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## Urban poverty and informal motorcycle transport services in a Nigerian intermediate settlement: a synthesis of operative motives and satisfaction

Abubakar Zakariyya Al-Hasan\*, Shaka Momoh and Lucky Eboireime

*Department of Urban & Regional Planning, School of Environmental Studies, Auchi Polytechnic, Auchi, Nigeria*

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The paper aims at examining operations motives and satisfaction in motorcycle taxi operators in Auchi. Primary data were sourced using structured questionnaires. Of the 148 questionnaires administered, 135 were found analysable. SPSS software version 17.0 was used for data analysis. The frequency distribution result of the demographic information of the respondents revealed that males, aged 21–30 year (58%), are predominantly involved in the operation. The education level of the majority of operators was in the secondary cohort (62.2%). Among operators, 56% operate motorcycle taxis for self-employment, whilst 34.1% was for augmenting income. A test of hypothesis result suggested that operator satisfaction based on the motive behind operation is statistically significant at 1%. The findings also strengthen previous studies. In terms of sustainability, informal motorcycle taxis are considered by the study to be unrealistic given the efficient transport system and enabling economic situation. Moreover, their operation impacts negatively on the environment, health, social and human capital development. Government and transport policy-makers should pursue efficient integrated modal transport system. Poverty alleviation machinery by government should explore viable initiatives that will engage the urban poor, especially youths, to divest their massive involvements in motorcycle taxi operation in Nigeria.

**Keywords:** urban poverty; informal transport; motorcycle taxi; job satisfaction and paratransits

### Introduction

Nigeria is experiencing fast urban growth. It has a population of over 150 million and a growth rate of urban population estimated at 5.8%. This is almost twice the national average population growth rate of 2.8%, making the country one of the fastest growing population in the world, representing nearly one-quarter of sub-Saharan Africa's population (Federal Ministry of Housing and Urban Development [FMHUD], 2006; UN, 2007).

Nigeria's increasing urbanization rate rose from 15% in 1950 to 23.4% in 1975 and to 43.3% in 2000. By 1991 census, the number of settlements with a population of 20,000 (the minimum threshold cut-off for urban centre definition) and more was 359 compared with 56 in 1953, 182 in 1963 and 450 in 2000 (Olotuah & Bobadoye, 2009). Current estimates put the urban centres at more than 840 as all state capitals (36); local

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\*Corresponding author. Email: [alhasanaz@gmail.com](mailto:alhasanaz@gmail.com)

government headquarters (774) and the federal capital Abuja are regarded as urban centres. The urban growth rate is projected to reach 60% by 2015 with more people in urban than in rural areas in Nigeria (Agbola, 2005; Falade, 2005; FMHUD, 2006; Mabogunje, 2001; Jiboye, 2011).

One of the daunting challenges of rapid urbanization in third world countries, especially Nigeria, has been the festering poverty profile (Pacione, 2009), which is not only pervasive but also severe. As comprehensively documented by Garuba (2006), Nigeria is home to 50–80 millions of the 1.3 billion people living below the poverty line worldwide. That is, living on less than US \$1 per day, with life expectancy put at 52 years as against 75 years for Japan and Turkey, while infant mortality is 192 and 174 for every 1000 male and 1000 female birth, respectively. The figures also disclosed that only 20% of Nigeria children are likely to survive before the age of 15 and that another 33% are likely to die before attaining the age of 40, whilst the country's annual average per capital income growth is  $-4.7$ . Also, the physical quantity of life index (PQLI) in Nigeria is 38%, trailing Kenya's 55% and Ghana's 44%. Similarly, FMHUD (2006) noted that poverty rate in Nigeria increased from 27% in 1980 to 66% in 1996, with more than 70% estimate of people living in poverty. Nigeria's poor is said to account for 6% of the world poor. This translates to abject poverty and appalling conditions with the locus of poverty moving from the rural areas to urban centres.

A significant percentage of the poor are engaged in the informal sectors where productivity and income are low. One of the services rendered in this sector is informal transportation services particularly intra-urban commercial motorcycle transport services (Garuba, 2006; Olarewaju, Fadare, Akinlo, & Alanwode, 1995; Umoh & Alaka, 2001), which have taken advantage of the inefficient and deteriorating state of Nigeria's transport system to create an economic niche. Some studies have been carried out on commercial motorcycle transport taxi services, but not much is reported about the underlying motive behind its operations, and as well as the satisfaction of operators with its services in Nigeria. The main objectives of this paper are to review some of the related literature on poverty, informal motorcycle transport system and job satisfaction. Specifically, it will examine empirically the significant relationship between operators' motive and satisfaction with the job. Also, it will contribute to the existing discourse on informal transportation services in third world countries and make some recommendations.

### **Background of the study**

Auchi was founded about 1481–1500 AD (Arunah, 2010). It is the largest traditional medium-sized urban centre next to Benin City in Edo State; located in Edo-North senatorial district, in the south-south geopolitical zone of Nigeria. The town has a long-standing administrative status dating back to the 1920s as the provincial headquarters of the former Afemai land, until its politico-administrative division into Etsako, Akoko Edo and Owan divisions. Auchi remained the headquarters of Etsako Local Government Area with the creation of more local government area councils in 1991. Etsako L.G.A was further divided into three municipal areas: Etsako West, Etsako Central and Etsako East local government areas. Auchi still enjoys the politico-administrative pride of being the municipal headquarters of Etsako West local government council and Edo-North senatorial district (Seghosime, 2011). Auchi is nodal town linking many regions and geopolitical zones in Nigeria. The settlement is connected to the eastern region and south-eastern geopolitical zone via the express road to Agbor–Onitsha. The northern,

south-eastern and south-south geopolitical zones are linked through Okene highway, whilst the northern region and south-west geopolitical zone are linked by the highway through Ikare–Owo–Ondo to Lagos. For its vantage position and steady inflow of immigrants from the neighbouring villages, towns and states, the state government in 1979 granted it an urban status. These developments have made the town the political and socio-economic base of the Edo-North senatorial district thus, engendering phenomenal urbanization. The foregoing is important in understanding the demands for transportation in the town in response to urban sprawl, complex land use mix and social interactions (Fadare & Al-Hasan, 2010).

The study area lies approximately between latitude  $6^{\circ} 49' 04''$  and  $7^{\circ} 18' 05''$  of the equator and longitude  $5^{\circ} 59' 51''$  and  $6^{\circ} 34' 25''$ E of the Greenwich Meridian. It occupies a total land area of about 50 Km<sup>2</sup> with an estimated population of 81,212, having increased from 13,591 in 1963 to 30,000 inhabitants by 1991 population census (National Population Commission, 2006). Fadare and Al-Hasan (2010) proclaimed that Auchi is characterized with mixed pattern of land use, predominantly residential and commercial land uses in the built-up areas, with visible impression of no physical planning, peripheral spatial growth, due to the teeming population and sprawling suburb with new residential development not linked together in any definite pattern. The traditional core areas have road networks mostly untarred, narrow and winding. Despite new township improvement, the road networks still do not accommodate vehicular traffic in the contemporary transport system in the developing world. Even at the fringes of the town where new development sprawls, the roads suffer from environmental deterioration resulting from soil erosion and absence of drainage network. The undulating topography of the settlement pattern further impairs vehicular accessibility during rainy seasons. Motorcycle taxi operators' operates their parks along transit point in traffic generating land uses and traffic corridors. Their operation is mainly regulated by the Edo State Commercial Bike Riders Association which dictates levy, operation ethics, minimum fare charges per distance, handling accident cases, police cases and so on. Being an informal sector vocation, they are unregulated by government and transport-related agencies as with major public transport, private and commercial vehicles in urban areas. Even the National Transport Policy and Road Safety Regulation did not capture motorcycle taxi in their policy and regulation.

The aforementioned situations gave rise to the use of motorcycle taxi for intra-urban trip making within the study area. Therefore, the patronage of motorcycle taxi is further enhanced by its easy availability; flexibility in meandering through traffic and rough terrain; offering door to door services; short-trip time saving and affordability to the commuters (Fadare & Al-Hasan, 2010).

Despite the perceived advantages of motorcycle taxi to the study area, its operations still leave much to be desired. For instance, the operators have to contend with the socio-psychological challenge of economic low profile vocation; operational (accident), environmental health hazards such as sun burn, eye irritation, nasal- and bronchial-related diseases; and, abuse and harassment from police and hoodlums. In addition, some commuters do not patronize the mode as a result of the following reasons: gender, religious issues and perceived risk (Fadare & Al-Hasan, 2010; Kumar, 2011). One wonders, what motives drive the operation of the mode? How satisfied are the operator of motorcycle taxi with the job. In most literatures, studies have been carried out on satisfaction in the transport sector (Slamet, Toyib, Hadiwijoyo, & Troena, 2013; Tangphaisankun, Nakamura, & Okamura, 2009; Tse, Flin, & Mearns, 2006; Weningtyas, Fujiwara, & Zhang, 2013). However, none of these studies examined empirically the

job satisfaction of operators of motorcycle taxi in urban areas, rather their efforts focused on commuter satisfaction with transport services.

### **Urban poverty and informal transport sector**

Researchers (Agbola, 2005; Akinbamijo, 2012; Beall & Fox, 2009; Desai, 2010; Jiboye, 2011; Pacione, 2009) and reports of the UN-HABITAT (1996, 2005) all indicate that the world is increasingly becoming urbanized, as more than 50% of settlements in the millennium would be urban. There are several economic and social factors fuelling the urbanization process in Nigeria and other West African States. According to UN-Habitat (2004), these include 'natural population growth, voluntary migration, real and perceived employment opportunities, cultural expectations, changing consumption and production patterns, technical and information system'; all accompanied with serious imbalances and disparities in population distribution among the different countries.

With urbanization, urban areas and cities holds the promise as centres for global finance, home to a wealth of cultural diversity and political dynamism, innovation, industry and communication, etc. (Badcock, 2002; Beall & Fox, 2009). However, contrary to these thoughts, the epicentre of poverty is now shifting from the rural areas to the urban areas. The millennium is experiencing an unprecedented urbanization of poverty. Urban centres, rather than providing comfort and being centres of arts and civilizations, have simply become urban jungles (Agbola, 2005). According to Beall and Fox (2009, p. 104), poverty could simply refer 'to a lack of one or more of those things that determine the quality of life'. In the developing world towns and cities, majority of the population live in "informal" slum and squatter settlements usually not legally recognized nor serviced by city authorities. At least 600 million urban residents in developing countries (and the number is growing) live in poor quality housing with inadequate provision of water, sanitation and drainage (Akinbamijo, 2012; Jiboye, 2011). As a result, their lives and health are under continuous threat, which has made urban living became a nightmare far removed from the dream of safety and prosperity held out by city visionaries (United Nations Centre for Human Settlements, UNCHS, 1996).

In spite urbanization economics, poverty is now central to any dialogue on urban development, especially in sub-Saharan Africa (Hague, 2005). The 1992 Human Development Report of the UNDP stated that the rate of urban poverty is expanding at about 7% a year, particularly in urban slum and squatter settlement. Poor people living in these areas face social and economic exclusion with limited access to basic social infrastructure and services (Beall & Fox, 2009; Pacione, 2009; UNCHS/IL0, 1995).

Nigeria's situation is such that in spite of the rich resource base of the economy, most Nigerian lives below the poverty line. According to the Central Bank of Nigeria report of 2003, the incidence of poverty (at the level of those who live below \$1 per day) was put between 54% and 70%, while at the end of 2003, life expectancy stood at 54 years and adult literacy at 54%. For the same period, GDP per capital stood at N1, 028.5, while on a scale of 1.0, Nigeria was scored .4. What perhaps is more disturbing according to Mabogunje (2001) is that urban poverty in the country is expected to increase more rapidly than in the rural areas. Adewumi (2005) adduced a combination of low capacity utilization and the outright closure of factories that have led to massive job losses, the mindless privatization of public enterprise in the public sector and the unending reforms in the civil service that have ensured tens of thousands of workers being sent to the unemployment market as reasons for the urban poverty level. This is also within the context in which only few hands were employed. The Punch of June 24,

2005 noted that between 1999 and 2003, only 4,936 people were employed by the Federal Civil Service Commission, and yet the Federal Government is bent on discharging about 75, 000 workers into the saturated labour market (Editorial, 2005).

Urban poverty is partly related to unemployment. The Nigeria Bureau of Statistics (NBS) Core Welfare Indicator Questionnaire Survey (CWIQS) of Nigeria in 2006 presented three (3) reasons for unemployment: no work available (89.6%); seasonal inactivity (3.6%) and household/family duties (2.5%). ‘No work available’ as the main reason for unemployment is reflected across all zones with the southern zones recording rates over 90%, while seasonal inactivity was high in the northern zones, the north-east recorded the highest of 20%. The privatization of public enterprises has led to massive job losses, which further exacerbate urban poverty profile. A case in point is the PHCN privatization.

Another dimension of urban poverty is the parlous and deplorable state of infrastructure and basic services. Access to education, health services, adequate potable water and electricity remain elusive for most Nigerians. The transport sector is grinding towards a state of relative immobility. The increased revenue profile of the government has not impacted positively on the lives of the Nigerian populace. The National Economic Intelligence Committee (NEIC) report published in the Punch Newspaper of 23 June 2005 shows that at the end of March 2005, the country had earned \$8.265 billion excess revenue from crude oil (Anons, 2005). In spite of the tens of billions of naira claimed to have been spent on road construction and rehabilitation as well as on electricity supply by government, Nigerian roads remain death traps while power supply continues to be epileptic (Adewumi, 2005). Mabogunje (2001) abstracting from the Human Development Report for Nigeria in 1996 highlighted that in the entire 1985–1986 period, real government expenditure on programmes which are relevant to the poor declined, both in real terms and as a share of a total expenditure. He noted, for instance, that the percentage share of total government expenditure that went to the social sector declined from 13.1% in 1985 to 9.3% in 1992, and increased only to the 1985 level of 13.1% in 1995.

Policies and institutional machineries put in place to address the issues of poverty were only palliative. For all it seems, the National Poverty Eradication Programme (NAPEP) introduced by the Obasanjo administration was a gimmick to hoodwink people to believing that their conditions will be qualitatively better in due course. Fayemi (2005) argued that the programme reflected very little pro-poor schemes, leading to poorly designed money guzzling schemes such as “Keke NAPEP” which hardly contribute to poverty reduction scheme in the long term. Garuba (2006) discussed the issue further noting that upon restructuring from its earlier name – Poverty Alleviation Programme – (and later, the National Economic Empowerment and Development Strategy), NAPEP was subdivided into four schemes, namely: Youth Employment Scheme (YES), Rural Infrastructural Development Scheme (RIDS), Social Welfare Services Scheme (SOWESS) and National Resources Development and Conservation Scheme (NRDCS). Garuba’s analysis revealed that of these schemes, only the activities of YES, which gulped N3.5–10 billion in 2000 and N25 billion in 2001 featured in the media.

It is within the foregoing scenario of general discontent and frustration that urban Nigerians have continued to evolve within the informal sector, permanent, seasonal or part-time micro-scale economic occupations as a coping mechanism to cushion the excruciating economic crisis. It is arguable that a strong correlation exists between being employed in the informal sector and being poor as a higher percentage of people working in the informal sector, relative to the formal sector, are poor (Desai, 2010).

Mabogunje (2001) estimated that the informal sector accounts for a substantial share of gross domestic product estimated to vary between a quarter and a half, and expanded without any subsistence from government and in fact in a hostile policy environment. For most Nigerians and other third world urban poor, the informal sector labour market is, thus, the critical entry point for integrating themselves into the mainstream economy in creating sustainable livelihood (Desai, 2010; Mabogunje, 2001) as participating in the informal sector guarantees, an autonomous, usually tax free and efficient capacity for generating growth in the income of the poor.

The National Bureau of Statistics (NBS) Core Welfare Indicator Questionnaire (CWIQ) survey of 2006 reported that 72.7% of the active population in Nigeria were self-employed, 13.4% on regular employment, 11.7% unpaid workers and 2.1% casual workers. Private informal sector recorded the highest male and female underemployed population with 65.4% and 69.6%, respectively. However, the highest unemployed population for males was recorded in 15–24 years age group with 72.4% in the private informal sector (NBS, 2007).

One area where the informal sector services have been enormous and indeed critical is the transportation sector. Available records show that more than 80% of intra-urban public transport is supplied by private transport operators (Bolade, 1988). The work of Olarewaju et al. (1995) similarly noted that 66% of the transport supply in Lagos metropolis is by the informal transport modes. By the breakdown, the estimated modal split of daily passenger trips in the metropolis shows that the informal bus transport mode accounts for 51%, taxi /car hire/*kabukabu* (15%), formal bus transport (13%) and ferry and railway (1%), while the remaining 20% is accounted for by private cars, cycling and walking. In Kaura Namoda, motorcycle mode of transport is the most viable modal choice of intra-city commuting accounting for 80% of all leisure, retail business and work trips before public sector wage review was affected in 2000, and 50% in the aftermath of the review (Umoh & Alaka, 2001). Similarly, the work of Momoh (2010) confirmed same mobility characteristics for Auchi, Edo State.

Thus, the economic crisis in the country coupled with the inadequate transport facilities to meet with commuters' demands could be adduced to explain the prevalence of informal commercial motorcycle transport services.

### **Urban public transportation, informal motorcycle taxi and job satisfaction**

Urban transportation is essential in connecting dispersed but complementary land uses. The necessity for public transport in the urban area is amplified by a miscellany of factors—urbanization, land-use dynamics, settlement expansion, demography, economic, equity, technology, transport demand management and infrastructure (Litman, 2012). Different modes of transport are explored by commuters in achieving mobility and accessibility. Meeting the demand for mass carriage of commuters from origin to destination has been daunting and a colossal challenge to urban managers and transportation planners in both developed and developing countries, but more challenging in the third world countries. Some of the challenges adduced for the inadequacy of public transport in developing countries are: transportation planning without data and inarticulate policy formulations (Fadare & Ogunsanya, 1989; Olufemi & Oluseyi, 2007); congestion caused by route inadequacy and increasing use of personal mobility (Cervero, 1991; Fadare, 1998); inadequate transport infrastructures (Torres Martinez, 2001); reconciliation of equity considerations with development of a pro-poor and gender sensitivity transport scheme (Kuranami, Winston, & Guitink, 1994; Nutley, 1988; Olufemi & Oluseyi, 2007;

Peters, 2001). Also some studies suggested environmental consequences of transport services (Akinyemi & Medani, 2001; Dragu, Roman, & Roman, 2013; Oyesiku, 2001) and service quality gap in urban public transport (Cervero, 2000; Olarewaju et al., 1995; Kumar, 2011).

Measures taken to address the foregoing challenges applied at different times and places were usually ad hoc and palliative measures which sometimes undermined the enormity of transport problems. However, on a broad spectrum of sustainable transport policy recommendations, public mass transit schemes have been advocated (Fox, 2000; Gwilliam, 2000; Parkhurst, 2001; Transport Research Board, 2001). The supply of public transport modes varies from place to place all over the world. Major cities in the developed world operate sophisticated and more efficient public transport system than third world countries. Public transportation provisions are generally insufficient to satisfy the quest for mobility and accessibility needs in the developing countries especially in Africa, and particularly in Nigeria.

Poverty and unemployment have given rise to entrepreneurship within the informal economic sector. The unmet demands in public transport system in developing countries have given leverage to a variety of informal modes of transport characterized by small vehicles, low performance services, mostly owner operated with low capital outlay, self-regulated with easy market entry and exit jobs for operators deprived of other jobs opportunities (Cervero, 2000; Kumar, 2011). In similar literature, decline in organized public transport system has resulted lately in unregulated, unconventional public transport; the most dominant being the motorcycles, which is a common form of public transport system on most Asian and African roads (Kumar, 2011). Being an informal sector service, one way of examining the informal economy is in terms of 'decent work deficit', which implies poor quality, unproductive and unremunerated jobs that are not recognized or protected by law, and associated with the absence of rights at work, inadequate social protection and lack of representation and voice at the political and administrative centres and particularly predominated at the lower ebb by women and young workers (International Labour Organization [ILO], 2002). Furthermore, the ILO report indicates that labour market, employment, job, work, skill reproduction, income and representation securities are seven critical securities which informal workers and entrepreneurs are often denied.

Weningtyas et al. (2013) argued that since paratransit motorcycle operators are of the low income group, meeting their needs would usually be given top priority in their vocation, whilst other life pursuits may be viewed as secondary needs. Hence, Quality of life (QOL) of paratransit operators is mostly concerned about fulfilling basic needs before achieving a higher level of need (Weningtyas, Zhang, Fujiwara, Chikaraishi, & Nuguroho, 2012). Life satisfaction could be regarded as a subjective assessment of one's feelings and attitudes in a spatio-temporal context of individuals. Job satisfaction is, therefore, a segment of life satisfaction among motorcycle operators.

Satisfaction is the gratification achieved in the fulfillment of a need which when related to occupational factors could depend on a number of issues such as demography, psychological disposition, aspirations, social interactions, peer influence and job characteristics. Precisely, the concept of job is unclear and multifaceted (Aziri, 2011). However, Locke (1976) considered job satisfaction as a pleasurable and positive emotion desired from the judgement of the general attitude towards ones job or job experience. Similarly, Cranny, Smith and Stone (1992, p. 1) defined job satisfaction as 'an affective reaction to job that result from incumbent's comparison of cultural outcome with those that are desired'. In other words, job satisfaction is about feelings towards ones' job



based on expectancy. So, if expectations are met, it is most likely that the employee will not think about quitting his or her job, except otherwise, turn over would increase (Martins & Coetzee, 2007). Following Martins and Coetzee (2007) argument, individuals would tend to quit jobs when the work no longer fulfils their basic needs. This contention is in line with Maslow's hierarchy of needs. In Maslow's thesis, human needs are ordered in hierarchy such that as soon as needs on lower levels are satisfied, another appears at higher levels that demand satisfaction. Therefore, human needs are endless and insatiable.

In a review of literature, job satisfaction appears to vary across job categories, with high levels of job satisfaction experienced in entrepreneurial, technical, professional and managerial job (Schultz & Schultz, 1998). In another development, (Jianyang, 2013) identified individual perception of job types by ranking what is a 'good job' using three parameters: preference for the job, level of importance of the job to society and how easy is the job to pursue. It was discovered that the most preferred job in the urban and rural areas is to be a government employee, while low percentage of people preferred to be artisans (carpenters and hairdressers) and taxi drivers. Fried and Ferris (1987) concurred that higher occupational level is generally associated with higher job satisfaction, because people at such occupational height have greater opportunities for self-esteem, expressions and actualization which boost satisfaction than in lower vocation.

Evidence exists in the literature linking satisfaction with occupational stress and intention to quit. Masterson (1980) and Ganstar and Logan (2005) identified causes of occupational stress to be interpersonal, role related, task control and organization, life activities and physical environment and so on. Schwab (1996) opined that negative outcome of job stress includes illness, decline in overall quality of service in the job, job dissatisfaction and eventual tendency to quit. It is broadly inferred from literature that empowerment, organization justice, perceived employment opportunities and occupation stress are factors that could influence intention to quit ones' job. This is also found in the case of motorcycle taxi drivers when they have opportunities for employment given improved human self-development. Besides, the job is associated with a lot of occupational stress such as long operating hours, under harsh environmental conditions, accidents, abuse and social stigmatization.

### **Research Methodology**

The study is a survey-based research with the adoption of a structured questionnaire to elicit responses from motorcycle taxi operators. The instrument is divided into sections to source primary data. Section A focuses on the demographic information of the respondents (age, social status, educational level, marital status and socio-economic characteristics). Section B inquires about the reason for operating motorcycle, daily profit and remittance, health and accident hazard, previous job, and ownership of motorcycle, nature of operation and operating hours. Section C is about job satisfaction level and intention to quit using five-point Likert scale rating.

The questionnaire was administered after every five jump (fifth operator) as the motorcycle arrived at the parks. An operator already interviewed, if by chance, arrived at the park is skipped in order to avoid duplication. The same procedure was used by the research assistants to establish reliability of the instrument. Personal interview was also conducted to investigate operators enlistment into the service, how fare charges are fixed, mediation during accidents; abuse and police cases arising from the operation; the

registered number of operating motorcycles; major challenges faced by the operators and the welfare scheme for registered fee paying operators.

Out of the 800 commercial motorcycle operators, 148 was captured by the study as sample size using Yamane (1964). The sample size selection employed the formula:

$$n = N/1 + N(e)^2 \quad (1)$$

where  $n$  is the sample size,  $N$  is the total population, and  $e$  is the error term (.05)

There are 21 motorcycle parks within Auchu town, so a maximum of seven commercial motorcycle operators were selected at random from each of the parks for questionnaire administration. The exercise was carried out in February 2013 in a day simultaneously in the five parks from 8.00 am till the questionnaires were exhausted. The basis of sample selection was, thus, accidental, because it was difficult to apply any of the established conventional sample selection approaches due to the fluidity of their operation.

Of the 148 questionnaires administered, 135 were filled correctly and found analysable. The validity of the survey is based on criterion validity using standard benchmark as a good indicator for job satisfaction and intention to quit vocation. SPSS software version 17.0 was used for data analysis. The measured variable was found to be reliable based on Cronbach's alpha coefficient of .87. Considering Nunnally (1978) recommendation of a minimum of .75 Cronbach's alpha value, the internal consistency of the data-set was reliable. The analysis consists of two stages. In the first stage, frequency distribution was generated for univariate analysis. Bivariate relationships were expressed in the second stage using Chi-square ( $\chi^2$ ) test to analyse the influence of operative motives on the satisfaction of operators.

### Findings and discussions

The focus of this study was to examine the pull factors that attract operators into the business of informal commercial motorcycle operation and as well determine their level of satisfaction and intention to quit the business.

#### *Socio-economic characteristic of operators*

The analysis of socio-economic characteristics revealed that the business is a predominantly male enterprise with 97.8% of the respondents being males. This is reflective of the general trend in the road transport industry in which male predominates. However, recent experience has shown that women in the south-south and south-eastern geopolitical zones of the country are making in road into the business to provide specialized services with customized motorcycle (Lady Machine). The 2.2% female respondents might be from this category. The age distribution shows that more than half of the operators, who sustain the business of commercial motorcycle operation, exist within the age cohort of 21–30 years (58.6%) and 31–40 years (30.8%). This corroborates NBS CWIQ (2006) survey which indicated that 72.7% of the country's active population is self-employed. Distribution of the respondents by level of education shows that more than half of them (62.2%) fall within the bracket of secondary school education, while primary and tertiary educational attainment had 17.8 and 2.2%, respectively. The inference, here, is that the educational background of an operator would likely determine his involvement in the operation of motorcycle transport services. The low level of

operators' education perhaps explains their inability to get better jobs, thus their choice of motorcycle services. It is expected that the higher the level of education, the less the satisfaction and involvement in motorcycle taxi operation and vice versa. However, in a depressed economy with a labour market glutted with unemployed graduates, the vocation of commercial motorcycle operation could serve as an immediate low profile economic niche for the less educated. A disturbing concern, though, is the predominant involvement of secondary school leavers in the services of informal motorcycle operations. It is argued that their entrenched involvement in the business would over time pervert their focus and zeal for higher educational attainment that could impact on the human capital and development index of the country. This view is supported by Oluwale, Jegede, and Olamade (2013). Oluwale et al. (2013) argued that massive involvement of secondary school in motorcycle taxi operation depletes Technical and Vocational Education and Training (TVET) skill capacity building in Nigeria and thus, add no value to human capital development. From the survey, 50.4 and 49.6% of the respondents are married and unmarried, respectively. Thus, the burden of domestic and family upkeep comes in view as a compelling factor that forces operators into the vocation in a distressed economy characterized with low livelihood and insecurity.

#### ***Reason for involvement in informal motorcycle service operation***

The analysis of reason for operating commercial motorcycle is crucial to determine the underlying drive behind the operation of the mode and its sustainability for urban and rural transportation. Self-employment and income augmenting accounted for 55.6 and 34.1%, respectively, as reasons why operators are in the business. This economic reason confirmed earlier studies of motorcycle taxi in Asia and Africa (Cervero, 2000; Kumar, 2011). Only 8.9% of operators participate in the business to assist in alleviating mobility problems. This implies that the emergence and sustainability of this mode is predicated on the deplorable economic situation in the country, which providentially taps on the poor transport infrastructure and inefficient public transport services. As such, operators take the vocation as an economic cushion to alleviate poverty and harsh effects of unemployment, inflation and inadequate salary wages. In spite of the security of livelihood, the economic sustainability of motorcycle taxi operation is in the short term. There is a tendency to quit as other needs and opportunities arise in line with Maslow's hierarchy of needs.

The choice of informal transport motorcycle services to alleviate poverty amongst other informal sector vocations may be adduced to the fact that the business is a free-for-all entrants who are capable of the demands of the job and willing to subscribe to the rules of fees of the motorcycle operators' union and local government hackney charges for internal revenue generation; in a bid to arrest the low fiscal capacity at the level of grass root government. These forms of taxes by the local government is paid at a flat rate irrespective of whether or not the tax payer enjoys some kind of services provided by the government (Dlakwa, 1990). Although, motorcycle taxi operations contributes to the lower tier of the government revenue base, researchers have acknowledged that the operation of paratransit, particularly motorcycle, in developing countries are not officially recognized (CCCF, 2011; Cervero, 1992, 2000; Olarewaju et al., 1995), unlike other transport modes in Nigeria. Besides, the business is a service-oriented enterprise that does not require huge capital outlay or business premises to operate. It is sufficient to hire or rent a motorcycle for services and remit, at the end of a predetermined period, the share of the motorcycle owner. The study

indicated that 30.3% of operators hire or rent their motorbike, while 69.7% own theirs. Lastly, unlike other urban informal sector services that may sometimes suffer from low patronage, urban travel demand creates an economic enticing boost that woos operators into the business.

**Daily profit and remittance on operation**

Daily income refers to the total amount of money an operator makes daily after deduction of daily expenses such as fuelling cost, union due and ticketing, police fee, cost of repair for occasional breakdown and daily remittance to the owner of the motorcycle. About three-quarter (73.1%) of operators make at least N2, 000.00 – N2, 500.00 daily. Operators who hire or rent motorcycle (26.9%) remit to the owners of the motorcycle between N800.00–N1,000.00. The remittance usually depends on the duration of operation, newness of motorcycle and operating cost. When daily income (profit) of at least N1, 500.00 is compounded into a 30-day salary, it amounts to N45, 000 monthly. Forty-five thousand naira which is more than twice the minimum basic salary in the Nigeria public sector (N18,000) is too paltry in view of the hazards, man-hours associated with the operation and the inflationary economic realities of the Nigerian urban markets.

**Hypothetical findings on motives and satisfaction of operators**

The hypothesis that operators’ satisfaction depends on operative motives was tested using the  $\chi^2$  test. Being a non-parametric test, the general assumption on the randomness of samples and independence of observation were satisfied by the data. Specifically, the assumption on  $\chi^2$  that the lowest expected frequency in any cell should not be less than 5 was not satisfied by the data. Ten (10) cells (50.0%) have expected count less than 5. The minimum expected count is .24. Hence, the Fisher’s exact probability Text was reported in place of  $\chi^2$  result.

The Fisher’s exact probability test statistic result reveals that operators satisfaction depends on their motives behind operation as  $\chi^2 (12, n = 135) = 155.101, p = .001$  (see Table 1). This means that operators’ motives in engaging in informal motorcycle transport services in Auchi have a significant impact on their level of satisfaction with the vocation. The effect size which is a correlation coefficient that can range from 0 to 1

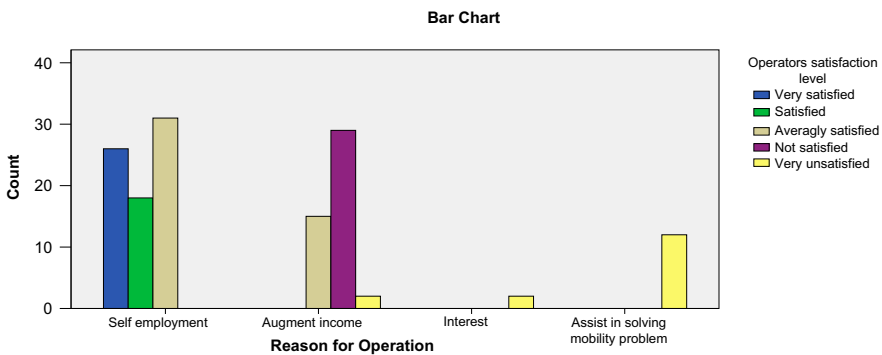


Figure 1. Bar chart showing operative motive and satisfaction.

Table 1.  $\chi^2$  tests.

	Value	Df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		Monte Carlo Sig. (1-sided)		
				99% Confidence interval		99% Confidence interval		
				Sig.	Lower bound	Upper bound	Sig.	Lower bound
Pearson $\chi^2$	200.127 <sup>a</sup>	12	.000	.000 <sup>b</sup>	.000	.034		
Likelihood ratio	180.529	12	.000	.000 <sup>b</sup>	.000	.034		
<b>Fisher's exact test</b>	<b>155.101</b>			<b>.000<sup>b</sup></b>	<b>.000</b>	<b>.034</b>		
Linear-by-linear association	82.181 <sup>c</sup>	1	.000	.000 <sup>b</sup>	.000	.034	.000 <sup>b</sup>	.000
N of valid cases	135							

<sup>a</sup>10 cells (50.0%) have expected count less than 5. The minimum expected count is .24.

<sup>b</sup>Based on 135 sampled tables with starting seed 2000000.

<sup>c</sup>The standardized statistic is 9.065.

Table 2. Symmetric measures.

	Value	Approx. Sig.	Monte Carlo Sig.		
			Sig.	99% Confidence interval	
				Lower bound	Upper bound
Nominal by nominal	Phi 1.218	.000	.000 <sup>a</sup>	.000	.034
	<b>Cramer's V .703</b>	<b>.000</b>	<b>.000<sup>a</sup></b>	<b>.000</b>	<b>.034</b>
N of valid cases	135				

with values indicating a stronger relationship between the two variables was also calculated. The result as shown in Table 2 reveals Cramer's  $V = .703$ , which is considered as a large effect using Cohen's (1988) criteria of .07 for small effect, .21 for medium effect and .35 for large effect.

The percentage of each operator's satisfaction level is shown in Table 3 and Figure 1. The table revealed that 75 (55.6%) of the operators that are into informal motorcycle transport services for self-employment motive are satisfied with the operation. Against this background, 12 (8.9%) operators that are into informal motorcycle transport services to assist in solving urban mobility problem are not satisfied with the operation. Also surprising in the output is that 15 (11.1%) operators are into informal motorcycle transport services to augment their income are only averagely satisfied while cumulatively, 31 (23%) are not satisfied with the operation. It is contended, therefore, that given improved transport system, robust economy, employment and enhanced wage for all, which is doubtful in view of global economic recession and the peculiar circumstance of Nigeria, motorcycle, as a public transport mode, will be less relevant. This further explained why as much as 128 (95.5%) of the operators are willing to quit operation for better opportunities of livelihood.

The finding of this study contradicts earlier research studies on job satisfaction and turnover or intention to quit. Studies by Locke (1976), Masterson (1980), Schwab (1996), Ganstar and Logan (2005) revealed very strong inverse correlation between job

Table 3. Reason for operation \* operators satisfaction level cross-tabulation.

Reason for operation	Count	Operators satisfaction level					Total
		Very satisfied	Satisfied	Average satisfied	Not satisfied	Very unsatisfied	
Self employment	Count	26	18	31	0	0	75
	% within reason for operation	34.7%	24.0%	41.3%	.0%	.0%	100.0%
	% within operators satisfaction level	100.0%	100.0%	67.4%	.0%	.0%	55.6%
Augment income	% of total	19.3%	13.3%	23.0%	.0%	.0%	55.6%
	Count	0	0	15	29	2	46
	% within reason for operation	.0%	.0%	32.6%	63.0%	4.3%	100.0%
	% within operators satisfaction level	.0%	.0%	32.6%	100.0%	12.5%	34.1%
Interest	% of total	.0%	.0%	11.1%	21.5%	1.5%	34.1%
	Count	0	0	0	0	2	2
	% within reason for operation	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within operators satisfaction level	.0%	.0%	.0%	.0%	12.5%	1.5%
Assist in solving mobility problem	% of total	.0%	.0%	.0%	.0%	1.5%	1.5%
	Count	0	0	0	0	12	12
	% within reason for operation	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within operators satisfaction level	.0%	.0%	.0%	.0%	75.0%	8.9%
Total	Count	26	46	29	16	135	232
	% within Reason for Operation	19.3%	34.1%	21.5%	11.9%	100.0%	100.0%
	% within Operators satisfaction level	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	13.3%	34.1%	21.5%	11.9%	100.0%	100.0%

satisfaction and intention to quit, except where dissatisfactions occur as a result of stress, health-related issues, work justice and job characteristics. Maslow's (1943) theory of human motivation best explains why in spite of satisfaction, operators still indicate an intention to quit in order securing higher levels of satisfaction. The autonomy, stability of income stream and flexibility of operation could explain the satisfaction of operators with the vocation. What this paper could not establish is how job satisfaction among motorcycle taxi operators' in the study area is influenced by factors such as age, education, marital status and family size and location index.

## **Conclusions**

The burgeoning presence of informal motorcycle taxi in Nigerian urban transport corridors is fuelled by the poor economic situation of the country and inefficient transport infrastructures and services which could not meet the transport demands of commuters. Given improved and enabling economic environment, informal motorcycle taxis would not be a sustainable means of public transport as employment mobility of operators in pursuit of higher aspirations, associated health risk of operation and the low social profile characterized by the vacation will engender quitting of operators.

## **Policy recommendations**

The increasing stress commuters of public transport face calls for articulation of policies that will ensure a feasible, efficient, stress-free integrated modal system of transport for mass carriage. The operations of motorcycle taxi should be recognized as to include the mode into the national transport policy for effective regulations and monitoring for safety and restriction to mobility constraint areas of towns where developments do not efficiently justify the operation of mass transit. Government should formulate policies that would enable informal motorcycle taxis to play complementary role within an integrated modal transport system, but with regulations to streamline its operation by the Federal Road Safety Corps (FRSC). Road design and construction should accommodate motorcycle and other paratransits track for a pro-poor inclusive developments.

The collapse of efficient public transportation system is partly hinged on poor transportation infrastructures. All tiers of governments should ensure the revitalization and construction of transportation infrastructures. Road network within busy areas should be upgraded for maximum access and mobility. This could be achieved through the use of economic instruments – tolls, parking charges, modal restrictive levies to finance improvement in transportation infrastructures and reduce congestion to an acceptable limit.

Since most of the roads are non-motorable as revealed by the study due to narrow and untarred eroded nature, a policy that supports the use of bicycle as a sustainable pro-poor, pro-health and zero-carbon emission should be pursued.

In order to address loss of potential human capital, as observed among motorcycle taxi operators by the study, government should intervene by formulating policies and enacting laws geared towards providing free-for-all, compulsory and quality education, specifically targeting the age cohort that mainly engage in the vocation.

Policy-level support for job creation should focus primarily on capacity building by governments, particularly the local government in the provision of economic-enabling environment, sustainable employment, livelihood secured opportunities and human

capital development. Government and its poverty alleviation machineries should explore other potentials and viable entrepreneurial initiatives among the teeming urban poor to alleviate poverty.

There is a need for further research on factor specifics on motorcycle taxi job satisfaction in order to determine baseline factors that influence satisfaction of motorcycle taxi operators.

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