

The Level of Compliance of Commercial Motorcyclists to Traffic Rules on Urban Roads in South Western Nigeria

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Abstract

The occurrence of traffic accidents involving commercial motorcyclists now characterizes urban transport in many developing countries and has become a major public concern. Yet the use of motorcycles as a means of urban transport continues to attract increasing patrons because of its flexibility and fastness in reaching less accessible parts of the cities of the third world countries. This paper examines the characteristics and the level of safety awareness of commercial motorcyclists in three major urban centres in South-Western Nigeria. Primary and secondary sources of data were used for this research. One hundred and twenty (120) well-structured questionnaires were administered on systematically selected commercial motorcyclists operating from major road junctions and motor parks in Ilesa, Iwo and Osogbo. Both descriptive and inferential statistics used in analyzing the data. The findings reveals that the "care free attitudes" of most commercial motorcyclists towards their own safety as well as their passengers is hinged on lack of adequate training and the value illegal possession of driving licenses by this category of urban transport operators. The paper advocates for policies to control, enforce and regulate the activities of commercial motorcyclists by relevant government security agencies such as the Federal Roads Safety Corps.

Keywords: Safety, Awareness, Accidents, Attitude and Motorcycle Operators

1. Introduction

Traffic accidents caused by commercial motorcyclists are common occurrence on many urban roads in Nigeria and elsewhere in the developing world. They have been known to be responsible for a large percentage of orthopedic patients in some urban hospitals (Ogunjumo, 1990; Gbadamosi, 2006). The general acceptance of motorcycles as a mode of passenger transport in Nigeria was as a result of two factors. One, the introduction of the Structural Adjustment Programme (SAP) in 1986 made the purchase of cars for use as taxis beyond the reach of many ordinary Nigerian taxi operators. Two, rapid growth and expansion of many urban centres in Nigeria following the spate of state creation in the 1980s and 1990s led to increased mobility of the urban population which in turn put pressure on exiting poor urban transport infrastructure and hence the need to adopt a relatively more flexible mode of transport in urban areas. Motorcycle which has been in use in other parts of the developing world especially in Asia as a commercial transport provided a readymade solution to the high rate of urban transportation demands. In recent times however, the frequent occurrence of traffic accidents caused by commercial motorcyclists in urban centres in Nigeria has led to a national debate on the suitability of this mode of transport in the urban space, particularly on the safety of the operators and their passengers. For example, despite the use of head helmets, the Lagos State Government and the authority of the Federal Capital Territory have banned the activities of commercial motorcyclists on some of their roads due to increased reports of traffic road accidents and day light robbery perpetrated by commercial motorcyclists. Thus, the aim of this paper is to examine the level and extent of compliance of commercial motorcyclists with traffic regulations in order to determine their safety awareness and subsequently reduce the occurrence of traffic accidents on urban roads in Nigeria. The paper is based on a study carried out in parts of southwestern Nigeria.

2. Theoretical Framework and Literature Review

Theoretically, the modal split model provides a useful explanation of travel behavior particularly with regard to choice of travel mode. According to the model, different modes of urban transport are available and open to trip makers. These include cars, buses, taxis, trains, walking and various types of mechanical and non-mechanical cycles. The choice of any of these modes by an urban commuter is influenced by such factors as trip length, trip type, trip purpose, socio-economic characteristics of the trip maker (income, age, automobile ownership, and residential density), route length, modal availability, modal affordability and modal comfortability (Ogunsanya, 1986; Okonko, 2000).

The choice of motorcycle as a popular mode of urban transportation in Nigeria can be attributed to its cheap cost of buying a new one as well as low cost of maintenance. Those who repair them are ubiquitous. Their spare parts are also common and easily moved around (Ogunjumo, 1990). Besides, motorcycles possess a number of unique features such as narrow width, small size, high power to weight ratio and intuitive steering which make them much more flexible to maneuver especially on rough urban roads than other motorized modes of transport. Lee (2007) has observed that motorcycles provide freedom in a traffic stream. In order to get to their destinations at a short possible time, their operators generally do not obey traffic rules. Commercial motorcyclists have little regards for other road users which often lead to traffic accidents on urban roads (Gbadamosi, 2006). A review of some of the previous studies on the operations of commercial motorcyclists in Nigeria has focused attention on its importance as an alternative means of transport for inter-rural and rural-urban travel in order to meet the travel demands of rural population (Oyesiku and Odufuwa, 2002; Adeniji, 1987), as well as the affordability, maintenance cost and willingness of the society to embrace the use of motorcycles for public transport compared to the commercial vehicles (Central Bank of Nigeria, 2006; Fasakin, 2000; 2001)

More importantly, the percentage of imported motorcycles (all vehicles) increased astronomically from 10.37% in 1999 to 47.82% in 2003 and again declined to 36.68% in 2004 (Central Bank of Nigeria, 2006). For instance, approximately \$164million was allocated to the importation of motorcycles and bicycles in 1999. This figure increased astronomically to \$849million in 2000. This implied that a huge sum of money was allocated for the importation of non-motorized modes of transports particularly motorcycles and bicycles so as to meet the travel demands of the populace which have increased sharply over the past three decades. This has led to influx of large numbers of motorcycles in urban centres in Nigeria. The number of registered motorcycles increased tremendously from 218,802 in 2001 to 288,474 in 2004 (Gbadamosi, 2006). Therefore, this paper examines the mode of operations of commercial motorcyclists in some major urban centres in Osun state in Southwestern Nigeria with a view to improving the awareness of its operators on traffic rules and regulations and subsequently promotes sustainable transport development and reduces traffic accidents on urban centres in Nigeria.

3. Study Area

The study area consists of three major urban centres in Osun State. The most urban centre was selected from each of the three Senatorial Districts in the State. The selected centres are Ilesa (Osun East), Osogbo (Osun Central) and Iwo (Osun West). These cities have similar urban characteristics such as patterns of land use, urban spatial structure, population size and economic activities. Before the 1960s, the spatial structure of Osogbo, Ilesa, Iwo and many others with similar population sizes in Nigeria followed the old European cities which were concentric in nature with foot paths linking major activity centres. For example, on Ibadan, Mabogunje (1968) reported how such concentric pattern was broken up by the emerging transportation road networks in and around the city. The Oba's (king's) palace in many traditional cities especially in Southwestern Nigeria was usually centrally located. All the roads originating from neighboring villages and towns terminated at the palace (Ogunsanya, 2004; Peel, 1983). The residential houses located around the king's palace served as the central business districts (CBD). And to a large extent this type of land-use patterns affected the transportation network and household travel demands (Adetunji, 2010). Thus, the land-use arrangement in many urban centres in Nigeria predated the advent of automobile which according to Ogunsanya (2002) either make or break up cities. For instance, the locations of the Government Secretariat, educational institutions, hospitals and industries became possible as a result of increased motorization and personal mobility. One major consequence of this traffic in towns and cities was the need to create new right-of-way for the road users in order to gain access to different urban activity centres (Olatubara, 1997). The new development especially following the introduction of the Structural Adjustment Programme in 1986 encouraged the use of motorcycles as a new mode of public transport in both rural and urban centres in Nigeria. The general acceptability of motorcycles is further promoted as a result of its

flexibility in providing door to door service even on many poor urban roads. This study therefore sets to examine the operation of commercial motorcyclists in some of Nigeria's traditionally but economically vibrant cities whose political changing fortunes either as state capitals or Local Government Headquarters have been in the upward swing in recent years.

4. Research Methodology

As earlier stated, one major urban centre from each of the three Senatorial Districts in Osun State based on their populations and other factors such as political status either as state capital or Local Government Headquarters was selected for detailed study. The selected cities include Ilesa (Osun East), Osogbo (Osun Central) and Iwo (Osun West). The research made use of data that were collected from both primary and secondary sources. To this end, a structured questionnaire was used to gather information from every 20th commercial motorcyclist found along major road intersections in the three cities. In addition, forty motorcyclists based in the most strategically located park in each of the three urban areas were interviewed. A total of one hundred and twenty (120) commercial motorcyclists were interviewed. Their responses were subsequently analyzed using both descriptive and inferential statistics such as Analysis of Variance and Regression analysis.

5. Results and Discussions

The result of analysis shows that motorcycle operators are not only males but also young adults, with large family size. Table 1 below reveals that more than 84% of the commercial motorcyclists interviewed were less than 40years of age, while the rest are between ages 41 and 60 years. However, the age structure varies from one city to another. For instance, in Iwo, 47.2% of the motorcycle operators are young boys of less than 20years of age, whereas in Osogbo and Ilesa operators of the same age group constitute only 12.9% and 4.8% respectively.

Table 1: Socioeconomic Characteristics of motorcycle operators in the study area

Town/City	Age of Respondents			Total
	<20yrs	21-40yrs	41-60yrs	
Ilesa	4.8%	61.9%	33.3%	100.0%
Iwo	47.2%	43.4%	9.4%	100.0%
Osogbo	12.9%	74.2%	12.9%	100.0%
Total	28.6%	56.2%	15.2%	100.0%
Town/City	Family Size			Total
	1-2	3-4	>5	
Ilesa	33.3%	61.9%	4.8%	100.0%
Iwo	33.0%	24.5%	41.5%	100.0%
Osogbo	16.1%	45.2%	38.7%	100.0%
Total	28.6%	38.1%	33.3%	100.0%

In most developed economies with sustained transport policies, motorcyclists like all other would be motorists are expected to be formally trained at the end of which they are given valid papers confirming their competency to operate on various categories of roads. The reverse is the case in developing countries where authorities in charge of vehicular operators do little or nothing to monitor motorcyclists who in most cases do not carry valid papers on them. For instance, table 2 indicates that 66.2% of the motorcycle operators spent less than two weeks on learning how to operate on the highways. Another 23.8% spent between 2 and 4 weeks, while only 9.5% of commercial motorcyclists spent more than 4weeks on how to effectively operate a motorcycle. Majority of the motorcyclists interviewed - 67.2% claimed to have been operating for over three years, as low as 32.8% of the operators have more than three year experience as commercial motorcyclists on urban roads.

Table 2: Shows the length of time motorcyclists spent learning on how to operate their machines before putting them on the road.

Town/City	length of time spent on how to operate motorcycles before operating on intra-urban roads			Total
	<2 weeks	2-4 weeks	>4 weeks	
Ilesa	33.3%	52.4%	14.3%	100.0%
Iwo	92.5%	5.7%	1.9%	100.0%
Osogbo	45.2%	35.5%	19.4%	100.0%
Total	66.7%	23.8%	9.5%	100.0%
Town/City	How long have you been operating motor cycle on the intra-urban roads			Total
	1 year	2-3 Years	> 3 years	
Ilesa	38.1%	38.1%	23.8%	100.0%
Iwo	22.6%	43.4%	34.0%	100.0%
Osogbo	9.7%	54.8%	35.5%	100.0%
Total	21.9%	45.7%	32.4%	100.0%

The research also shows that many of the motorcycle operators do not possess any form of driving papers of competency before starting to operate as commercial motorcyclists. Table 3 reveals that 52.3% of those interviewed have no license to operate. Bulk of the remaining 47.3% got their licenses through illegal means. This implies that as high as this percentage would invariably constitute risk to urban commuters. A city by city analysis shows that those with valid driving licenses vary from 57.1% in Ilesa to 41.9% and 28.3% in Osogbo and Iwo respectively. Unfortunately, traffic officers unusually turn blind eyes to these traffic offenders once they are offered a small amount of money.

Table 3: Motorcyclists operators with driving license

Town/City	% of Driving License owners among commercial motorcyclists?		Total
	Yes	No	
Ilesa	57.1%	42.9%	100.0%
Iwo	28.3%	71.7%	100.0%
Osogbo	41.9%	58.1%	100.0%
Total	38.0%	62.0%	100.0%

As a result of high unemployment among urban youths in Nigeria, many of them are encouraged to take up commercial motorcycle business. The field survey shows that each operator makes enough money to keep body and soul together even though majority complained that bulk of their earnings are spent on bribing the police, their union leaders and on procuring spare parts. Table 4 indicates that on the whole about 53% of operators earn less than #2,000 per day. In Osogbo and Ilesa 77.4% and 66.7% interviewed earned less than 2000 naira per day respectively. Further analysis reveals that 21% of the operators earned between #2,000 and #3,000 per day, while a significant proportion of commercial motorcyclists (28.6%) earned more than #3,000 per day. This implies that a commercial motorcyclist earns more than a Graduate Assistant in a Nigerian university. (Arosanyin & Ipingbemi, 2010). Iwo has the highest (50.6%) operators in this category of high income earners among motorcyclists in the study area.

Table 4: Income of the motorcycle operators

Town/City	Earnings Per day of Commercial motorcyclists in the Study Area			Total
	N2,000	N2,000-N3,000	>N3,000	
Ilesa	66.7%	33.3%	0.0%	100.0%
Iwo	28.3%	15.1%	56.6%	100.0%
Osogbo	77.4%	22.6%	0.0%	100.0%
Total	50.5%	21.0%	28.6%	100.0%

Further analysis shows that the operators have experienced various degrees of injuries in the past, for instance, Table 5 revealed that as high as 40% of the operators have experienced one form of accidents or other within the last three months. This however varies from one city to another. For instance, 58.1%, 57.10% and 22.9% agreed to have been involved in accidents in Osogbo, Ilesa and Iwo respectively. The magnitude of the accidents involved by the operators

varied from fatal to minor injuries. About 59% of the operators claimed that they have sustained fatal injuries, while 41% have had minor accidents.

Table 5: Motorcycle accidents and injuries sustained by the operators in the study area

Town/City	% involved in road accidents on motorcycle in study area		
	Yes	No	Total
Ilesa	57.1%	42.9%	100.0%
Iwo	22.6%	77.4%	100.0%
Osogbo	58.1%	41.9%	100.0%
Total	40.0%	60.0%	100.0%

Town/City	% of operators with injuries in the study area		
	Yes	No	Total
Ilesa	57.1%	42.9%	100.0%
Iwo	54.7%	45.3%	100.0%
Osogbo	67.7%	32.3%	100.0%
Total	59.0%	41.0%	100.0%

The injuries usually sustained are often fatal because many of the operators do not wear head helmets. Table 6 reveals that only 55.2% of the operators claimed to be wearing head helmets, while the remaining 44.8% do not protect their heads in of any form of crash. Further analysis shows that a large proportion (62.3%) of the operators in Iwo does not wear head helmets. The survey reveals that 38% of the culprits were set free, 23% were fined, and 12.3% were charged to court while the remaining 17.1 % of the operators have their motorcycles confiscated.

Table 6: Attitudes of the motorcyclists towards helmet wearing and the punishment meted against offenders

Town/City	% of Respondents Wearing Head Helmets in the Study Area			Total
	Yes	No		
Ilesa	52.4%	47.6%		100.0%
Iwo	37.7%	62.3%		100.0%
Osogbo	87.1%	12.9%		100.0%
Total	55.2%	44.8%		100.0%

Town/City	Percentage of Types of Punishments Meted out to Offenders				Total
	Not applicable	Fine	Charge to Court	Confiscation of motorcycle	
Ilesa	47.6%	19.1%	0.0%	33.3%	100.0%
Iwo	45.3%	7.5%	24.5%	24.5%	100.0%
Osogbo	19.4%	54.8%	0.0%	6.5%	100.0%
Total	38.1%	23.8%	12.4%	17.1%	100.0%

5.1 Variation in Attitudes of Motorcycle Operators across different Cities in the Study Area

5.1.1 Hypothesis Testing

Ho : There is no significant relationship between the operators apprehended by any law enforcement agent for violating traffic rules(Income Earning, Helmet Wearing, Length of Trainings and Possession of Driving License), across difference city in the study area.

Ho: There is significant difference.

Table 7 revealed that the results of the analysis of variance is significant at (Income Earning $F=3.62$, $p<.00$; Helmet Wearing $F=1.54$, $p<.22$; Length of Trainings $F= 4.47$, $p<.04$ and Possession of Driving License $F=1.21$, $p<.27$), across difference cities in the study area.

Table 7: Results of analysis of Variance - ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
How much are you Earning per day?	Between Groups	2.417	1	2.417	3.617	.060
	Within Groups	82.175	123	.668		
	Total	84.592	124			
Have you experience accident on Motorcycle (okada) before?	Between Groups	.056	1	.056	.225	.636
	Within Groups	30.856	123	.251		
	Total	30.912	124			
Do you normally wear Helmet?	Between Groups	.370	1	.370	1.537	.217
	Within Groups	29.630	123	.241		
	Total	30.000	124			
Do you take Motorcycles (okada) as a permanent job?	Between Groups	.258	1	.258	1.040	.310
	Within Groups	30.542	123	.248		
	Total	30.800	124			
How many times have you been involved in accidents on okada within the last 6 months?	Between Groups	.184	1	.184	.495	.483
	Within Groups	45.816	123	.372		
	Total	46.000	124			
Do you have driving licensee?	Between Groups	.320	1	.320	1.211	.273
	Within Groups	32.480	123	.264		
	Total	32.800	124			
What was the length of training you underwent before you started riding motorcycle?	Between Groups	1.753	1	1.753	4.470	.037
	Within Groups	48.247	123	.392		
	Total	50.000	124			
Have you sustained any injury on okada before	Between Groups	.000	1	.000	.001	.975
	Within Groups	29.792	123	.242		
	Total	29.792	124			

6. Conclusion and Recommendations

The study examined the operations and safety awareness of motorcycles operators in major urban centres in Osun State namely, Osogbo, Ilesa and Iwo. The study showed that the operators were mostly young men with over 84% under 40years of age. The irrational behavior of commercial motorcyclists on urban roads indicates inadequate training and illegal possession of driving license as well as the inability of the Police to enforce traffic rules and regulations among this category of transporters in urban centres in Nigeria. All this has led to traffic accidents in these urban centres in developing countries. With the exception of Lagos State and part of the Federal Territory, there is little or no serious government policy addressing the operations of commercial motorcyclists with a view to cutting down the rate of motorcycles accidents in urban centres in Nigeria. However, there is need to review the possession of driving license and enforce compliance by commercial motorcyclists who are operating in the cities. More importantly operators should be forced to wear head helmets whenever on duty. One way to do this is to subsidize the cost of helmets and other kits so that operators can have full access to all they need for effective operation. Also, there is need to have accurate data on accident cases at local, State and Federal levels in the country. As of now many accidents are never reported for fear of prosecution by the police. The paper therefore concludes by advocating specific government policy to regulate the operation of commercial motorcyclists on intra-urban roads and empower all law enforcement agencies to ensure that commercial motorcyclists obey and comply with all traffic rules and regulations.

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