails, turkeys, and geese with the goal of raising them for meat and eggs as well as using their byproducts, like feathers and feces, as natural,

unprocessed materials in industries (Stiles, 2017). Poultry production has grown to be a significant part of Nigerian agriculture, according to Ezeibe et al. (2014), because it serves as a legitimate source of consistent revenue in addition to providing the population with meat and eggs. It is currently among the best protein sources for humans. Since poultry meat and eggs are now crucial in filling the gap in Nigeria's protein supply, many Nigerians have recently become interested in raising poultry due to the high nutritional value and significant financial potential (Erdaw, et al., 2022). The demand for poultry products is expanding as a result of factors such as population expansion, changing lifestyles, altering eating habits, rapid urbanization, rising per capita income, and improved knowledge of health care. Because of the consistent flow of money in the Imo State rural economy throughout the year, this sector has a promising future. Imo State's food grain output and productivity, especially for cereals, have already saturated and there is limited room for growth, hence people are turning to side jobs like chicken farming. At the same time, diversification of agriculture through related businesses like poultry farming has gained additional relevance for resolving the state's agrarian problem due to the limited scope of further addition to the net area sown and the enormous amount of debt. Farmers who embrace poultry farming will be able to supply the rising demand for poultry meat while also escaping the debt trap.

Starting and succeeding in the poultry industry demands farming experience. According to Nwaobiala et al. (2018), higher productivity in poultry production is based on farmers' quality farming experience. Effective skill training also boosts productivity in any firm or career choice, according to Bandura, (2023). The majority of poultry business owners are inexperienced in managing a poultry farm. These call into doubt both the poultry entrepreneurs' profitability and degree of efficiency. The external environment of the poultry industry is made up of sociocultural, economic, and environmental factors (Nwobodo, et al., 2023). Rural poultry farm owners face challenges that reduce their output, profitability, and efficiency. This issue affects the efficiency and profitability of rural poultry entrepreneurs and differs amongst these businesses (Ashagidigbi et al., 2011). Because profit is a motivating factor for people to start a business, there is an urgent need for a thorough investigation to critically analyze the profitability determinants among the rural poultry entrepreneurs in Imo State, Nigeria. Additionally, the study should offer some practical insights for policy makers, researchers, and practitioners in the poultry business.

Methodology

The study was conducted in Imo State of Nigeria. Imo state lies between latitudes $05^{\circ} 48'N$ and $06^{\circ} 08'$ of the equator and longitudes $06^{\circ} 14'E$ and $07^{\circ} 2' E$ of the Greenwich meridian. Imo State covers an area of about 5,067.20 km² with a population of about 3, 934, 899 (NPC, 2006) and population density of about 725km². The State derives its name from the Imo River, which takes its course from the Okigwe/Awka upland. Imo State is divided into three Agricultural Zones, namely: Owerri Zone, Orlu Zone and Okigwe agricultural zones. Administratively, the State has twenty-seven (27) Local Government Areas (LGAs). It is bordered on the east by Abia State, on the west by Delta State and River Niger, on the north by Anambra and Ebonyi States and on the south by River State. The State has an average annual temperature of 28°C, an average annual relative humidity of 80%, average annual rainfall of 1800 to 2500mm and an altitude of about 100m above sea level (Imo-ADP, 2013). The weather and environmental conditions of the state favors the production of poultry as it is not too hot or too cold (Oladeebo, 2008; Olayemi, 1998; and Olaitan, 2006). Hotel business is one of the leading businesses in the state; thus, creating market for poultry product. And also, it enjoys proximity to many of the neighboring states' metropolitan markets including; Aba, Uyo, Enugu, Onitsha, Abakiliki, and Port Harcourt.

The study made use of multi-stage sampling techniques in selecting the 120 respondents needed for the study. The first stage involved all the three (3) agricultural zones in Imo State. They are Owerri, Orlu, and Okigwe agricultural zones. In the second stage, two (2) Local Government Areas were purposively selected from each of the agricultural zones, the Local Government Areas selected were Aboh Mbaise, and Ngor-Okpala for Owerri agricultural zone, Isu, and Orsu for Orlu agricultural zone, and Isiala Mbano, and Ihitte Uboma for Okigwe agricultural zone, giving a total of six (6) L.G.As. These places were selected due to the intensity of poultry production in the area. In the third stage, two (2) communities were randomly selected from each of the Local Government Areas, giving a total of twelve (12) communities. In the fourth stage, a random sample of ten (10) poultry entrepreneurs were selected, giving a total of one hundred and twenty (120) respondents which constituted the sample size for the study.

The study employed the use of only primary data. The primary data was collected through the use of pre-tested and well-structured questionnaire administered to the selected rural poultry entrepreneurs. Preliminary visits were made to the study areas before the commencement of the actual data collection. This paved way for the pre-testing of research instruments for successful data collection. The research instrument (questionnaire) was found useful at the end of the fieldwork and was used for the analysis. Data collection was in the year 2024. Some of the entrepreneurs were reluctant to accept and fill the questionnaire for reasons as some thought they were giving out vital personal information to an outsider and for other personal reasons, but with the help of the enumerators from there, these problems were resolved. The questionnaire for this study was designed to collect a wide range of information from the respondents such as the factors affecting their profitability, as well as the challenges they are facing in the poultry business.

The data was analyzed using descriptive and inferential statistical tools. Multiple regression analysis was used for the determinants of profitability of the entrepreneurs, while the entrepreneurs' constraints were analyzed using descriptive statistics.

Model Specifications

The models were specified as follows:

Determinants of market orientation

$$Y = (X_1, X_2, X_3, X_4 \dots X_{12}) \quad (1)$$

Where,

Y = Net Return (₦), X_1 = age (years), X_2 = experience (in years), X_3 = sex of entrepreneur (male = 1, female = 0), X_4 = credit access (₦), X_5 = household size (number), X_6 = membership of cooperative society (years), X_7 = Distance to market (km), X_8 = price of birds (₦), X_9 = cost of feed (₦), X_{10} = cost of inputs (₦), X_{11} = contact with extension service (number of visits), X_{12} = farm size (number of birds).

Results and Discussion

Determinants of profit

The result in Table 1 showed that the linear functional form was chosen as the lead equation based on statistical and econometric criteria such as the magnitude of the coefficient of multiple determination (R^2), number of significant variables, conformity with a priori expectation of the signs in the coefficients of the variables, and overall significance of the functional form (F-ratio). The F-ratio (45.14) was significant at 1% which attests to the overall significance of the regression result. The R^2 value (0.9249) of the lead equation showed that 92.49% of the variations observed in profitability of the rural poultry entrepreneurs were accounted for by the explanatory variables included in the model.

Farming experience had a positive coefficient with the output of the poultry entrepreneurs hence it is statistically significant at 1% level of probability for the rural entrepreneurs. Entrepreneurs with higher years of farming experience knows the problems involved in poultry production and are in a better position to overcome them to improve on the yield than those that had little farming experience. The result is in line with the findings of Baliyan, *et al.*, 2017 who reported that entrepreneurs with more years of farming experience would be more efficient, have better knowledge of climatic conditions and market situation and are thus, expected to run a more profitable and efficient enterprise. Also, to support the findings of Esiobu *et al.*, (2014) and Onubuogu *et al.*, (2014) who asserted that previous experience in agribusiness enable entrepreneurs to set realistic time and cost targets, allocate, combine, utilize resources efficiently and effectively, identify production and marketing risks.

The coefficient of credit access is significant at 1% and positively related to the profit for the rural entrepreneurs; it implies that the higher the amount of credit received by the poultry entrepreneurs, the greater the profit made. Credit enables the entrepreneurs to grant them access to market information and farm inputs which leads to higher output and hence profit. The coefficient of Membership of cooperation is significant at 2% and positively related to profit for rural entrepreneurs. The result supports the findings of Esiobu *et al.*, (2014) who reported that membership of cooperative help agribusiness entrepreneurs.

The coefficient of distance to the market is significant at 1% and negatively related to profit for the rural poultry entrepreneurs, it implies that the greater the distance from the farm to the market imply less the profit. Longer distance implies higher transport cost which reduces profit. As a result, entrepreneurs who have a long distance to travel to the nearest town, and from the farm to the market, and who have high farm transportation costs, are more un-likely to participate in the market. Akidi, *et al.*, 2018 have reported that infrastructure such as roads play an influential role in determining market participation levels. Poor infrastructure also increases poultry farm transportation costs per km. Poor transportation costs also reduce when entrepreneurs are located close to markets and have access to a good road network.

The price of birds is significant at 1% and positively related to profit for the poultry rural entrepreneurs. It implies that the higher the price of the mature birds the higher the profit made.

Contact with extension workers is significant at 10% and are positively related to profit. It implies that increase in contact with extension workers increases profit. Source of information is gotten from agents who lead to increase in output. Chukwu (2013) and Onubuogu and Esiobu (2014) reported that extension contact is the channel through which agricultural innovations and information are passed to entrepreneurs for improvement in their standard of living and production; hence increment in their profit. Farm size is significant at 1% and positively related to profit. It implies that it is expected that entrepreneurs with large farm size would realize more yield/output than their counterparts with less farm size. Birhanu, *et al.*, 2021 reported that large farm size increases livestock entrepreneur's productivity, improves their technical, allocative and resource-use efficiency.

Constraints associated with the rural poultry entrepreneurs

The result in table 2 presents the key challenges (constraints) encountered by rural poultry entrepreneurs. The most significant constraints include high transport cost (88.33%), high feed costs (85%), and high labor costs (58.33%). These findings are in tandem with common issues in the poultry sector, particularly in rural areas where infrastructure and resource access are often limited.

High transportation cost (88.33%) ranked as the most severe constraint. This is a critical challenge in rural areas where poor road infrastructure, long distances to markets and high fuel prices increase logistics expenses. Poor transportation systems significantly hinder the profitability of poultry farmers by raising production costs and limiting market access, claim Olawumi *et al.* (2020). The high price of poultry feed (85%) is still another significant issue. 60–70% of the expenses associated with raising poultry are related to feed (Afodu et al., 2024). This problem is exacerbated by import dependence, supply chain interruptions, and growing grain prices. Recent research has proposed sustainable solutions, including alternate feed sources (e.g., insect protein, agro-industrial by-products) (Bist, et al., 2024). Poultry management's high labor cost (58.33%) and rural-to-urban migration cause labor shortages and raise costs in rural regions (Adeyonu, et al., 2021). Even if automation and mechanization are practical answers, they are nevertheless expensive and out of reach for the majority of rural poultry entrepreneurs.

Lack of veterinary services (36.67%) and disease outbreaks (53.33%); Farmers are seriously threatened by poultry diseases like Gumboro disease, Newcastle disease, and Avian Influenza. The issue is made worse by restricted access to veterinary care. In order to reduce disease risks, studies by Robertson, (2020) highlight the significance of biosecurity protocols, immunization campaigns, and extension services. High Input Costs: In addition to feed, other inputs including medications, immunizations, and equipment continue to be costly. The effect of inflation and changes in foreign exchange on input costs in developing nations is highlighted in a report by Mottet, et al. (2017). Limited access to financial services due to poor credit availability (51.67%) hinders rural poultry farmers' ability to grow their businesses. This is consistent with research by Esiobu, et al. (2014), who noted that strict loan conditions result from financial institutions' frequent perception of poultry farming as high-risk. Poor market access, a lack of extension services, and insufficient government support are among the other challenges (35%) that are commonly reported in rural poultry production (Ibrahim et al., 2023).

The challenges that rural poultry entrepreneurs encounter have a substantial impact on their profitability and production. Policy changes, infrastructural upgrades, and financial access are all necessary to address these issues. Improving disease control and veterinary services is also crucial to improving the sustainability of poultry farming.

Conclusion and Recommendations

The results of this study show that among rural poultry entrepreneurs' profitability is significantly influenced by farming experience, cooperative membership, financing availability, market distance, bird pricing, extension services, and farm size. While cooperative membership, farming experience, and access to credit all have positive effects on profit, distance to markets has the opposite effect. Furthermore, considerable output is hampered by high labor expenses, inadequate veterinary services, diseases, and the high cost of feed and transportation. Rural livelihoods will eventually improve as a result of addressing these issues through focused policy interventions, infrastructure development, and easier access to financial and technical assistance. This will increase the sustainability and profitability of rural poultry entrepreneurs.

From its findings, the study recommended the following:

- a) *Investment in Rural Infrastructure and Market Accessibility:* The construction of market infrastructure and rural road networks should be given top priority by policymakers in order to lower transportation costs and increase market participation. To improve market efficiency, public-private partnerships can help build decentralized poultry marketplaces and logistics hubs.
- b) *Expansion of Financial Support Mechanisms:* Poultry-specific credit plans with adjustable payback periods should be created by financial institutions and agricultural development initiatives. This will increase business owners' capacity to make investments in high-quality inputs, grow their operations, and boost productivity. Enhancing the financial literacy of poultry farmers will also maximize the use of credit.
- c) *Strengthening Veterinary and Extension Services:* The expansion of trained staff and the establishment of mobile veterinary units are two ways that government organizations and other stakeholders can improve access to veterinary care and extension services. Also, implementing regular training programs on biosecurity, disease prevention, and better management techniques will increase productivity and reduce production risks.

References

- Adeyonu, A. G., Otunaiya, A. O., Oyawoye, E. O., & Okeniyi, F. A. (2021). Risk perceptions and risk management strategies among poultry farmers in south-west Nigeria. *Cogent Social Sciences*, 7(1), 1891719.
- Afodu, O. J., Balogun, O. L., Afolami, C. A., Akinboye, O. E., Akintunde, A. O., Shobo, B. A., and Adefelu, A. O. (2024). Effect of Poverty Level and Food Insecurity Status on Poultry Farmers' Response to High Feed Costs in South-West Nigeria. *African Journal of Food, Agriculture, Nutrition and Development*, 24(4), 26183-26201.
- Akidi, I. L., Wamala, S. K., & Mugonola, B. (2018). Determinants of smallholder indigenous chicken farmers market participation decisions and value of sales in Gulu district. *Journal of Development and Agricultural Economics*, 10(8), 271-278.
- Baliyan, S. P., & Masuku, M. B. (2017). Socio-economic factors as determinants of farm management skills among broiler poultry producers in Botswana. *International Journal of Agricultural Economics*, 2(2), 27-34.
- Bandura, A. (2023). Cultivate self-efficacy for personal and organizational effectiveness. *Principles of Organizational Behavior: The Handbook of Evidence-Based Management 3rd Edition*, 113-135.
- Birhanu, M. Y., Alemayehu, T., Bruno, J. E., Kebede, F. G., Sonaiya, E. B., Goromela, E. H., ... & Dessie, T. (2021). Technical efficiency of traditional village chicken production in Africa: Entry points for sustainable transformation and improved livelihood. *Sustainability*, 13(15), 8539.
- Bist, R. B., Bist, K., Poudel, S., Subedi, D., Yang, X., Paneru, B., and Chai, L. (2024). Sustainable poultry farming practices: A critical review of current strategies and future prospects. *Poultry Science*, 104295.
- Chukwu, A. O. (2013). Entrepreneurs' Perception of the effectiveness of extension principles in extension delivery in Owerri Agricultural zone, Imo State, Nigeria. *International Journal of Applied Research and Technology*, 2(3), 38-43.
- Erdaw, M. M., & Beyene, W. T. (2022). Trends, prospects and the socio-economic contribution of poultry production in sub-Saharan Africa: a review. *World's Poultry Science Journal*, 78(3), 835-852.
- Esiobu, N. S., Onubuogu, G. C and Okoli, V. B. N. (2014). Determinants of Income from Poultry Egg Production in Imo State, Nigeria: An Econometric Model Approach. *Global Advanced Journal of Agricultural Science*, 3(7), 186-199.
- Esiobu, N. S., Onubuogu, G. C., and Okoli, V. B. N. (2014). Determinants of income from poultry egg production in Imo State, Nigeria: An econometric model approach. *Global Advanced Research Journal of Agricultural Science*, 3(7), 186-199.

Ibrahim, N., Boyen, F., Mohsin, M. A. S., Ringenier, M., Berge, A. C., Chantzias, I., and Dewulf, J. (2023). Antimicrobial resistance in *Escherichia coli* and its correlation with antimicrobial use on commercial poultry farms in Bangladesh. *Antibiotics*, 12(9), 1361.

Mottet, A., and Tempio, G. (2017). Global poultry production: current state and future outlook and challenges. *World's poultry science journal*, 73(2), 245-256.

Nigerian Muse. Nigeria 2006 Population Census Arranged by Categories: Important Documents. Retrieved from. [Http://www.nigerianmuse.com/20070820063612zg/sections/importantdocuments/nigeria-2006-populationcensus-arranged-by-statewikipedia/.htm](http://www.nigerianmuse.com/20070820063612zg/sections/importantdocuments/nigeria-2006-populationcensus-arranged-by-statewikipedia/.htm). [6] Baridam AC. Res

Nwobodo, C. E., Okoronkwo, D. J., Eze, R. I., Ozorngwu, A. M., Iwuchukwu, J. C., Azuka, V. C., & Udoye, C. E. (2023). Knowledge capabilities for sustainable poultry production in Sub-Sahara Africa: Lessons from Southeast Nigeria. *Sustainability*, 15(14), 11174.

Olawumi, T. O., and Chan, D. W. (2020). Concomitant impediments to the implementation of smart sustainable practices in the built environment. *Sustainable Production and Consumption*, 21, 239-251.

Onubuogu, G. C and Esiobu, N. S. (2014). Policy advocacy for sustainable agricultural development strategies; a Panacea for Green Economy Initiative in Imo State, Nigeria. *Journal of Developing Country Studies*, 4(18), 128-138.

Onubuogu, G. C, Esiobu, N. S, Nwosu, C. S and Okereke, C. N. (2014). Resource use efficiency of smallholder cassava entrepreneurs in Owerri Agricultural zone, Imo State, Nigeria. *Scholarly Journal of Agricultural Science*, 7(8), 42-152

Osai, A. V., Nwogwugwu, U., and Nwokoye, E. (2023). The Role of Agriculture in Economic Development: in Nigeria. *Journal of International Economic Relations and Development Economics*, 3(2), 103-111.

Robertson, I. D. (2020). Disease control, prevention and on-farm biosecurity: the role of veterinary epidemiology. *Engineering*, 6(1), 20-25.

Appendix

Table 1: Distribution of Rural Poultry Entrepreneurs by determinants of profitability

Variable	Rural Coefficient	t-ratio
Intercept	5.995	2.31**
Age (X ₁)	2.876	0.74
Farming experience (X ₂)	18.795	3.66***
Sex (X ₃)	9.118	0.67
Credit access (X ₄)	5.409	5.13***
Household size (X ₅)	17.454	0.81
Mem. of cooperative (X ₆)	2.751	3.16**
Distance to mkt. (X ₇)	-3.894	-7.01***
Price of birds (X ₈)	3.275	4.53***
Cost of feed (X ₉)	-7.364	-0.92
Cost of input (X ₁₀)	.0777	0.03
Contact ext. workers (X ₁₁)	4.570	3.33*
Farm size (X ₁₂)	33.770	10.47***
R ²		0.9249
Adjusted R ²		0.9044
F-ratio		45.14***

Source: computed from survey data, 2024. *** = significant at 1%; ** = significant at 5%; and * = significant at 10%

Table 2: Distribution of Rural Poultry Entrepreneurs by Constraints Faced

Constraints	Rural Frequency (%)
High cost of labor	70(58.33)
High cost of feed	102(85)
Diseases	64(53.33)
Lack of veterinary services	44(36.67)
High transport cost	106(88.33)
High input cost	54(45)
Poor access to credit	62(51.67)
Others	42(35)

Source: computed from survey data, 2024. N/B: The figures in parenthesis are percentages.