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Effect of Post– Covid – 19 Era on the Relationship between Price and Consumption of Rice in Idah, Kogi State, Nigeria

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Abstract

In December 2019, officials in Wuhan city, China, reported the existence of a new disease caused by a novel coronavirus. This disease, named SARS-CoV-2 and causing the COVID-19 pandemic, was subsequently identified as having affected some people in China as early as the beginning of December 2019. In Nigeria, the pandemic has caused disruptions in the rice value-chain system, leading to a rice crisis. This has put at risk not only the livelihoods of those involved in the rice value chain but also the nutritional security of the country. The research adopts descriptive research design, data were collected through the use of structured questionnaires which were administered to target respondents, data was analysed frequency distribution table and simple percentages and hypotheses tested using chi-square statistical test. From the test of hypotheses, it was discovered that people living in Idah are significantly influenced by price of rice in their buying decisions, from the findings the respondents find life difficult to survive during the covid – 19. It was also discovered that price helps to increase the volume of sales. It was concluded that the government should plan their budget accordingly. The price should be giving much attention in the national budget to increase the profit margin of firms. The research recommends that the government should improve in its sensitization to the citizens of Idah after the covid – 19, price and rice consumption in other to improve food security in Nigeria.

Keywords: *Covid -19, Rice, Price, Consumption, Pandemic*

Introduction

The first cases of COVID-19, a disease caused by the novel coronavirus SARS-CoV-2, were reported by officials in Wuhan, China in December 2019. Subsequent investigations by Chinese authorities have identified human cases with symptoms onset in early December 2019. While some of the earliest known cases had a connection to a wholesale food market in Wuhan, not all cases were linked to it. Most of the initial patients were either vendors, employees, or frequent visitors of the market (WHO,2020).

Environmental samples taken from a market in Wuhan city in December 2019 have tested positive for SARS-COV-2, indicating that it might have been the source of the outbreak or played a role in its initial amplification. The market was shut down on January 1st, 2020. On March 11th, 2020, the World Health Organization declared COVID-19 a global pandemic (Acho et al, 2021, Suliman, et al, 2020).

From 31 December 2019 to 8 August 2020, there have been 19,680,042 reported cases of COVID-19 globally, resulting in 727,777 deaths. Sub-Saharan Africa has seen 992,710 cases. The first confirmed case in Nigeria was on 27 February 2020 when an Italian citizen in Lagos tested positive. The five countries with the most cases as of 8 August 2020 are South Africa (553,188), Egypt (95,314), Nigeria (46,140), Ghana (41,003), and Algeria (34,693). Unfortunately, the African continent is facing food security challenges in addition to the pandemic (Agbionu et al, 2021).

In the Horn of Africa, locust swarms, regional insecurity and conflict, and climate-change-related drought and flooding are causing immense damage to crops and the livelihoods of millions of smallholder farmers across the continent. Additionally, the COVID-19 pandemic is potentially hampering both short-term production and distribution. As the pandemic is widespread, it is projected to have catastrophic effects on the global economy. In April 2020, the International Monetary Fund (IMF) estimated that the world economy would experience a sharp 3% contraction, with the economy of sub-Saharan Africa contracting by 1.60% in 2020 (Mohammed et al, 2020). Furthermore, the Economic Commission for Africa (ECA) has projected that the COVID-19 pandemic could lead to a contraction of up to 2.60% in economic activity across Africa. This contraction could have negative impacts on the employment rate, and is expected to significantly affect four businesses in Africa. Similarly, the African Development Bank (ADB) has predicted that the continent's economy could contract by 3.40%.

In Nigeria, the pandemic was already precipitated rice crises by disrupting rice value- chain system, thereby posing a great threat to actors of rice value-chain sustain livelihood as well as national food and nutritional security. The Nigerian government has taken early coordinated measures to minimize the impact of the lockdown on the agricultural sector. Strategies have been developed to facilitate the free movement of rice seedlings and agricultural inputs. Although the agricultural value chain is exempted from the lockdown, there are limits on the mobility of farmhands, which has led to labour shortages for the rice sector. The rice industry is highly labour intensive, with peak seasonal labour demand, and the shortage of labour is affecting production, harvesting and distribution. This shortage of labour is causing production losses and resulting in shortages in the market. In Nigeria, sourcing seasonal and harvesting labour for rice is always a challenge, and the current situation has added to the difficulty.

Therefore, rice (oryza spp) which is the second – largest most consumed cereal (after wheat) shapes the lives of millions of households globally. More than half of the world's population relies on rice for 80% of their daily calorie intake. In Nigeria, rice has become a staple food consumed by households of all socio-economic classes, regardless of their financial status. The increase in rice consumption over the years can be attributed to various factors, including rising population growth, income levels, and ease of preparation and storage. Unfortunately, rice farmers in Nigeria are facing multiple challenges, such as the negative impact of climate change and greenhouse gas emissions. The COVID-19 pandemic has further exacerbated these challenges and put rice farmers' livelihoods at risk. Additionally, the high demand for rice in sub-Saharan Africa, particularly in Nigeria, exceeds the supply, leading to a rice deficit. While the Nigerian government has prioritized the diversification of the economy by encouraging rice production across the country, rice farmers still face significant risks, such as price volatility, rising debts, poor government policies, and the present challenges resulting from the COVID-19 pandemic.

The farmers in North Central Nigeria are greatly affected by the COVID-19 pandemic, particularly in relation to rice production, which is a major source of livelihood for most of the inhabitants. Rice is highly sensitive to changes in the climate and is susceptible to seasonal shocks, greenhouse gases, and other climate vagaries. The pandemic has already impacted the livelihoods of rural communities in the region, which rely heavily on rice production, making them more vulnerable. Climate change hazards such as increasing variability in weather patterns, greenhouse gases, erratic rainfall, rising incidence of floods and soil erosion, and declining agricultural yields are prevalent in the region. It is essential to increase rice production/yields to overcome these challenges, especially now that farmers face a new threat in the form of the COVID-19 pandemic. Farmers must respond urgently to this new threat by adopting measures that can improve their yield. However, there is a lack of

empirical studies that document the effect of the pandemic on rice yield, making it difficult for the government and interest groups to determine measures that can mitigate its negative impact on rice production (Esiobu, 2020). North Central Nigeria has an estimated land mass of 32,610 km^2 and a population of about 22,583,076 persons. On average, the poverty level in the North Central is about 43.00% which means that about 43.00% of North Central is about 43.00% which means that about 43.00% of North Central citizens are classified as very poor (Awoniyi, 2010, Chrisiaensen, 2009, Edo, 2003, Emokaro & Ayantoyinbo,2014).

The study seeks to determine the effect of post covid-19 pandemic era on the relationship between price and consumption of rice in Idah, meaning that the rate at which rice become important and the determine become high to the extent that other part of the country comes into the town buy rice even though the price is high and transport it to their states for the purpose of consumption due to the lockdown.

Rice become important and valuable to the rich because the poor cannot afford to buy rice again, they depend of cassava floor because most people had to move into other farming than rice but to the Ibaji local government are really into rice farming in kogi state at large. Due to the covid-19 pandemic life become hard for the poor both men, women, old and young in Idah local government to the extent that the rate of crime such as thief, kidnappers, raping and Nigeria at large.

Objectives of the study

1. To evaluate the increase in price of rice and consumption.
2. To evaluate the lack of funds to purchase rice during and after the pandemic.
3. To examine the scarcity of rice during and after the pandemic due to the lockdown.

Research proposition

The consumer buying behavior in Idah local government area is adversely affected resulting from the post covid-19 era.

Scope of the study

The scope of this research work is limited to Idah local government area to find out the effect of post covid-19 pandemic on the relationship between price and consumption of rice.

Research Hypotheses

These researchers have formulated some hypothetical statements which are stated in their null form to guide the research.

Hypothesis I
H_0: there is no significant relationship between price of rice and consumption
H_1: there is significant relationship between price of rice and consumption

Hypothesis II
H0: the lack of fund does not affect the purchase of rice after the pandemic
H1: the lack of fund affects the purchase of rice after the pandemic

Hypothesis III

H_0: there is no significant scarcity of rice after the pandemic due to lockdown
H_1: there is significant of scarcity of rice after the pandemic due to lockdown

Conceptual framework

Buying behavior is an observable behavioral consumer patterns which governs the prospects of consumer buying decision (Kollter and Keller 2006). More so Dewey (2007) sees buying behavior as an array of behavioral traits and choices made by a consumer prior in making a particular purchase. Mickenzie and Schargrodsky (2011) see buying as the decision process and acts of people involved in buying and using goods while consumers buying refer to the buying behavioral pattern of the consumer which was influenced by cultural, social, personal and psychological attributes. Consequently, an understanding of this factor is essential in propelling and suitable developing an ideal and meaningful customer behavioral pattern (Malik & Audu, 2023).

Research methodology

The study was conducted in Idah local government area of Kogi State, Nigeria. The researchers however, focused "Effect of post – covid-19 era on the relationship between price and consumption of rice. Questionnaires were administered to the respondents while some were also interviewed. The variable used for the questionnaires were personal data and research questions. These variables are expected to explore the salient areas that relate to the relationship between price and consumption or rice.

Population and sample size

This is the totality of cases that conform to some designated specifications. The specifications define the elements that belong to the target group and those that are to be excluded. Population refers to an entire or all people, objects, events, elements, all having at least, one characteristic in common. It defines the limits within which the research finding is acceptable. The researcher makes use of probability and non – probability sampling procedure. Probability samples are used for rice goods because they are distinguished by the fact that each population element has a known non – zero chance of being include in the sample for each element Convenience sampling was also made use of for some of the respondents that entered by accident, that is they just happen to be, where the information for the study was being collected.
A sample size of 100 was used for the research study. Out of the 100, 65 are family (i.e married ones) and the remaining 45 are single ones. The size of this sample is based on the general characteristics of the population and type of data required. The objective of the research, the knowledge of the population and the cost involved also make up the base for the sample size adopted.

The sample size is determined by using Yaro Yemen's formular,

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

Where
n = sample size
n = population
e = level of significance

$$n = \frac{100}{1+100\ (0.05)^2}$$

$$n = \frac{100}{1+100 \times 0.0025}$$

$$n = \frac{100}{1.25}$$

$$n = \underline{\underline{100}}$$

Data Collection Instrument
The researcher carried out this work with the aid of structural and undisguised questionnaires distributed to the citizens in Idah.

Data Presentation and Analysis
Data obtained for the study will be tabulated analyse using percentage for easy understanding, interpretation and clear presentation of data.

Method of hypothesis test
The researcher adopted chi – square statistics tool to analyse date. The entire hypothesis will be tested using chi – square.

The statistics formular are

$$X^2 = \frac{\sum(oj - ej)2}{ej}$$

X^2 = chi – square

$\sum$ = summation

Oj = observed frequency

Oj = expected frequency

Decision rule

When the computed value is greater than the critical value (table value) the null hypothesis will be rejected and the alternative hypothesis is accepted.

Data presentation

The analysis of data is all about information into meaningful parts for critical examination extraction of hidden information and making inferences about the relationship existing among variable.

Data analysis

This study is designed to find out the problem faced by the consumers reaction on price of rice Idah. One hundred and thirty-one (31) questionnaires were distributed to online users and online shopping goods out of which one hundred and (101) was retrieved, while the remaining thirty-one (31) was

un-retrieved, out of the one hundred and one that was retrieved, forty-five (45) were found invalid, the reason for the valid is that the respondents tick two answers in one question.

This means that the respondent's rate is large enough to constitute a good sample

Table 1: what is your sex?

Option	**Frequency**	**Percentage**
Male	30	55
Female	25	45
Total	55	100

Source: Field survey 2024

From the above table, it can be seen that male constitute majority fo the respondents (55%) while the female has (45%) being respondents

Table 2 to what age bracket do you belong?

Option	**Frequency**	**Percentage**
Below 20	20	37
21-30	15	27
31-40	15	27
41 and above	5	9
Total 2	55	100

Source: Field survey, 2024

The above table shows that 37% of the respondents were below 20 years 27% of the respondents were 21-30 years 27% of the respondents were 31-40 years and 9% of the respondents were above 41 years.

Table 3 what is your marital status

Option	**Frequency**	**Percentage**
Single	15	27
Married	30	55
Devoiced	5	9
Widow	5	9
Total	55	100

Source: Field survey, 2024

The above table shows that 27% of the respondents were single, 55% of the respondents were married, 9% of the respondents were devoiced and 9% of the respondents were widow

Table 4 what is your educational qualification?

Option	Frequency	Percentage
WAEC/GCE 'O level	5	9
HEO/OND	30	55
HES/HND/BSC	15	27
MSC/MBA, MA	5	9
Total	55	100

Source: Field Survey, 2024

The above table shows that 9% of the respondents were WAEC/GCE holder, 55% of the respondents were HEC/OND, 27% of the respondents were HES/HND/BSC and 9% of the respondents were MSC/MBA, MA.

Table 5 are people living in Idah significantly influenced by the price of rice during pandemic in their buying decision?

Option	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: Field survey, 2024

The table shows that 73% of the respondents said yes while the remaining 27% of the respondents said no

Table 6 how quickly do you react to the covid-19 messages

Option	Frequency	Percentage
Immediately	30	55
Slowly	15	27
Not sure	10	18
Total	55	100

Source: Field survey, 2024

The above table shows that 55% of the respondents they react immediately 27% of the respondents react slowly than while the remaining 18% of the respondents are not sure whether to react or not.

Table 7 does the people of Idah really prepared or budget for the covid-19?

Options	Frequency	Percentage
Required	-	-
Exposure		
Available media	40	73
Available fund	10	18
Clients	5	9
Total	55	100

Source: Field survey, 2024

From the table above shows that 73% respondents said available media is used in determines the covid-`9 budget, 18% of the respondents said it is determined by the available fund while the remaining 9% respondents is determined by the clients.

Table 8 what are the various consumer characteristics to be considered for developing on the price of rice

Options	Frequency	Percentage
Demographic	-	
Variables		
Psychological	-	
Variable	-	100
All of the above	55	100
Total	55	

Source: Field survey, 2024

Table 9 would you say that your awareness of covid-19 pandemic is as result of advertising?

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: Field survey, 2024

The above table shows that 73% of the respondents said yes while the remaining 27% of the respondents

Table 10 does the farmer of rice carryout advertising?

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: Field survey, 2024

The above table shows that 73% of the respondents said yes while the remaining 27% of the respondents said no.

Table 11 does the people of the Idah have funds to purchase rice during the pandemic

Options	Frequency	Percentage
Yes	30	55
No	10	18
Not sure	-	-
Total	55	100

Source: Field survey, 2024.

From the above table based on the information gathered 55% of the respondents said yes 18% of the respondents said no while the not sure had not responded.

Table 12 does the rural populace have adequate access to rice advertisement during and after the pandemic?

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: Field survey, 2024

Table 13 which advertising media do people of Idah prefer during the covid-19 pandemic on rice.

Options	Frequency	Percentage
Television	20	36
Radio	15	27
Newspaper	10	18
Outdoor	-	-
All of the above	10	18
Total	55	100

Source: Field survey, 2024.

The above table show that 36% of the respondents said they prefer television 15% of the respondents said they prefer radio, 18% of respondents said they prefer newspaper, 18% of the respondents said they prefer all of the above while the outdoor had no respond.

Table 14 does rice been advertising on social media after the pandemic

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: Field survey, 2024.

Table 15 if yes, at what level?

Options	Frequency	Percentage
Very high	35	64
Fairly high	15	27
Low	5	9
Total	55	100

Source: Field survey, 2024

From the table above, the researcher found out that the advertising is penetrate the rural market still maintain that the level is very high 27% of the respondents said fairly high the remaining 9% of respondents said low.

Table 16 is there free access of road in Idah after the pandemic toward buying of rice?

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: field survey, 2024

The above table shows that 73% of the respondents said yes while the remaining 27% of the respondents said no.

Test of hypotheses

The researcher adopted chi-square statistical tool to analyse data. The entire hypothesis will be tested using chi-square.

The statistical formular are

$$X^2 = \frac{\sum(oj - ej)2}{ej}$$

where:

X^2 = chi-square

$\sum = summation$

oj = observed frequency

ej = expected frequency

Decision Rule

The test statistics (XY^2) and the critical value (X^2) shall be compared if the test statistics is greater than or equal to critical values, the null hypothesis will be rejected at 0.08 level significance. They can be shown statistically.

a) Reject null hypothesis if the test statistics is greater than or equal to critical value.
b) Accept null hypothesis and reject alternative hypothesis if the test statistics is less than or equal to critical value.
c) Degree of freedom is represented by df = K – I where "K" is the number of rows in a table, that will determine the number of expected frequency to be computed from the purpose of this research work.

Hypothesis one

H0: the rural populace does not have adequate access to the price of rice advertisement?
H1: the rural populaces have adequate access to the price of rice advertisement

Decision rule

Degree of freedom = n – 1
= 2 -1
= 1

In testing hypothesis 1, response to embark on table 12 were used

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: field survey, 2024

Option	Fo	Fe	Fo-fe	$(fo-fe)^2$	$\frac{(fo-fe)^2}{E}$
Yes	40	27.5	27.5	756.25	27.25
No	15	27.5	27.5	756.25	27.25
Total	55	-	-	-	54.5

Since the computed value 55.00 is greater than the table value 3.841 at 0.05 significant level, we then reject the null hypothesis and accept alternative which stated that the rural populaces have adequate access to the price of rice advertisement

Hypothesis two

H0: the people of Idah does not enjoy the lockdown toward the price of rice
H1: the people of Idah enjoy the lockdown toward the price of rice

Decision rule

Degree of freedom = n – 1
= 2- 1
= 1

In testing hypothesis 2, response to embark on table 14 were used

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: field survey, 2024

Option	Fo	Fe	Fo-fe	$(fo-fe)^2$	$\frac{(fo-fe)^2}{E}$
Yes	40	27.5	27.5	756.25	27.25
No	15	27.5	- 27.5	756.25	27.25
Total	55	-	-	-	54.5

Since the computed value 55.00 is greater than the table value 3.841 at 0.05 significant level, we then reject the null hypothesis and accept alternative which stated that the people of Idah enjoy the lockdown on the price of rice

Hypothesis three

H0: the rice farmer does not carry out advertising during the covid-19 pandemic
H1: the rice famer carryout advertising during the covid-19 pandemic

Decision rule

Degree of freedom = n – 1
= 2 -1
= 1

In testing hypothesis 3, response to embark on table 10 were used

Options	Frequency	Percentage
Yes	40	73
No	15	27
Total	55	100

Source: field survey, 2024

Option	Fo	Fe	Fo-fe	$(fo-fe)^2$	$\frac{(fo-fe)^2}{E}$
Yes	40	27.5	27.5	756.25	27.25
No	15	27.5	- 27.5	756.25	27.25
Total	55	-	-	-	54.5

Since the computed value 55.00 is greater than the table value 3.841 at 0.05 significant level, we then reject the null hypothesis and accept alternative which stated that the rice farmer carries out advertising.

Discussion of findings

Based on the result of the finding price has a very important role to play in influencing consumers on the price of rice in Idah after covid-19

a) It was discovered that people living in Idah are significantly influenced by price of rice in their buying decisions because in the finding it was found out that the respondents can make one habitual consumer of a particular product to brand as a result of rice become high.
b) It was discovered that price helps to increase the volume of sales, educate the audience, informing the audience and also persuading them to buy goods and services.
Suggestion for further research considering the complexity involved in the issue of effect of post – covid-19 era on the relationship between price and consumption or rice. The researchers suggest that this research be replicated in other areas so as to create an avenue for comparative view of the phenomenon "post covid-19 era.

Conclusion and Recommendations

From empirical evidence and research finding in this paper, the research concludes that it is obvious that consumers differ in varying degrees, ways and magnitude. Some see price of rice as a thing that can make them to buy a product of their satisfaction, others see it as what can occasionally make them to take purchase action. Thus, consumers agree that the price of rice become high after the pandemic there by make life difficult for them.

References

Acho, Y., Ifeoma, Jeraldine, E., Samson, Joel, A. (2021).Covid-19 Pandemic and the Nigerian Business Environment. International Journal of Accounting and Public Sector Management, Vol.1 (1),23-36. Retrieved from http://journals.rcmss.com/index.phb/ijapsm/article/view/71.

Agbionu, C.U., Audu, J.S., Ogbuenyi, V.C. (2021). Coronavirus Pandemic and Survival of Small and Medium Scale Enterprises in Nigeria. Journal of International Relations Security and Economic Studies, Vol. 1 (1), 55-70, http;//journals.rcmss.com/index.phb/jirses.

Awoyemi T.T (2010) "Explaining Rice Price Shocks in Nigeria: Implications for Policy Intervention" Journal of Economics and Rural Development Vol. 18 No 1.

Christiaensen L. (2009) Revisiting the global food architecture. Lessons from the 2008 Crisis. Rev. Bus. Econ.54, 345 -361. Search Google Scholar Dickey D.A and Fuller W.A (1979) Distribution of the Estimators for Autoregressive Time Series with unit Roots, Journal of the American Statistical Association.

Esiobu, Nnaemaka Success (2020). How Does COVID-19 Pandemic Affect Rice Yield? Lessons from, Southeast Nigeria. *Journal of Biology, Agriculture and Healthcare,* 10(15), 38-56.

Edo (2003) Eco – Systems development organization (Edo), Jos, Nigeria. Nigeria Case Study report on rice Production.

Emokaro C.O And Ayantoyinbo A.A. (2014) "Analysis Of market integration and Price Variation In rice marketing in Osun State Nigeria.

Kotler P. And Kotler K.L (2006) Marketing Management 12th edition. New Delhi Prentice hall Ltd.

Malik, A.A., Audu, S. (2023). Globalization as Catalyst for International Entrepreneurship. Journal of International Relations, Security and Economic Studies, vol 2 (3),https://sdbindex.com/sourcedid/00000434,google.scholar.

Moenzie, D and Schhargrodsky E. (2011) Buying less but Shopping More. The use of Non Market Labour during a crisis, Economic II (2).

Mohammed, A.S; Suliman, K; Abeer, K; Madia, B; Rabeea, S. (2020). Covid-19 infection origin, transmission, and characteristics of human coronavirus. Journal of Advanced Research, 24, 91-98. www.elsevier.com/locate/jere.

Suliman, K. Siddique, R; Muhammed, A.S; Ashaq, A; Jianbo, L. Qian, B; Nadia, B; Mengzhou, Z. (2020). Correction for Khan, Emergence of a novel Corona virus, Severe Acute Respiratory Syndrome, Coronavirus 2: Biological and Therapeutic Options. Journal of Clinical Microbiology. 58(8).

World Health Organization (2020). Press Conferences on novel Coronavirus Outbreak.