

Economic Analysis of Commercial Motorcycling as a Mean of Poverty Reduction in Osun State, South-west, Nigeria

***Hammed Adetola Adefeso¹, Olukemi Ajibike Aluko¹, Damilare Samuel Akinade¹**

¹Department of Local Government and Development Studies, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

Abstract

The study examines the extent to which the involvement in the operation of commercial motorcycling has reduced poverty in the selected Local Government Areas of Osun State. The study relies solely on primary source of data gathered through the administration of questionnaires and the conduct of structured interview. The study population (4,824) comprises motorcyclists (4533), Market Women (54), Farmers' Association (66) and Community Development Associations (181). The study adopts a multi-stage sampling procedure. In the first stage, all the 30 Local Government Areas in Osun State are stratified into 3 Senatorial Districts which are Osun West, Osun Central and Osun East. In the second stage, 1 rural Local Government Areas (LGAs) and 1 urban Local Government Area are purposefully chosen from the selected LGAs in each senatorial district making 3 rural LGAs and 3 urban LGAs. The study adopts sample size determination by Krejic and Morgan (1990) which yields 357 respondents for questionnaire administration. The proportionate sampling is then used to select 207 respondents from selected urban LGAs and 150 respondents from rural LGAs. The study gathers evidences from the fieldwork that the main causal factor for engaging in commercial motorcycling is the prevalence of wide spread of poverty and unemployment. Using logistic regression analysis, the study finds that through the operation of commercial motorcycling, motorcyclists live above poverty line of \$2.15 per day. The study finds that the commercial motorcyclists have been able to reduce poverty through the operation of motorcycling by meeting the three-square meal daily with their families; settlement of utility bills such as payment of electricity supply; payment of school fees of their pupils in that chronological order. The study however, finds that in an attempt for commercial motorcyclists to meet their personal daily needs of drinking alcohol like Beers, Whisky, *ogogoro*, *pelebe* and gin in their required quantities as determined by each motorcyclist increase the poverty level in Osun State. The study concludes that the operation of commercial motorcycling has reduced level of poverty among commercial motorcyclists in Osun State, Nigeria.

Keywords: Commercial motorcycling, Poverty reduction, Multi-stage sampling, Logistic regression, Osun State

1. Introduction

One of the daunting challenges of rapid urbanisation in third-world countries, particularly Nigeria, has been the festering poverty profile, which is both pervasive and severe. Eradication of poverty, which is the first agenda in the Sustainable Development Goals (SDGs) has been one of the most difficult obstacles to overcome (Al-Hasan et al., 2015). Even though poverty is most acutely experienced in developing economies (Dogan et al., 2022), it is a global issue that is receiving increased attention from governments all over the world (Zanky et al., 2023).

*Corresponding author

DOI <https://doi.org/10.6084/m9.figshare.24182547#132>



The issue of poverty is a significant obstacle that nations all over the world, particularly developing nations such as Nigeria, have been forced to face (Adeleke & Olomola, 2022). As a country that is rich in natural, human, and mineral resources, Nigeria continues to work toward alleviating the suffering caused by poverty, achieving sustainable economic growth, and advancing its overall level of development (Ogunjinmi, 2022). Despite the abundance of natural resources upon which the economy is built, the vast majority of the population lives below the poverty line (Al-Hasan et al., 2015). It is estimated that more than seventy percent (70%) of Nigeria's young people, graduates included, are either unemployed or working in jobs that do not adequately compensate them. The informal economic sector has seen an increase in the number of businesses started as a result of poverty and unemployment. One of the most difficult challenges that developing countries like Nigeria face is figuring out how to combat poverty; despite different policies and programmes put in place by every successful government to eradicate poverty, Nigeria is regarded as a home to the largest number of multidimensional poor in the world (Ekong, 2022) and this has become worsen following the subsidy removal on Petroleum Motor Spirit (PMS) in the year 2023.

Over the years, numerous initiatives aimed at reducing poverty have been carried out in Nigeria under a variety of administrations. There are many questions that come up, one of which is whether or not these programmes have been successful in reducing unemployment and poverty. Does a rise in the population help or hurt the growth of the economy? (Ogunjinmi, 2022). While the unchecked population is growing rapidly alongside poverty rate, the unmet demands in public transport systems in developing countries like Nigeria have given leverage to a variety of informal modes of transportation. These informal modes of transport are characterised by small vehicles, low performance services, mostly owner operated with low capital outlay, and self-regulated with easy market entry and exit jobs for operators who are deprived of other job opportunities. According to other works of literature on the topic, the decline of organised public transportation systems has recently led to the proliferation of unregulated and unconventional modes of public transportation, the most common of which is the use of motorcycles as a form of public transportation on most roads in Asia and Africa (Al-Hasan et al., 2015).

In order to ensure their continued existence, a large number of young people have begun engaging in a variety of economic activities, one of which is the commercial motorcycling business, more commonly known as "Okada." In this sense, the growing significance of Okada business as a source of commercial transportation will be perceived in terms of the operators increased economic agency. In recent years, for a variety of different reasons, commercial motorcycle riding has become increasingly common in Nigeria as there are over 20 million Okada riders, though 14 million of them are registered (NATOMORAS, 2022). In the State of Osun in particular, there is no reliable data on the total number of Okada riders as pilot survey of this study reveals increasing numbers of Okada riders on daily basis as number unregistered Okada riders are outnumbered the registered ones. The high rate of unemployment that exists within the country is a significant factor that contributed to the development. Many people were coerced into working in the industry because it was the most convenient way for them to keep their body and soul together. Aside from that, it is not normally an appealing way to earn a living, especially when one considers the obvious risks that are associated with the business (Abayomi, 2019).

Meanwhile the observation about the preponderance of commercial motorcyclists raises important posers about why many people, for economic survival reasons delved into the business of commercial motorcycling. To many, it is a scheme for alleviating poverty that is now unarguably ubiquitous in Nigeria, considering the employment challenges that have eaten deep into the fabric of Nigeria's economy. In other words, the increasing rate of commercial motorcycles is a clear pointer to an argument about the struggle of large number of people to live above economic hardship. Also, accompanying posers that stress the relevance of this study therefore are: has this business actually helped in addressing the poverty level generally in

Nigeria and particularly of the large number of commercial motorcyclists? has this informal transportation means been able to record positive impact on the economy? This study specifically focuses on the Osun State because operation of commercial motorcycling is the only survival mean to combat poverty as there is no known vibrant industry that absorbs unemployed youths.

There have been some studies conducted on commercial motorcycle transport taxi services; however, there is not enough of information reported about the underlying motive behind its operations, nor is there much information reported about the level of satisfaction that operators have with the services that it provides in Nigeria (Al-Hasan et al., 2015). Despite the efforts being made, the problem of youth unemployment has remained concerning, and the rate of poverty keeps climbing more and higher with time (Adeosun et al., 2022). Hence, this study is being carried out to evaluate the role of commercial motorcycling in alleviating poverty in Osun State and Nigeria at large. The rest of the paper is as follows: literature review is contained in section 2,

2. Literature Review

A considerable number of studies have emerged on motorcycle transport in Nigeria, with different perceptions and discoveries on the nature and operation of public motorcycling as well as the effects (negative and positive) this mode of transportation has had on the urban cities of Nigeria since its emergence.

One of these research efforts is Olubomehin (2012), which deployed historical approach to retrospectively investigate the evolution of motorcycle as commercial transportation mode for intra-city mobility in Nigeria, particularly its nature and complementary role in the overall transportation sector of the country. The conclusion of the paper uncovered that there are a number of factors that triggered the evolution of public motorcycle transport, some of which are “the collapse of public intra-city transport system” in the 1980s and 1990s and unavoidably increasing urbanisation. The paper attested that public motorcycling has made some positive contribution to Nigerian economy, and further added that there is need for a holistic investigation of the business of motorcycles in order to legalise and control the operation of the business for better impact.

Another is Afolabi and Gbadamosi's (2017) research, titled “Impact of Commercial Motorcycle Operation on Urban Mobility in Ogun State, Nigeria” wherein the analysis of the data gathered through the instrumentality of questionnaire revealed that respondents across all walks of life patronise commercial motorcycles mainly because of the “reduced waiting time” compared to the usual long queue people in urban areas experience trying to board taxis or buses on busy mornings. However, the researchers' suggestion is that provision of viable employment would help reduce the alarming rate of youth taking up motorcycling to make ends meet in Ogun State.

In the same vein, Solaja, Kalejaiye and Itsuokor (2013) underscored the challenges emanating from public motorcycling in Etsako West Local Government Area in Edo State, using the instrumentalities of questionnaire and interviews for data gathering. The findings added that ‘social stigmatization’, placed on motorcycle riders dimples their dignity of labour. Others challenges are insecurity, lack of operation kits, reckless riding, impatience, non-adherence to traffic rules, over speeding and incessant cum burdensome payment of levies. The researchers therefore recommended that recruitment of many well-trained law enforcement agents could curb such social and road menaces arising from the operation of motorcycle in Edo State. Besides, a policy that will insist on training for commercial motorcyclists, “license and registration of all commercial motorcyclists as well as regulation of motorcycles levy” might also lessen negative implications arising from the operation of Okada in Edo State.

Besides, Mbalisi and Nzokuru (2014) deployed an approach from adult education to re-orientate commercial motorcyclists, particularly in weighing the advantages inherent in the transport business with the numerous perils they encounter daily in order to show that such endeavor is seldom sustainable in the future.

The paper averred that adult education programmes would help the many youths involved in motorcycling get back on track into a more productive profession, and that this could be made possible via many of these programmes “designed for skills acquisition” (Mbalisi & Nzokuru, *ibid*: 20). The paper concluded government’s attention should be directed towards encouraging the various instrumentality of adult education skilled programmes for the motorcyclists, through funding of the programmes, provision of facilities and facilitating them.

Also, Ayodele and Babatunde (2015), through the use of questionnaire administered to health workers, carried out an analysis of casualties recorded from motorcycle crashes in the city of Ibadan and the challenges these incidences posed on the department of orthopedics of 11 randomly selected hospitals in the city. It is discovered that 2,477 accidents occurred in five years—a finding attesting the incessantly high motorbike accidents in the city. The findings also had it that fracture is the common injury suffered by the victims of motorbike crashes, followed by abrasions and lacerations. The respondents also affirmed that about four Okada accidents occurred in a month. The study suggested increasing awareness against risky road behaviours. Importantly, urgent establishment of a solely orthopedic hospitals were recommended as orthopedic facilities in many regular hospital are longer adequate to treat the influx of victims from Okada accidents.

Another study is Oluwaseyi, Edward, Eyinda, Okoko and Eno (2014) that evaluated motorcycle operation in Lokoja, the capital city of Kogi State, as the chief available option in many routes that taxies do not ply. The study analysed the data collated via questionnaire and field observation from 531 respondents, which included public motorcycle riders, personnel from the Federal Road Safety Commission, Commercial Motorcycle Association of Nigeria, located in Lokoja, and the commuters. The discoveries unearthed that lack of employment unbearably drove many into public motorcycling, and that the door-to-door service they render makes commuters even preferred public motorcycle as their mobility means. Given that commercial motorcycling is fraught with many challenges in Lokoja, the study recommended creation of employment opportunities for youth, rehabilitation of dilapidated roads and construction sole lanes motorcycle bike, introduction of tricycles and improvement of taxies/cabs to reduce the influx and patronage of motorcycles, and thereby reducing accident rate.

Al-Hasan, Momoh and Eboreime (2014) also examined motives for operation and the level of satisfaction that commercial motorcyclists received from their job in Auchi, Edo State. Analysing data collated from 135 respondents, the findings revealed that large number of riders fell on 21-30 years with secondary level of education. The study also disclosed motorcycling as the only sources of income for the majority (56%) of the riders, while few other only depended on it for income augmentation. The study further found that “the operator satisfaction based on the motive behind operation is statistically significant at 1%”. The findings equally corroborated other studies in asserting that commercial motorcycling is not sustainable or realistic in the future, given many economic, health, environmental and social factors that might propel riders to pull out of the job and find better job options. Therefore, as recommended by the study, the government should initiate some poverty alleviation programmes that will be more engaging to the poor urban youth, enough to make majority of them consider leaving motorcycling for a better future-guaranteed job.

The above studies profoundly dealt with the peculiarity of the motorcycle operation in their selected states given the varied transport situation of the state. However, a careful observation reveals that the studied cases are highly populated and urban cities, whose peculiarities are possibly at variance with what obtains in rural and semi-urban areas of any state. This study is apparently different from the above reviewed scholarly works because it intends to investigate the impact of commercial motorcycles on the rural socio-economy, using selected agrarian rural and urban areas in Osun State, where commercial vehicular operation is ineffective or inadequate.

3. Data and Methodology

The study relies sole on the primary source of data. These data are sorted out, edited and recoded where necessary entered into the computer via Epi Data Package and run for analysis through E-view. Data analysis was carried out using both descriptive and inferential statistics. Descriptive statistics included the tables, frequency distribution, percentages, and inferential statistics involved logistic regression. The logistic regression examined the relationship between the two categorical variables (indexes of commercial motorcycling and poverty rate). The test was carried out at 0.05 level of significance.

3.1 Population of the Study

The study population comprised of motorcyclists who are registered members of commercial motorcycling associations called ALCOMORAN and ANACOWA in the selected communities of operation. The selected communities covered 6 local government areas comprising of 3 Urban and 3 Rural areas in the State of Osun. The views of the registered motorcyclists are instrumental in understanding the economic/poverty status and challenges faced by commercial motorcyclists in their profession. Market Women participated because they have trading engagements with the commercial motorcyclists. Also, the Farmers' Association participated because they play a complementary role by conveying farm produce from farmlands to commercial centres. The CDAs participated because they represented the view of the community towards commercial motorcycling. Lastly, the study population was 4,824: comprising 4,533 registered motorcyclists, executive members of: Market Women (54), Farmers' Association (66) and Community Development Associations (CDA) (181). The target population considered all the commercial motorcycle terminals and/or locations of operation in each selected local government.

Table 1 Study Population

6 Selected Local Government Areas (LGAs)	Status	No of Registered Motorcyclists	MarketW omen	Farmer's Association	Community Development Areas (CDAs)	Study Population
1. Ifelodun	Urban	925	9	11	30	975
2. Odo otin	Rural	374	9	11	30	424
3. Ife Central	Urban	773	9	11	30	823
4. Atakumosa-West	Rural	507	9	11	30	557
5. Ede-south	Urban	1325	9	11	31	1376
6. Ayedaade	Rural	629	9	11	30	679
Total		4,533	54	66	181	4,834

3.2 Sampling Techniques and Sample Size

The study adopts a multi-stage sampling technique where at the first stage, all Local Government Areas (LGAs) in Osun State are stratified into three senatorial districts, i.e Osun West, Osun Central, Osun East. At the second stage, one (1) urban and one (1) rural local government areas were then purposefully selected across the 3 Senatorial District which yields three (3) rural and three (3) urban LGAs. Specifically, as shown in the Table 2, in Osun Central Senatorial District, Ifelodun LGA (urban) and Odo Otin LGA (rural) were chosen; in Osun East Senatorial District, Ife Central LGA (urban) and Atakumosa-west LGA (rural) were selected; and in Osun West Senatorial District, Ede-south LGA (urban) and Ayedaade LGA (Rural) were selected. Using Krejcie and Morgan's sample size determination, a sample size of 357 respondents for questionnaire administration from the 4,834 study population. At this stage, the sampling size of the urban LGAs is 192, while that of rural LGAs is 135. Breaking the sampling further, 64 respondents are sampled in each of the three (3) urban LGAs, while 45 respondents are sampled in each of the three (3) rural LGAs. This decision was informed by the fact that there were more registered and unregistered motorcycle operators in the urban LGAs than in the rural ones. These questionnaires were also distributed across major Motorcycle Terminal Areas five (5) in

urban and three (3) rural in the study areas. Five (5) and three (3) Motorcycle Terminal Areas are selected in both urban LGAs and rural LGAs because some terminals have more registered motorcyclists than the others. A total of 327 questionnaires were distributed. In addition, focused group discussion was conducted to elicit data from one (1) Community Development Area (CDA) from each selected LGA, two (2) farmers' association and two (2) women association were selected for the purpose of this study, totaling 30.

Table 2 Study Areas, Sample Size and Number of Questionnaire

Senatorial Districts	Sample LGAs	Sampled Motorcycle Terminals	Sample Size
Osun Central	Ifelodun (Urban)	1. Eko Ende Terminal 2. Monday Junction 3. Alamisi Terminal 4. Garage Terminal 5. Iragbiji road bus stop	64
	Odo otin (Rural)	1. Town Hall Junction 2. Five-day Market Junction 3. Okuku-Igbaye Junction	45
Osun East	Ife Central (Urban)	1. Lagere/Post Office 2. OAU Campus Gate 3. Mayfair 4. Modomo Junction 5. Sabo Terminal	64
	Atakumosa-west (Rural)	1. Atakumosa High School Junction 2. Oke-omi Junction 3. Oke-oja Junction	45
Osun West	Ede-south (Urban)	1. First Bank Junction 2. Ogberin Junction 3. Akala Junction 4. Agbanran Junction 5. Cottage Junction	64
	Ayedaade (Rural)	1. Oke Church Junction 2. Wakajaye Junction 3. Ajegunle Junction	45
Total			327

Source: Researchers' Compilation (2023)

3.3 Socio-Demographic Characteristics of Respondents

The socio-demographic attributes of the respondents are presented in this section. Such attributes include age, marital status, number of children, years of riding commercial motorcycle, LGA of operation and highest education attended. These stated bio-data are considered so as to enhance the reliability of the data generated for this study. Table 3 shows that out of 327 questionnaires, 319 are retrieved and this form the basis of the analysis. As shown in the table, the highest number of respondents fall within the age bracket (31-40) which accounts for 51% of the respondents, approximately 60% of the respondents have married and 38% have either 3 or 4 children while 54% has Secondary School Leaving Certificate. Also, 45% of respondents have been riding motorcycle for the past 4 to 6 years. The percentage of respondents across selected Local Government Areas (LGAs) are Atakumosa-West (14.68%), Ayedaade (13.84%), Ede-South (19.20%), Ifelodun (18.64), Ife-Central LGA (19.49), Odo-Otin (14.12).

4. Estimation Technique and empirical analysis

This section addresses the objective of this study, which aims at measuring the impact of commercial motorcycling on poverty reduction in Osun State. In an attempt to achieve this objective, participants are asked to respond to the questionnaires on the causal factors for involving in commercial motorcycling and its

corresponding impact on poverty reduction. In its analytic procedure, the recorded tapes are transcribed on behalf of those who can neither read nor write and compared with the note taken for validation.

Table 3 Socio-demographic Characteristic

Characteristics	Freq	Percentage
Age in years		
<18	8	2.3
18-20	25	7.1
21-30	96	27
31-40	181	51
41-50	30	8.5
Above 50	14	4
Total	354	100.0
Marital Status		
Single	97	27.4
Married	211	59.6
Separated/Divorced	38	10.7
Widowed	8	2.26
Total	354	100.0
Level of Education		
None	15	4.23
Primary School Certificate	89	25.14
Secondary School Education	190	53.67
Tertiary	55	15.53
No response	5	1.41
Total	354	100.0
Number of Children		
1-2	73	20.62
3-4	133	37.57
5 & Above	44	12.42
No response	104	29.37
Total	354	100
Years of Riding Commercial Motorcycle		
1-3 years	78	22.03
4 -6 years	158	44.63
Above 6 years	114	32.20
No response	4	1.12
Total	354	100
Selected LGA of Operation		
Atakumosa-West LGA (Osu)	52	14.68
Ayedaade LGA (Gbongan)	49	13.84
Ede-South LGA (Ede)	68	19.20
Ifelodun LGA (Ikirun)	66	18.64
Ife-Central LGA (Ife)	69	19.49
Odo-Otin LGA (Okuku)	50	14.12
Total	354	100

The assertion's values or responses are organized using a Likert scale of measurement, such as Strongly Agree, Agree, Disagree, and Strongly Disagree. The dependent variable, which is poverty reduction (y_i) is measure by the daily income of the motorcyclist. The study adopts the most recent international poverty line of \$1.25 per day. Therefore, if the daily income of motorcyclist from motorcycling is greater than or equal to \$1.25 then he is not suffering from poverty, otherwise he is suffering from poverty. In a more compact way, $y_i = 1$ if the daily income of motorcyclist $>$ or $=$ \$1.25 and $y_i = 0$ if otherwise. The dependent variable is structured in such a way that it assumes categorical data. The study therefore, employs Qualitative Response Model (QRM) for

the analysis. Specifically, logistic regression, which employs maximum likelihood ratio is employed to achieve the objective of this study. Logistic regression is specified in equation (1);

$$\log(y_i/1 - y_i) = \beta_0 + \beta_1x_{1i} + \beta_2x_{2i} + \beta_3x_{3i} + \beta_4x_{4i} + \beta_5x_{5i} + \beta_6x_{6i} + e_i \dots\dots\dots (1)$$

where:

- y_i = poverty reduction;
- x_{1i} = motorcycling is mean by which school fee of my pupils is paid;
- x_{2i} = commercial motorcycling enables motorcyclist ability to meet daily needs;
- x_{3i} = Through commercial motorcycling, three-square meal is guaranteed;
- x_{4i} = Commercial motorcycling enables motorcyclist to settle utility bills;
- x_{5i} = House rents of motorcyclist are paid through commercial motorcycling;
- x_{6i} = Landed properties are acquired through commercial motorcycling; and
- e_i = Error term.

Table 4 shows the result of logit analysis on the impact of commercial motorcycling on poverty reduction (y_i). From the analysis, the probability of obtaining the chi-square statistic given that the null hypothesis was true is given as Prob>chi2. This is the probability of obtaining chi-square statistic (50.09) in the analysis. The result shows that x_{1i} , x_{3i} and x_{4i} are statistically significant at 5% level with coefficients 1.0718, 2.4965, 1.6923 respectively and are identified to have positive effects on y_i (poverty reduction) with p-values of (0.024), (0.003), (0.031), which underline strong effectiveness. However, x_{2i} has a negative effect on y_i (poverty reduction). Contrary to the expectation, x_{5i} with co-efficient (-0.0194) has a negative impact, x_{6i} has positive impact with coefficient (0.41123) on poverty reduction. Both x_{5i} and x_{6i} are not statistically insignificant at all convectional level of significance and therefore, theoretically not different from zero.

Table 4 Estimating of commercial motorcycling on poverty reduction

y_i	Coef.	Std. Err.	Z	P> Z	[95% Conf. Interval]
x_1	1.071863	.4754344	2.25	0.024	.1400283 2.003697
x_2	-2.99926	1.203757	-2.49	0.013	-5.358581 -.639939
x_3	2.496573	.8495511	2.94	0.003	0.8314838 4.161663
x_4	1.692384	.7843215	2.16	0.031	0.1551419 3.229626
x_5	-1.947922	.9329765	-0.21	0.835	-2.023393 1.633808
x_6	.4112387	.4540114	0.91	0.365	-.4786074 1.301085
Constant	.73585	1.132987	0.65	0.516	-1.484764 2.956464

Source: Authors' Computation (2023)

5. Discussion of findings and conclusion

As noted during fieldwork, the causal factor for involving in commercial motorcycling, majority of the participants acknowledged that, poverty and unemployment, lack of pension payment as at when due to the retirees, transportation crisis are among the causal factors for involving in commercial motorcycling in Osun State. This finding would indeed, remain the reasons for involving in commercial motorcycling among developing countries or low income countries, as identified by (Gbadamosi & Afolabi, 2017), whose concern is to explain the prevalence of commercial motorcycling in the heat of transportation crisis and violence within the region; this statement is supplemented by (Mabogunje, 2001) which emphasized on the loss of jobs, privatisation of government enterprises, economic recessions and unfavourable government policies. Nevertheless, the participants acknowledged that many unemployed graduates engage in commercial motorcycling to support their financial capabilities. This finding was in consonant with what (Al-Hasan, Momoh & Eboreime, 2015; Garuba, 2006) claimed by saying majority of the poor, especially the youth and young adults, are found doing informal social and economic activities to survive and alleviate their poverty.

More so, according to Karema (2015) adds that the inability to provide adequate public transport systems resulted in rapid growth of non-conventional means of public transport through minibuses, cabs and commercial motorcycles.

On the impact of commercial motorcycling on poverty reduction, a unit increase in x_{1i} , x_{3i} and x_{4i} would increase poverty in Osun State by 1.0718, 2.4965 and 1.6923 respectively while a unit increase in x_{2i} would reduce poverty reduction in Osun State by -2.99926. The implication of this findings is that; an average commercial motorcyclist leaves above poverty line on daily basis but rank his daily demands. On daily basis, the commercial motorcyclist prefers to settle x_{3i} then x_{4i} and x_{1i} out of the income earned from commercial motorcycling in that chronological order. However, his daily income is grossly inadequate to settle x_{2i} . Results above show that there is a great impact of commercial motorcycling on poverty reduction in the study area, the operation of commercial motorcycling has improved the standard of living of many lives involved in this business. It has been a means of survival and job opportunity for the riders, mechanics, farmers whose farmlands are in the interior part of the town, market women and motorcycle spare parts sellers. This finding agreed with that of (Afolabi & Gbadamosi, 2017) who argued that both the transportation system of a country and its socio-economic development are intricately tied in such a way that it is a cause-effect relationship. More so, the effect of commercial motorcycling; has actually contributed to the economic growth of the country by the increase in domestic forms of transportation which generates revenue for the government. This finding agreed with that of Ighodaro (2009) in his study transport infrastructure and economic growth in Nigeria, relayed a practical analysis of the Nigerian experience regarding transportation activities.

The conclusion is drawn from the findings that commercial motorcycling plays a positive impact towards alleviating poverty not only for the riders alone, but for mechanics, spare part dealers, artisans, farmers and other class of the society in the selected local government areas of Osun State. The conclusion can also be drawn that, there are many reasons behind the involvement of people into this business, but it has proven to solve some of their problems. Though, there are certain challenges militating against this business, just like every other business, for example, increase in social vices such as kidnapping and accidents are two major threats placing the business for the wrong motive. But significantly, it could be concluded that, if some measures are put in place, the face of commercial motorcycling will change for better.

Funding Information

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Conflict

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1. Abayomi, A. (2019). Survival strategies of commercial motorcycle operators in Yaba Local Government Area of Lagos State, Nigeria. *European Journal of Social Sciences Studies* 4(1), 154-179.
2. Adeleke, O. K., & Olomola, P. A. (2022). An Empirical Investigation of Financial Inclusion, Poverty and Inequality in Nigeria. *Redeemer's University Journal of Management and Social Sciences*, 5(2), 1-18.
3. Adeosun, O. T., Bello, A. O., & Aruleba, T. J. (2022). Our Youths Are Not Lazy: Depreciating Unemployment through Sustainable Development Policies in Nigeria. *Journal of Good Governance and Sustainable Development in Africa*, 6(6), 57-67.
4. Adewumi, F. (2005). The microeconomic framework of poverty reduction strategy in Nigeria: Some considerations. In K. Fayemi & O. Igbuzor (Eds.), *Poverty eradication in Nigeria* (pp. 9–18). Lagos: Centre for Democracy and Dev (CDD).
5. Adeyemo, M.A. (1998). An appraisal of motorcycle as a commercial passenger transport mode in Port Harcourt metropolis. *Journal of Transport Studies*, 2(1), 77-89.

6. Afolabi, O.J. and Kolawole, T.G (2017). Impact of commercial motorcycle operation on urban mobility in Ogun State, Nigeria. *Logistics and Sustainable Transport*. Vol. 8(1): 62-71. doi: 10.1515/jlst-2017-0006.
7. Al-Hasan, A. Z., Momoh, S., & Eboreime, L. (2015). Urban poverty and informal motorcycle transport services in a Nigerian intermediate settlement: A synthesis of operative motives and satisfaction. *Urban, Planning and Transport Research*, 3(1), 1-18.
8. Al-Hasan, A.Z., Momoh, S. & Eboreime, L. (2015). Urban poverty and informal motorcycle transport services in a Nigerian intermediate settlement: a synthesis of operative motives and satisfaction, *Urban, Planning and Transport Research*, 3:1, 1-18, DOI: 10.1080/21650020.2014.978950
9. Alkire, S., & Santos, M. E. (2014). Measuring acute poverty in the developing world: Robustness and scope of the multidimensional poverty index. *World Development*, 59, 251-274.
10. Ari, I. R. D., Hariyani, S., & Waloejo, B. S. (2021). Spatial modelling of multidimensional poverty in rural area: Evidence from Malang Regency, Indonesia. *Journal of Socioeconomics and Development*, 4(2), 198-211.
11. Awwioro, G. O., Egwunyenga, A., Iyiola, S., Odibo, E., Onyije, F. M., Oyinbo, C. A., ... & Mgbere, O. (2022). Commercial motorcycle operators pose high risk for community transmission of coronavirus disease 2019 (COVID-19) in South-South Nigeria. *Scientific African*, 15, e01065, 1-12.
12. Ayodele, D.V and Babatunde, I.R. (2015). Trend analysis of commercial motorcycle (okada) transport causalities and challenges of orthopedic section of regular hospital in Ibadan, Nigeria. *International Journal of Economics, Commerce and Management*, United Kingdom. Vol. III (12): 548-563. <http://ijecm.co.uk/> ISSN 23480386

