Innovations

Gender Disparity in Mobility Choices of Traders: A Case Study of Osogbo, Nigeria

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Abstract

The gender constraint in mobility and accessibility to quality transport is often apparent in women more than men. It thus affects their ability to engage in meaningful economic activities.In Nigerian cities, transportation playsa contributory role in promoting trading activities and distribution of goods across the sub-region, and given the fact that women active participation intrading enhances the overall economic development of these regions, there is need for an efficient urban transport with gender sensitivity. Most researches of urbanmobility have been carried out in developed countries withlittleevidence on this subject indeveloping countries such as Nigeria. The aim of this paper is toexamine gender disparities in the accessibilityand mobility choices of traders in Osogbo, Nigeria by exploring the impact of traders'socio demographic factors on modal choices of traders. A systematic sampling was also used to administer 302 questionnaires. Data collected were analyzed using simple chi square analysis and Binary Logistic regression. Results reveal thatmonthly income and driving status of female traders have significant effects on their modal choices and emphasized the need for a sustainable urban transport;it also highlighted the need to examine a gendered-based transportation planning and managementif the roles of women in our society are to be achieved.

Keywords: Mobility behaviour, Gender, Traders, transport

1. Introduction

Mobility is the capacity and ability to move from one location to another. (Yong; Nikmatul; Goh,; 2021). Mobility of people and products, as well as money and ideas, improves transportation in all environment and economies.However, movement is restricted in most regions and among most individuals. (Hoyle and Knowles, 2001).According the World Bank estimates, approximately 1 billion people lack access to paved roads globally; this hinders theirmovement. These circumstances also affect trading activities which contributes greatly to the general success of a nation and necessitates frequent mobility. (Rodrigue, 2020).The implication is that high-quality and reliable transport network need to be available to improve accessibility to roads and transport services, as good access can increase the price that traders can get for their goods and help traders establish new markets (Porter, 2002&Njenga and Davis, 2003, Johnson 2016).

Gender plays animportant role in transport planning, principally in addressing individual mobility needs in urban and rural areas andin promoting the United Nations Sustainable Development Goals (SDGs). (Scheiner

2012; World Bank, 20011).Hence, to guarantee sustainable (urban) transport, it is essential to achieve gender equality in transport. This is because, although making up the majority of the world's employment, women and girls are still marginalized, disadvantaged, and invisible in the transportation system (Kacharo et al, 2022). Within most developing nations and in Nigeria in particular, transportation continues to play a significant role in trading activities and distribution of goods across the sub-region and given the fact that trading, and indeed the overall economic development of these regions is thus a function of its transport systems, there is need for an efficient urban transport. Even though urban transportation connects different land uses in most cities, however it has not only remained ineffective throughout time but has also become more costly and unsafe (Egunjobi, 1999).

According to Filani (2002), from the First National Development Plan Period (1962–1968), the transportation sector has expended a significant quantity of resources, averaging 20.3% of the total projected national resource. This has brought asignificantprogress in this sector; nevertheless, it is threatened with many problems which include poor planning, urban traffic congestion,and deplorable states of vehiclesamong others. Even with the massive resources dedicated to transportation development, it is still insufficient. As a result, Nigerian cities experience poor intra-connectivity. (Filani, 2002; Oyesiku, 2002a; Ogunsanya, 2002; Egunjobi, 2002; Osita*et al.*, 2003).

However,there is still a shortage of various kinds of transportation, which makes it difficult to move freight easily. This is especially true given the growing need for both public and private transportation systems. Consequently, it is not unusual for traders to encounter lengthy delays at transport terminals while using a mode of transportation (Dupuy, 2007; Wrigley-Asante, 2013).Also, occasional use ofvehicles which are not road worthy for such lengthy journeys and persistent violent robberies further pose safety and security threats. In effect, issues of mobility and accessibility affect traders' ability to enhance their livelihoods as delays affect their socio-economic status and businesses in the long run.

Even though, the condition of urban transport system in the Nigerian cities affects both men and women, previous empirical and theoretical debates assumed thesimilarity in theirexperiences(Seager, 1992; Moser, 1993; Robinson, 1998, etc.). Hence, every attempt at solving mobility problemswithin urban cities was madewithout gender considerations. The assumptions have always been such that the explanations are applicable equally to both men and women.

Not until recently, most studies in the developed and some developing worlds have sought to reveal women's mobility experience in various places. Some of such recent researches were based on sex segregated data and clearly indicatedthat spatial experiences of both men and women differ. It also observed that disparity between women and men run through all aspects of urban life: in mobility patterns and mode choice; in housing patterns and homelessness; in labour force participation andemployment and in the use of urban social space (Peters 2002; Rosenbloom 2004; etc). Despite the increase in women engaged in paid labour market and entrepreneurship, women still engage in more responsibilities than men combining paid employment with household labouring and caring for others. This significantly influences their travel arrangements, modal choice and also affects their scheduling of journeys and level of active contribution in meaningful economic activity than men (Hamilton & Jenkins, 2005). Hence, there is a need to improve the transport system to ensure gender balance and active participation of men and women in societal development. (Asiyanbola, 2010).

Even though extensive research has been carried out on global level to widen the scope of the genderaspect in transport planning and policies, an in-depth quantitative analysis on transport roles in shaping gender and trading activities has not been carried out in Nigeria, both of which are essential in facilitating economic

growth and transport planning policy. This research however, aims to fill a necessary gap in this discourse by examining gender disparity in the mobility behaviour among traders in Osogbo, Nigeria, which may tend to exhibit different mobility behaviour. The main objective will be to assess the influence of traders' socio-demographic characteristics on their choice of transportation mode.

The hypothesis to be tested is:

H01: The modal choices of traders are not significantly affected by their socio-demographic factors.

2. Literature Review

Gender and Travel Mode Choice

A growing literature on mobility behaviour indicates that women's journeys usually have longer durations than men's due to the prevalence of trip chaining. Although women have more complex travel habits than men, they also use public transportation more than men for similar journeys. (Ceccato&Loukaitou-Sideris; 2020). Peter (2006) posited that men and women do not have equal access to means of transportation and transport-related decision-making and that women's mobility behaviour differs significantly from that of men. He affirms that some of these disparities may be associated with personal attitudes, temperaments, and capabilities.

In a study on gendered travel mode choice in Germany in 2012, Scheiner et al. maintained that men than women do a more significant proportion of driving. They revealed that women's lower level of driving is an outcome of theirmobility patterns, travel distances, and deliberate choice rather than just restricted access. The increasing availability of licenses and cars has resulted in convergence over time (Rosenbloom, 2006). In the U.S.A., Crane (2007), observes the convergence in travel mode choice from 1985 to 2005while addressing the issue of commute distance and duration in that, women's transportation use has reduced faster than men's.

Similarly, Hjorthol (2008) observes an average gender convergence in travel mode choice for Norway from 1992 to 2005, principally for job and business travels. Polk (2004) finds that women in Sweden use the car significantly less than men, and their intention to reduce car use is considerably more robust, even when controlling for socio-demographics and attitudes. Vance et al, (2005), reports that women significantly have a lower tendency to drive than men. Also, Iovanna(2007) studied mode choice, and number of vehicle miles travelled for maintenance trips in Germany. He observed that men drive longer vehicle miles for maintenance than women.

In the same vein, Garling&Axhausen (2003) reports that men in Austria are possibly own a car than women, they make more journeys by car, while women undertake more journeys on foot and, with less difference, by transit. These include employment and maintenance trips. Limtanakool et al. (2006) howeverindicated that a higher percentage of women than men, used trainsmore than cars for trips longer than 50 km, these differences are more evidentin commuting than for business or leisure trips.

Women's less frequent driving and use of other modes have raised severe concerns about women's time needs as induced by using slow modes that require long travel times (Turner and Grieco, 2000).

For instance, in a study of travel behaviour among low-income households in India, Astrop et al. (1996) revealed that gender variation exists in household trip frequencies, distance travel, and modal choice. They reported that women mostly rely on foot for short trips and invariably on public transport, especially the bus when undertaking a long-distance journey. Conversely, men supplement their family-owned vehicles with motorcycles and scooters to meet travel demands.

In the findings from low-income urban settlements in Durban, South Africa, Venter et al., 2006, indicate that women tend to face more severe restrictions on their livelihoods than men based in part on the subservient position women occupy concerning men in many societies. The traditional division of labour within the household assigns multiple roles to women, creating more diverse and complex needs. In the study, differences between male and female travellers were apparent. Women use taxis for their trips to work more frequently than men in all localities except the urban periphery. Women walk to work more frequently than men in all localities, except for the urban core.

On the other hand, men use different motorized transport modes (bus, train, car) more frequently and have access to a wider variety of modal options than women. Women travel shorter distances between work and home and make more trips because of their particular role in the household (Peters, 2013). He also reports that lower-income women are more likely to use public transit. In most developing countries, especially in Nigeria, employment in the informal sector dominates the livelihood landscape; non-motorised modes like bicycles and rickshaws and para-transit play a significant role in the lives of women who are dependent on these modes to access employment and other opportunities (Uteng, 2019). In urban areas, where zoning legislation often separates commercial from residential areas, women remain the hardest hit if transport accessibility is negatively affected. The same is true for women in rural areas as well since they remain dependent on others to sell their products in the regional markets, thereby minimising their control over the profits. Further, availability, affordability, and acceptability of transport remain contested.

For example, findings on women and public transport use in the Ibadan metropolis (Odufuwa, 2012 reveal a relationship between income and spatial interaction in the city. In other words, the high rate of poverty among women can partly be attributed to mobility restriction (inadequate spatial interaction), societal exclusion, and marginalisation

However, another finding centred on gender differentials, vulnerability, and mobility stress coping strategies in Nigeria by Odufuwa, 2008 deduced that male and female respondents with average educational levels could effectively plan their daily mobility. In other words, levels of education, family status, and access to private automobiles are related to mobility stress and transport insecurity. For the female respondents, a high-income group allows them to secure a private car and a driver; this will limit their driving stress and eliminate the struggle for unavailable public transport services. On the other hand, the male can easily fashion out an alternative, that is, mobility stress coping strategy that their counterpart (female) cannot do.

Findings from some other research by Johnson, 2013, using survey and interview methods, have emphasized the impact of rural transport on female entrepreneurs. It admitted that further social, cultural, and economic issues apart from transport prevent women from fully participating in the business.

With reference to trading, according to Rodrigue's (2020), the origin-destination exchange of goods and services has a spatial logic that takes into account a number of variables, including distance, trade agreements, exchange rates, and the economic, social, and industrial structure of the markets involved. He also identified several conditions that must be met before the trade can occur. These include transactional capacity, that is, it must be legally possible to make transactions, availability of commodities, and transferability, which pertains to transport infrastructures, allowing goods to be moved from their origins to their destination. The three significant impediments to transferability are regulatory and geographical barriers (time and distance) and transportation barriers (the simple capacity to move the transaction's outcome). (Rodrigue, 2020).

In addition, women frequently have to use less preferred and less expensive public transportation alternatives than males owing to their lower economic status. One of the main conclusions drawn from a

socioeconomic study conducted for an urban transport project in Ashgabat, Turkmenistan, where women earned 30% less than males, was that women depended more on less dependable and less expensive buses and trolleys.Alternatively, men had comparatively better access to taxis or enterprise transport and minibuses. (Kudat 1996).In contrast to developed countries, where women comprise the majority of transit users, public transportation is frequently one of the most expensive options accessible to households in developing nations. In such situations, low-income women use public transportation less than men, reverting to cheaper yet less attractive intermediate or non-motorised modes. (Peters 2013). Grieco, in her study of women traders in Accra, Ghana, in 1996indicated that men or boys transport goods, usually with the aid of technology such as carts, wheelbarrows, or bicycles, on the other hand, women and girls, have their heads and backs to perform load-carrying functions

3   Methodology

3.1   The study Area

Osogbo is found in the South-Western part of Nigeria. The city is located on latitude 7°46'N and 7.767°N of the equator and longitude 4°34'E and 4.567°E of the Greenwich meridian and its approximate land area is 2875km^2. Osogbo lies along the Osun River, and it is more easily accessible from any part of the state due to its centrality.It consists of two Local Government Areas:Olorunda and Osogbo. The city was carefully chosen for this study because it is a nodal town connecting different states in the South West, it is also the state capital city with high vehicular movement and commercial activities.

3.2   Survey design

This study employed quantitative and qualitative survey. Data was obtained through a questionnaire survey of 367 respondents while the qualitative study was obtained from personal interview of some selected group of traders in the markets.

3.3   Study population and sampling frame

Usually, traders arenot accurately organized in the study area thus, there were no proper documentation of their exact population size.Therefore, a pre-field exercise was carried out to estimate the numbers of registered shops within selected markets in Osogbo.

To determine the study population, ten regular markets with a high concentration of traders were selected from the study area using purposive sampling techniques, choosing from each category of daily or periodic markets that serve as the hub of commercial activities within the study area, therefore, providing an enabling situation to study the mobility and accessibility of traders since they accommodate a lot of traders' populations and various goods. According to Table 1, ten major markets have 3,698 registered shops operating in them spanning across the two main local governments in the study area.

Table 1: **Selected Markets in Osogbo**

Name of market	Number of Shops	Proportion % of 367	Proportion sample size
Sasa	1020	27.6	101
Old and New Orisunbare	554	14.9	55
Oja Oba	269	7.3	27
Ota-Efun	350	9.4	34
Ayegbaju	150	4.1	15
Oluode	310	8.4	31
Igbona	355	9.6	35
Okebaale	230	6.2	23
Alekuwodo	210	5.7	21
Kajola	250	6.8	25
Total	3698	100	367

Source: Researcher's pilot study 2022

To determine the sample size for this study, the researcher adopted the statistical formula theorized by Yamane (1967). The sample size derived 367tradersas the actual study population sampled for this study. The questionnaires were administered using systematic survey. Thus, every 10th shop was selected in a row of shops. However, due to the nature of the research, only those with registered shops were given the questionnaires. 302 questionnaires were retrieved and these formed the research instrument used for this study.

3.4 Data collection instruments

The questionnaire containstwo parts. The first part explored intothe socio-economic background ofrespondents (age, monthly income, educational status and household size, etc).The second part probed into some variables on travel characteristics (mode of travel whether public or private, number of householdvehicles, driving status, transport cost, travel distance and difficulties, etc). The questionnaire includes open and close-ended questions. Openended questions were designed to allow respondents provide flexibleresponses.In addition to the quantitative data, personal interview was also employed to get honest insights and information about participants' mobility experiences

3.5 Data Analysis

The Binary Logistic Regression Analysis was used to analyze the significance of the Socio demographic characteristics of male and female traders on their modal choices which in this case was categorized into public and private vehicles.The Binary logistic regression was adopted to analyze the objective of the study because it proves to be a reliable tool that determines if there are statistically significant differences between two dependent variables oncontinuous or categorical independent variables. Dataobtained from personal interviews were analyzed using qualitative method of narrative analysis. Narrative analysis helps in finding the fundamental concepts concealed inside stories (Stokes, 2003). The goal of interpretive paradigmperspective is to comprehend how people make sense of their ordinary experiences.

3.6   Ethical consideration

The institutional ethics board granted its ethical approval before the investigation could begin. Before any individual data was collected, participants were given a thorough description of the goals and advantages of the study in order to get their informed permission. Participants in the research were guaranteed secrecy, and their answers were kept confidential.

4. Results and Discussion

4.1   Socio economic characteristics of traders

Theresults reveal that 34.4% of the respondents were male traders, while 65.6% were female traders indicating that majority of the respondents were female. This relates to what has been observed in literature that women are more engaged in trading activities in Africa (Grieco 1996, 2006, World Bank, 2011). The age distribution indicated that the majority of male 44(14.6%) and female 79(26.2%) traders in Osogbofalls between the age group of 30-49 years while the elderly, >60 years had the lowest participation. This implies that most male and female traders participate in commercial activities in their active ages. Considering the educational status of the respondents, it was observed that female traders were more educated than their male counterparts in Osogbo markets. Even though, most of the women (26.2%) were educated to secondary level compared to 8.3% of their male counterparts, more women (23.2%) than men (16.6%) had a tertiary education. This results clearly reveals the gender inequality in the educational system of Nigerian and it is in contrast to previous research findings on gender and mobility (Abdulah, et al, 2023).In comparing the monthly income of male and female traders, it was observed that more women (22.8%) earned a higher income of (above #35,000), than men (15.2%). Meanwhile, more female traders than male earned < #5000.

The study also indicated that a higher percentage of female traders in Osogbo (39.4%) have no access to private vehicle compared to 18.9% of male traders. This suggests according to literature, that women have weaker car habits and stronger obligation to reduce private car use in favour of public transport (Matthies, et al, 2002; Okoko, 2007). More female traders (35.8%) than male (16.2%) were observed not to have any household vehicle at all. However, out of those with vehicles, 8.7% of men possess more than two private vehicles as compared to 5.1% of women who don't. In addition, it was observed that most female traderswho can drive, still opt for the use of public transport. Also, most female traders in the study area are without license and driving abilities as compared to 13.2% of men who cannot drive. This implies that more male traders   possess   private   vehicles   and   have   the   ability   to   drive. This aligns with existing literature that women make more short trips than men in the city and are less accessible to personal means of transport to commute to different activities centres in the city.(Adetunji, 2012).

Table 2.**Socio-demographic characteristics of traders**

		Male	Female	Male %	Female %	total	Total%
Gender	Male	104	Nill	34.4	65.6	302	100
	female	Nill	198				
Age	18-29	37	62	12.3	20.5	99	32.8
	30-49	44	79	14.6	26.2	123	40.7
	50-59	16	45	5.3	14.9	61	20.2
	>60	7	12	2.3	4.0	19	6.3
Level of education	None	17	35	5.6	11.6	52	17.2
	Primary	12	14	4.0	4.6	26	8.6
	Secondary	25	79	8.3	26.2	104	34.4
	Tertiary	50	70	16.6	23.2	120	39.7
Marital Status	Single	41	41	13.6	13.6	82	27.2
	Married	54	132	17.9	43.7	186	61.6
	Divorced	7	10	2.3	3.3	17	5.6
	Widowed	2	15	0.7	5.0	17	100.0
Monthly income	<#5000	15	26	5.0	8.6	41	13.6
	#16,000-25,000	35	65	11.6	21.5	100	33.1
	#26,000-35,000	8	38	2.6	12.6	46	15.2
	>#35,000	46	69	15.2	22.8	115	38.1
Household size	1-2	7	42	2.3	13.9	49	16.2
	3-4	48	95	15.9	31.5	143	47.4
	4-5	28	28	9.3	9.3	56	18.5
	5-6	12	24	4.0	7.9	36	11.9
	>6	9	9	3.0	3.0	18	6.0
Possession of personal vehicle	Yes	47	79	15.6	26.2	126	41.7
	No	57	119	18.9	39.4	176	58.3
No of household vehicles	None	49	108	16.2	35.8	157	52.0
	1-2	42	76	13.9	25.2	118	39.1
	2-3	9	10	3.0	3.3	19	6.3
	>3	4	4	1.3	1.3	8	2.6
Driving Status	Can drive	64	72	21.2	23.8	136	45.0
	Cannot drive	40	126	13.2	41.7	166	55.0

The resultfrom the logistic regression revealed that among female traders, monthly income (Wald= 9.088, p < .01) and driving status (Wald= 8.376, p < .01)were significant predictors of mode choice of transport. Other social demographic factors (age, educational qualification, marital status, house hold size and personal vehicle) were not significant predictors. The odds ratio (OR) for monthly income was 1.718 (95% CI 1.208 – 2.442), and for driving status was 3.629 (95% CI 1.516 – 8.686).

Table 3**Results of Binary Logistic Regression Showing Social demographics predicting mode choice of female traders**

Step 1	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Predictors								
Age	.507	.260	3.816	1	.051	1.661	.998	2.763
Education Qualification	.253	.176	2.064	1	.151	1.287	.912	1.817
Marital Status	.152	.273	.311	1	.577	1.164	.682	1.987
Monthly Income	.541	.179	9.088	1	.003	1.718	1.208	2.442
Household Size	-.097	.161	.366	1	.545	.907	.661	1.244
Possession of Personal Vehicle	-.572	.435	1.731	1	.188	.565	.241	1.323
Driving Status	1.289	.445	8.376	1	.004	3.629	1.516	8.686
Constant	-3.555	1.282	7.690	1	.006	.029	.998	2.763
-2 Log likelihood	213.746							
Cox & Snell R Square	.137							
Nagelkerke R Square	.194							

Source: SPSS Version 26, Author's Computation (2023)

The result in Table 3 revealed that among the male traders, none of the socio demographic characteristics had significant influence on mode choice of transportation.

Table 4: Binary Logistic Regression Showing Social demographics predicting mode choice of male traders

Step 1	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Predictors								
Age	-.075	.305	.060	1	.806	.928	.510	1.689
Education Qualification	.310	.213	2.130	1	.144	1.364	.899	2.069
Marital Status	-.054	.419	.017	1	.897	.947	.417	2.152
Monthly Income	.170	.218	.613	1	.434	1.186	.774	1.817
Household Size	-.031	.212	.021	1	.885	.970	.640	1.469
Possession of Personal Vehicle	.666	.511	1.701	1	.192	1.946	.715	5.294
Driving Status	-.239	.457	.274	1	.601	.787	.321	1.929
Constant	-1.721	1.697	1.029	1	.310	.179	.510	1.689
-2 Log likelihood	137.653							
Cox & Snell R Square	.059							
Nagelkerke R Square	.079							

Authors Analysis, 2023

4.2 Relationship between Socio Economic Characteristics and Modal Choice

This study examines the influence of socio-demographic characteristics on modal choices of traders, the Logistic Regression Analysis revealed that among female traders, monthly income (Wald= 9.088, p < .01) and driving status (Wald= 8.376, p < .01) were significant predictors of mode choice of transport. Other social demographic factors (age, educational qualification, marital status, house hold size and possession of vehicle) were not significant predictors, the estimated coefficients for socio demographic factors of female traders indicated that the model correctly predicted 28.3% of behaviours directed towards personal cars and 88.4% of behaviours directed towards public vehicles. However, among male traders, none of the socio demographic characteristics had significant influence on mode choice of transportation, the estimated coefficients for socio demographic factors of male traders indicated that the model predicted 54% of behaviours directed towards

personal cars and 72.2% of behaviours directed towards public vehicles. An overall percentage corrected prediction was 63.5%.

Regarding women using public transport, findings fromthis study observe that female traders patronize public transport to transfer their goods from wholesale markets to their final destination and this relates to existing literatures which states that women use more of public transport than men (Hanson, 2012; Pourhashem et al. 2019; Amatullah A, et al, 2022).The results of this study is also similar to the work of Scheiner et al (2012) who indicatedthat, men than women do a more significant proportion of driving and that women's lower levels of driving result from their activity patterns, trip distances, and deliberate choice rather than just limited access.Similarly, a study conducted in Ibadan by Odufuwa, 2012 reported that despite women ability to drive, most of them still depend on public transport system on a daily basis. This was therefore justified by the numbers of trips made by public transport. However, the findings negates the findings of (Peters 2013) who noted that lower-income women are more likely to use public transit. This study on the contrary, observed that female traders earn higher income than males and still opt for public transport because it was more affordable for carrying goods from one point to another.

4.3 Qualitative Analysis

4.3.1 Accessibility and mode choice: Participants in the in depth interview raised issues regarding the availability, frequency of usage of different mode of transport. All the respondents indicated that public transportation was readily available for usage. Traders indicated that there are now many more vehicles in the city than was previously the case.

4.3.2 Affordability

Public transport is perceived by most traders as more affordable in transporting goods than car. Some private car users recognize that if they used public transport they would save money. But for public transport users with lower incomes, travel cost is very important.

A female trader from Ota-Efun Market intimated:

 "I don't have a private vehicle and I can't afford it for now due to my insufficient income, hence I have to resort to using public transport at times when my goods arrive at the market. It is very affordable for bulky goods and I have no option than to use it. Moreover, the public transport is always available."

In confirmation with the trader's remarks, a preponderance of the total respondents agreed with the claims. In addition, many traders also identified public transport as the most appropriate and the safest in transporting their goods from the wholesale markets to their final destination. They revealed that using private vehicles whether truck or a bus was not economical and affordable.

A male trader in tyres and plastic products in Alekuwodo:

" I have my personal trucks but I can't use them for transporting my goods. I prefer to pay a public truck to bring the goods right to my shop. It is more economical and the drivers are also more experienced".

However, most of the traders also indicated that there was no need for hiring a public vehicle to get their goods from the wholesale market on the basis of short distance.

" *I can afford to use my personal car to buy my goods because the distance to the larger markets is not too much and the size of my load can be accommodated by my vehicle. Moreover, I restock here in the town and sometimes, I travel to Ibadan. (a provision seller in Alekuwodo market, Personal interview)*.

4.3.3 Travel time

Another important reason for choice of transport mode for traders is long waiting times and wasting of time which has been considered to be a disadvantage of public transport. In areas where traders of agricultural products have to convey their goods from poor rural farms with bad roads, the bus, is considered to be faster than the private cars. But for travels within the city or in areas where wholesale markets are located close to traders, using public transport is considered as a waste of time by almost all the respondents. Traders observed long waiting times as a barrier to public vehicles in rural areas when their goods are being loaded into the vehicles and where they have to wait for other traders before they embarked on their journeys. A crucial aspect for these traders is the lack of control due to the uncertainty of when the bus will arrive and the perception that public transport is unreliable. Hence, they feel that if they use public transport, they will not be able to meet their schedules.

A female trader in Olu Ode market remarked:

" *I make special arrangements with my suppliers. The supplier sends his or her own vehicle especially trucks, vans and buses to deliver the goods to me while I pay for the transport and the goods because transporting the goods is a lot of stress and wastes a lot of time.*"

However, traders also indicated that it was most appropriate to use their personal vehicles for fragile and more compact goods, while public transport should be for bulky goods.

4.3.4 Comfortability

Comfort is an important factor for all the respondents in considering their modal choices. Comfort means seats are clean and soft, a pleasant temperature, and not many passengers in the vehicle. (Beira,& Cabral, 2007). Generally, majority of the traders perceive that public buses are comfortable to an extent while transporting their goods especially if the bus has been chartered for personal use, but the large number of people at peak hours constitute a problem. On the other hand, some traders considered it as uncomfortable and too crowded.

A male trader in building materials in Orisunbare explained:

"It's too tight and too hot inside the public bus with a lot of people. I would have preferred my private vehicle if the journey was not a distance"

5. Conclusion

Using Chi-square and Binary Logistic Regression analysis on a systematic survey of ten markets in Osogbo, South Western Nigeria, this study examines the gender differences of traders' socio demographic factors on modal choice. With reference to the objective of this paper, the findings of the study indicate the following: First, female traders use more of public transport than their male counterparts. Second, socio demographic factors such as monthly income and driving status significantly influence the mode choice of female traders while none of the factors influence themodal choice male traders. The study also highlights how the consideration of some of the factors such as: affordability, travel time and comfort, listed in the study is crucial

in the choice of mobility of traders. The study, therefore, calls for a need to improve the public transport system within and outside the city and the need to incorporate gender policies into transport planning.

This study is not without some limitations. One of such is the locational context. It is also restricted to road users only with constraints to motorized private and public and transport systems. Future studies should include more cities of developing nations with high populations and vast commercial activities. This would help to improve the generalization of this research. Furthermore, a more comprehensive survey where actual transport times, safety perception and costs of traders across different locations in other developing countries of the world are adequately measured should be conducted in the future.

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