

PROFITABILITY ANALYSIS OF ONION RETAIL MARKETING IN KANO STATE, NIGERIA

I.J. Karaye¹; A. A. Adomi²; A.U. Shu'aib²; Safiyanu S.A.² & Z.Y. Abdullahi²

¹Jaiz Bank, Daura Branch, Katsina State

²Department of Agricultural Economics and Extension,
Aliko Dangote University of Science
and Technology, Wudil

Correspondence: ibkaraye@gmail.com

Abstract

This study examined the profitability of onion retail marketing in Kano State, Nigeria. Primary data were collected from onion retailers using structured questionnaires and analyzed with descriptive statistics, Herfindahl-Hirschman Index (HHI), and marketing efficiency ratios. Results revealed that onion retailing is dominated by small-scale male traders with moderate education levels and marketing experience. The market was found to be competitive with a low concentration ratio, while profitability analysis indicated positive returns on investment despite operational challenges. Key constraints include inadequate access to credit, poor storage facilities, and high transportation costs. The study concludes that onion retailing is a viable and profitable enterprise that contributes significantly to employment and income generation in Kano State.

Keywords: Onion marketing, profitability, retailing, Kano State, Nigeria, agricultural marketing.

1.0 Introduction

Onion (*Allium cepa L.*), belonging to the Alliaceae family, is a globally important vegetable crop second only to tomato in terms of trade volume. Originating from Asia and the Middle East, onion have gained prominence worldwide due to their wide range of culinary and medicinal uses. The production of onion crop is worldwide because of its wide benefits in our daily foods requirements. Onion is largely produced in the developed nations and has dominated in the international markets due to its higher quality production and longer

storage life (Opara, 2003). China is the top producer of the world followed by India and USA (Manna, 2014, Kulkarni *et al.*, 2014). According to FAOSTAT (2012), the world total onion production is 742.51 million tons per annum out of this China shared 205.08 million tons, India 133.72 million tons, and the USA 33.21 million tons respectively. In Africa, Egypt is the leading country by producing 22.08 million tons of onion per year for domestic and international markets that rank as the fourth of world producer (Kulkarni *et al.*, 2014). Countries like Turkey, Iran, Afghanistan, Brazil and South

Korea are also largely producing and selling to international markets.

Onions are a staple in Nigerian cuisine, consumed across all socio-economic groups. In Kano State, onion plays a crucial role in food security and economic livelihoods, particularly in rural communities where onion farming is a key agricultural activity. The state benefits from favorable climatic conditions and access to irrigable lands known as *fadama*, which allow for large-scale production, especially during the dry season. Onions are used in various forms, including fresh and dehydrated, in dishes such as soups, sauces, and salads, and also possess medicinal properties that contribute to their high demand. Nutritionally, onions are rich in phosphorus, calcium, proteins, and vitamin C, making them a valuable component of Nigerian diets (Ibrahim, 2018).

The retail onion market in Kano State is characterized by a fragmented, multi-tiered system involving various market participants, including producers, wholesalers, and retailers. Retailers play a vital role as intermediaries, connecting local production with end consumers. Market structure analysis using tools such as the Herfindahl-Hirschman Index (HHI) and Gini Coefficient reveals that the market is highly competitive, with a low level of concentration. Numerous small-scale marketers operate in Kano's onion markets, leading to intense competition (Abdul-Qadir, 2019). Despite the competitive nature of the market, gender disparities persist. A

study by Amans et al. (2022) indicated that men dominate the onion retail sector, with 88.6% male participation compared to 11.4% female participation. This gender imbalance reflects broader socioeconomic barriers that limit women's access to resources such as credit, land, and market information. Addressing this disparity through gender-sensitive interventions could foster greater inclusivity and economic empowerment.

According to Ibrahim (2024), several socioeconomic factors influence the retail marketing of onion in Kaduna and Katsina States. These include age, education, marketing experience, and access to credit. Research shows that older, more experienced marketers tend to perform better due to their established networks and deeper understanding of market dynamics. Furthermore, education plays a crucial role, as more educated marketers are better equipped to access market information and adopt modern marketing techniques. Access to credit is another critical factor influencing onion marketing. In Kano, approximately 65.9% of onion retailers report difficulties in obtaining credit, which limits their ability to scale operations and invest in bulk purchases during peak demand periods (Allimi *et al.*, 2020). Expanding access to affordable credit could enable marketers to optimize their operations and improve profitability.

Retailers in Kano employ various strategies to mitigate these challenges and maximize their profits. These include

promotional pricing, volume discounts, and bundling onion with complementary products like garlic or spices. Retailers also enhance their market presence through merchandising techniques, such as prominent product placement and engaging in cross-merchandising strategies (Allimi *et al.*, 2020). Despite the challenges, the onion retail market in Kano demonstrates a marketing efficiency of 15.19%, suggesting that marketers are able to convert input costs into profits. However, there is room for improvement. Strengthening supply chain management, improving market coordination, and investing in transportation and storage infrastructure would significantly enhance market efficiency and reduce post-harvest losses.

2.0 Literature Review

Empirical research forms the backbone of agricultural marketing studies, providing practical insights into market structures, efficiency, and constraints. This section reviews key empirical works relevant to the retail marketing of onion in Nigeria and beyond, with emphasis on structure, conduct, performance, and marketing efficiency.

Sharabati *et al.*; (2024) conducted an empirical analysis of how digital marketing impacts firm performance, particularly in small and medium-sized enterprises (SMEs). Using panel data from 200 firms over five years, the study revealed that companies investing in digital marketing tools, such as search engine optimization (SEO) and social

media campaigns, experienced a 15–20% higher growth rate compared to those relying on traditional marketing. This underscores the critical role of digital marketing in enhancing brand visibility, customer engagement, and revenue generation. The study highlights the need for SMEs to prioritize digital transformation to remain competitive.

Narayanan and Nair (2019) analyzed the role of marketing strategies in improving the income of smallholder farmers. The study, which surveyed 1,000 farmers in India, compared the performance of traditional marketing channels with modern channels like cooperatives and ecommerce platforms. Results showed that farmers utilizing modern marketing channels earned 25% more income due to reduced exploitation by middlemen and better access to end markets. This finding underscores the importance of empowering farmers through infrastructure development, digital platforms, and policy reforms aimed at enhancing market access and transparency.

A study by Grewal *et al.*, (2020) explored the impact of onion channel marketing strategies on consumer behavior in the retail sector. The research, based on data from multiple retail chains, found that customers who engaged with brands through both online and offline channels exhibited higher loyalty and spent 30% more on average. This indicates that integrating digital and physical marketing channels creates a seamless shopping experience that

fosters trust and repeat purchases. The study also highlighted the need for businesses to leverage data analytics to tailor marketing efforts across channels effectively.

3.0 Methodology

Primary data were used for this study. The data were collected with the aid of structured A questionnaire for the selected marketers. The data collected

include the socioeconomic characteristics of the sampled marketers such as age, level of education, marital status, experience in onion marketing, their market structure and conduct such as entry and exit condition, relative number of buyers and sellers, level of profitability, marketing efficiency, and constraints militating against onion marketing.

4.0 Results and Discussions

Table 2: Quantitative Socioeconomic Characteristics of Onion Retailers.

Variables	Category	Frequency	Percentage (%)	Mean
Age	23-32	3	1.7	44.35
	33-42	60	34.7	
	43-52	77	43.1	
	53-62	32	18.2	
	63-72	4	2.3	
	Total	176	100	
	Min 23	Max 68	SD 7.793	
Household Size	1-6	89	50.6	7..3
	7-12	72	40.9	
	13-18	12	6.8	
	19-24	2	1.13	
	25-30	1	0.57	
	Total	176	100	
	Min 1	Max 29	SD 4.112	
Marketing Experience	5-13	69	39.20	17.64
	14-22	77	43.75	
	32-40	9	5.11	
	41-49	2	1.14	
	Total	176	100	
	Min 5	Max 45	SD 7.62	

Source: Field Survey, 2023.

The result presented in Table 1 shows that majority of onion retailers fall within the age range of 43-52 years (43.1%), with a mean age of 44.35 years, indicating a mature workforce likely possessing substantial knowledge and skills. Most respondents (43.75%) also have 14-22 years of marketing experience, averaging 17.64 years. This combination suggests that experienced marketers can navigate market challenges yang effectively. However, studies by Mbah *et. al.*; (2022) and Suleiman *et. al.*; (2023) indicate that younger marketers, who are more prevalent in agricultural sectors, tend to embrace modern marketing strategies and may have stronger social networks. This highlights the need for an older marketer to enhance their adaptability to new market trends and technologies. The data indicates that 50.6% of respondents belong to households with 16 members, the 7- have 7-12 members, with an average household size of 7.7. This suggests that many marketers support moderate number of dependents, influencing

their income needs and spending behavior. Muhammad *et al.*, (2021) found that larger household sizes negatively affect economic activities and decision-making processes. Policymakers could develop financial support or micro credit schemes tailored to onion retailers, particularly considering their household dynamics, which would enhance purchasing power and business resilience. The data indicates that 50.6% of respondents belong to households with 16 members, the 7- have 7-12 members, with an average household size of 7.7. This suggests that many marketers support moderate number of dependents, influencing their income needs and spending behavior. Muhammad *et al.*, (2021) found that larger household sizes negatively affect economic activities and decision-making processes. Policymakers could develop financial support or micro credit schemes tailored to onion retailers, particularly considering their household dynamics, which would enhance purchasing power and business resilience.

Table 2: Qualitative Socioeconomic Characteristics of Onion Marketers

Variables	Category	Frequency	Percentage (%)
Gender	Male	156	88.6
	Female	20	11.4
	Total	176	100
Level of Education	Primary	32	18.2
	Secondary	60	34.1
	Quranic	79	44.9
	Adult	3	1.7
	Tertiary	2	1.1
	Total	176	100
	Marital Status	Married	166
Single		3	1.7
Divorced		3	1.7
Widow		3	1.7
Total		176	100
Membership	Member	33	18.8
	Non-member	143	81.2
	Total	176	100

Source: Field Survey, 2023.

The result as presented in Table 2 shows a significant gender imbalance, with males comprising 88.6% of onion marketers, while females account for only 11.4%. This disparity suggests that onion marketing is predominantly male-dominated in the region. Adamu *et al.* (2022) and Suleiman *et al.* (2023) highlight that the gender inequalities in the agricultural sectors can limit women's access to resources and decision-making power, affecting overall productivity and economic development. This implies that targeted interventions to empower female marketers could enhance market efficiency and diversification. The educational background of the onion

marketers is diverse, with the majority having Quranic education (44.9%) or secondary education (34.1%). Those with primary education account for 18.2%, while only 1.1% attained tertiary education. Additionally, a small fraction (1.7%) has adult education. According to Mbah *et al.* (2022), higher educational levels correlate with better market performance due to enhanced knowledge and skills. Implication: There is a need for educational programmes aimed at improving marketing practices among onion retailers, particularly for those with lower formal education. The overwhelmingly high percentage of onion marketers (94.9%) are married, the small

proportions of single (1.7%), divorced (1.7%), and widowed (1.7%). Aliyu *et al.* (2023) indicate that married individuals often have more stable economic behavior and are more likely to invest in their businesses due to increased family obligations. Marital status could also influence household size and labor availability, as married marketers may rely

on family members for additional assistance in marketing activities.

Market Structure and Conduct

Market characteristics such as the source of the onion, market size and volume, price of a commodity traded, and the number of market participants were determined. T

Table 3: Description of Market Structure for Onion (n=176)

Variables	Category	Frequency	Percentage (%)
Number of Sellers	Many	144	81.82
	Few	28	15.91
	Single	4	2.27
Number of Buyers	Wholesalers	27	15.34
	Middlemen	28	15.91
	Merchant	71	40.34
	Consumers	50	28.41
Entry/Exit Condition	Ease of Entry	117	66.48
	Difficult	59	33.52
Source of Onion	Wholesaler	51	28.98
	Farmers	90	51.14
	Women	28	15.91
	Local Traders	7	3.98
Price Setting	Marketers	126	71.59
	Market Demand	50	28.41
Information Source	Co-traders	124	69.7
	Co-operatives	54	30.3
	Radio	139	70.3
	Radio and Co-traders	144	80.9

Source: Field Survey, 2023.

Multiple responses existed; hence >100

The result presented in Table 3 shows that, majority (81.82%) of respondents indicated that there are many sellers in the market. This high level of seller competition suggests a relatively open market structure, which could drive prices down and benefit consumers. Recent studies by Abdullahi *et al.* (2023) and Olanrewaju *et al.* (2022) indicate that high competition can strain smallholder farmers' incomes, emphasizing the need for effective marketing strategies to differentiate their products. Implication: Marketers should explore niche markets or value-added products to remain competitive. The distribution of buyers shows a diverse set of participants, with merchants constituting the largest group (40.34%). This diversity can enhance market stability, but it also indicates that marketers are reliant on merchants, which could limit their bargaining power. Bello *et al.* (2023) highlighted that dependence on a limited number of buyers can affect prices and market access. Implication: Encouraging direct sales to consumers could empower marketers and improve their profit margins. The ease of entry into the market is indicated by 66.48% of respondents, suggesting a relatively accessible market for new sellers. This accessibility is critical for fostering competition and innovation. However, studies by Ndukwe *et al.* (2023) emphasize that while ease of entry is beneficial, it can also lead to market saturation. Implication: Regulatory frameworks that support new entrants while ensuring market sustainability are essential.

A significant number of marketers rely on co-traders (69.7%) and radio (70.3%) for market information. This indicates a dependence on informal networks for information dissemination. Studies by Ijagboe *et al.* (2023) emphasize that access to timely and accurate market information is crucial for effective decision-making in agricultural marketing. Implication: Improving access to formal information channels could enhance market efficiency and decision-making.

Onion Marketing Chain

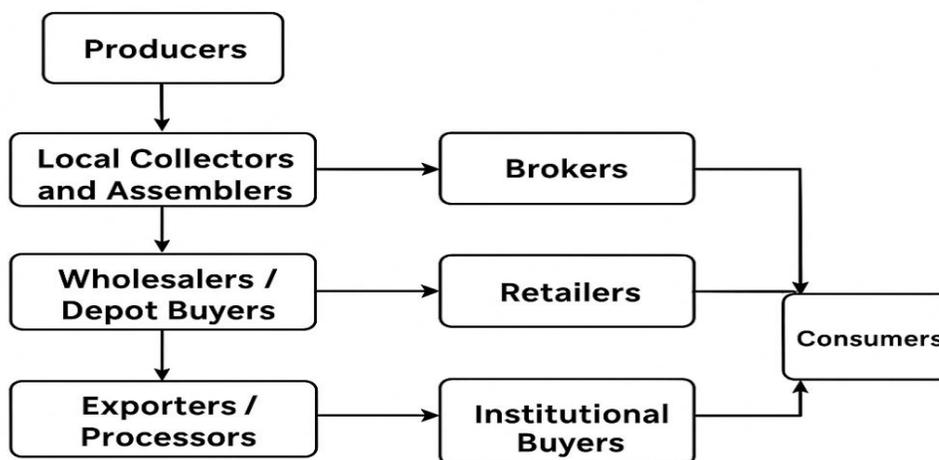
This study illustrated a multi-level flow of goods, showing both direct and indirect routes for example, some farmers may sell directly to wholesalers or institutional buyers when possible. The onion marketing chain in Kano State shows how onions move from the producers (farmers) to the final consumers through several market intermediaries.

Producers: Farmers grow onions and sell them mainly to local collectors or assemblers. **Local Collectors and Assemblers:** They buy in bulk from farmers, grade, and bag the onions, then sell to wholesalers or brokers. **Wholesalers / Depot Buyers:** They purchase large quantities, store, and distribute to retailers, processors, or exporters. **Brokers:** Act as intermediaries linking buyers and sellers, ensuring smooth transactions and price negotiations. **Retailers:** Buy from wholesalers and sell in smaller quantities directly to consumers in local markets. **Exporters / Processors:** Some onions are processed or exported to other

states or countries. Institutional Buyers: These include hotels, restaurants, and food industries that buy directly from processors or wholesalers. Consumers: The final

destination where onions are purchased for consumption or processing.

STRUCTURE OF MARKETING CHAIN OF ONION IN KANO STATE



Marketing margin

Table 4: Marketing Margin of onion/120kg brown bag

Variables	Price (₦)	Percentage (%)
Average Selling Price(₦)	51,290.06	
Marketing Cost (₦)		
Initial Purchase	41,008.55	92.2583
Transportation Cost	1,740.53	3.9157
Labour Cost	800.61	1.8012
Storage Cost	700.00	1.5748
Marketing Charges/Tax	200.00	0.4499
Total Marketing Cost	44,449.69	100
Other Operating Expenses	3,441.14	
Marketing Margin	6,840.37	
Marketing Efficiency	115.4%	
Gross Ratio	0.87	
Operating Ratio	8.00	
Return on Capital Invested	1.15	

Source: Field Survey 2023

The results presented in Table 4 shows the marketing margin for a 120kg brown bag of onions, highlighting key cost components and profitability indicators. The average selling price of a bag is ₦51,290.06, while the total marketing cost stands at ₦44,449.69, indicating the various expenses incurred in the marketing process. Notably, the purchase price alone constitutes (92.26%) of the total marketing cost, underscoring the significant capital requirement for procurement. Other marketing-related expenses include transportation (3.92%), labour (1.80%), storage (1.57%), and marketing charges/tax (0.45%). Additionally, the total operating expenses amount to ₦3,441.14, further impacting the overall cost structure. The marketing margin, calculated as the difference between the selling price and total marketing cost, is ₦6,840.37, reflecting the profit before the deduction of additional operating expenses. Marketing Efficiency was found to be 115.4%. The gross ratio, recorded at 0.87 (87%), indicates that a significant portion of the revenue is absorbed by costs, leaving only 13% as profit. Moreover, the operating ratio of 8.00 (800%) suggests relatively high operational

expenses, which could be a major constraint to profitability. Nevertheless, the return on capital invested (115%) demonstrates that onion marketing remains a viable economic activity, as every ₦1 invested yields a return of ₦1.15. Furthermore, the study highlights that while onion marketing is profitable (115% return on capital invested), the high operating expenses pose a challenge. Traders could improve their financial outcomes by adopting cost-effective strategies such as bulk purchasing, cooperative marketing, and direct farmer-to-market linkages to minimize intermediary costs. Additionally, access to affordable credit facilities could help traders expand their operations, leading to economies of scale and improved profitability. The findings of this study have several implications for small-scale onion traders, policymakers, and agricultural stakeholders. Firstly, the high purchase cost (92.26% of total marketing cost) suggests that onion traders operate under thin profit margins, making them highly vulnerable to fluctuations in market prices. Any sudden increase in procurement costs could significantly reduce profitability, potentially leading to business instability.

Sold (Bags)	Sellers	Share (%)		
1-10	61	34.66	1201.32	1201.32
11-20	29	16.48	271.59	1472.91
21-30	16	9.09	82.63	1555.54

No. of Market Square

Source: Field Survey, 2023.

The Herfindahl-Hirschman Index (HHI) provides insight into the market concentration of onion sellers within the studied area. The computed HHI of 2,127.59 indicates a moderately concentrated market, as values above 1,500 suggest higher levels of concentration, while those below indicate a more competitive environment. This level of concentration may result in reduced competition, potentially leading to price manipulation and limiting the choices available to consumers. The implications of a moderately concentrated market for onion sellers are multifaceted. A high HHI suggests that a few sellers dominate the market, which can impact pricing strategies and market access for new entrants. This concentration may discourage competition, leading to inefficiencies in pricing and distribution, ultimately affecting consumers'

access to affordable onions. Moreover, such market dynamics may hinder the growth and sustainability of smaller producers who struggle to compete against larger entities. Recent studies corroborate the findings regarding market concentration in agricultural sectors. For instance, a study by Adeoti et al. (2023) highlighted similar trends in the tomato market, where concentrated market structures resulted in limited price competition and higher prices for consumers. Similarly, Olaniyan et al. (2022) found that high market concentration in the maize sector restricted market access for smallholder farmers, echoing the challenges observed in the onion market.

5.0 Conclusion

The study concludes that onion retail marketing in Kano State is profitable and

contributes significantly to income generation and employment. However, infrastructural, financial, and organizational challenges continue to limit efficiency. Addressing these constraints will enhance profitability and ensure sustainable market growth.

6.0 Recommendations

- i. Provide affordable and accessible credit facilities for onion retailers to expand operations.
- ii. Invest in modern storage infrastructure to minimize post-harvest losses and maintain product quality.
- iii. Improve transportation networks to reduce costs and improve market access.
- iv. Encourage the formation of onion marketing cooperatives to enhance bargaining power and market coordination.
- v. Support regular training programs on improved marketing, financial management, and value addition.

References

- Abdullahi, A. M., Sulaiman, H., and Musa, H. (2023). Analysis of factors influencing the demand for (2022) Statistics of dry onions in Kano Metropolis, Kano State, Nigeria. *Academic Journal of Interdisciplinary Studies*, 9(2), 5-12.
- Adeeti et. al.; (2023). Net Income Analysis of Anion Producers in Zaria Local Government Area of Kaduna State Nigeria, Proceeding of 10th Annual National Conference of Nigeria Association of Agriculture Economics (NAAE), University of Abuja, Abuja, Nigeria. Cheve your figured them ino PP 41-48.
- Aliyu. (2023). Essential of Agricultural Economics Centra for Agricultural Development (CERD), Ibadan, Nigeria. Pp 48-50.
- Adamu et. Al.; (2023). *The Management of Insurance Companies Towards the Development of Business Enterprises (A Case Study Of Royal Exchange Assurance Nig. Plc. Kano State)*. https://pub.abuad.edu.ng/open_access_research_projects_of_universities_-_batch_2/business%20administration/the_management_of_insurance_companies_towards_the_development_of_business_enterprises.pdf

- Amans (2022). Mobile phones and economic development in Africa. *Journal of Economic Perspectives*.
- Akpan E.O, Ali A, M.A. Niazi and N. Akmal. (2014) Comparative analysis of count and return of Potato, Onion and Tomato in Balouchistan. *Sarhad J. Agric.* 21(4):785-791
- Allimi, H., Maiwada, A., Aigbavboa, M., Azimi, D., and Barau, B. (2020). Marketing Dynamics of Onion at Yan Albasa Market, Kura Local Government Area of Kano State. *Official*
- Bello, M., and Yakubu, A. (2023). 53-72 ISSN: 1595-465X (Print) 2695-236X (Online) examining the economic consequences of post-harvest losses in smallholder onion farming in kano state, nigeria. *Journal of Agriculture and Environment*, 19(1), 2023.
- FAOSTAT (2012). The state of agricultural commodity markets 2020. Food and Agriculture Organization of the United Nations.
- Grewal et. al.; (2020). Assessment of Onion Market Linkage between Onion Producers and Marketers in Kano State, Nigeria. *European Journal of Agriculture and Food Sciences*, 1(3), 1-10.
- Ibrahim, M. (2018). *Economic Analysis of Onion (Allium cepa) Marketing in Kano and Kebbi States, Nigeria*.
- Ibrahim, M. (2024). Analysis of marketing performance of onion (<i>Allium cepa</i>) among participants in Kaduna and Katsina States, Nigeria. *Science World Journal*, 18(4), 641– 652. <https://doi.org/10.4314/swj.v18i4.17>
- Ijagboe et. al.; (2023). Markets and Price Monitoring: A Training Material for Government Counterparts as Part of the National Capacity-Building Programme. Accessed on 28/06/2018.
- Kulkarni, BS, SM Patil and VA Ramchandra, 2012. Growth trends in the area, production, and export of onion from India- An economic analysis. *Int J*, 5:159-163.
- Mbeh et. al.; (2023). The effect of distribution channels' Strategies and types on consumers' buying behavior of convenience products. *MSA-Management Sciences Journal*. 2. 2023. 10.21608/msamsj.2023.201931.1011.
- Muhammad, W., Abdullah, W., Nur, W., Aznie, R., Zainudin, B., Binti, S., Hassan, M., Haat, C., Muhammad, H., Zainuddin, W., and Ismail, S. (2021). The Impact of Microfinance on Households' Socioeconomic Performance: A Proposed Mediation Model. *Journal of Asian Finance*, 8(3),

- 821-0832.
<https://doi.org/10.13106/jafeb.2021.vol8.no3.0821>
- Narayanan, S., and Nair, A. G. (2019). *Impact of modern marketing channels on income of smallholder farmers in India*. *Agricultural Economics Research Review*, 32(1), 25–34.
- Ndukwu, C. N., Okafor, U. E., and Eze, J. E. (2022). Cost Management Strategies and Profitability of Vegetable Marketing in Nigeria: A Case Study of Selected States in the Northern Region. *African Journal of Agribusiness Studies*, 10(1), 12-26.
- Opara G.O (2013). Implications of middlemen in the supply chain of agricultural products. *Journal of Agriculture and Social Research (JASR)*, 10(2). <https://doi.org/10.4314/jasr.v10i2.67575>
- Olaniyan *et. al.*; (2022) Introduction to Agricultural marketing and Pro Prices: Principles and Application. 3d Edition Living Books Series G. U. Publishers, Abuja, Nigeria.
- Sharabati, Abdel-Aziz and Ali, Ahmed and Allahham, Mahmoud and Hussein, Alhareth and Alheet, Ahmad and Mohammad, Abdelaziz. (2024). The Impact of Digital Marketing on the Performance of SMEs: An Analytical Study in Light of Modern Digital Transformations. *Sustainability*. 16. 8667. [10.3390/su16198667](https://doi.org/10.3390/su16198667).
- Suleiman *et. al.*; (2023). Profitability Analysis of Onion Marketing in Northern Nigeria: Evidence from Smallholder Traders. *Journal of Agricultural Economics and Rural Development*, 15(2), 45-58.
- World Bank (WB), (2018). Value Chain Analysis of Onion, International Food and Agri-Business Management Review. *Journal of Agricultural Science*; 6(10):1916-9752