

## Essence of Hybrid Transportation on Commercial Driver's Transaction in South East, Nigeria

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### Abstract

The study examined essence of hybrid transportation on commercial driver's transaction in South- East, Nigeria. The study identified delay as a problem. The specific objective examined form utility on commercial driver's transaction in south- East, Nigeria among others. Research question is to what extent does form utility affect commercial driver's transaction in South-East, Nigeria among others. Research hypothesis is there is no significant relationship between form utility and commercial driver's transaction in South-East, Nigeria among others. Review of related literature had insight at components of physical distribution, theory of rural settlement propounded by Hudson (1969) and empirical review. Survey research design was adopted. Area of study was Onitsha peace mass transit Park situated at Oguta road. Population of the study was drivers of peace mass transit. The sample size was 243, but 215 copies of questionnaire were used and duly filled. Two point Likert scale of questioning was adopted. The study found out that Federal government of Nigeria should endeavour to develop transportation modes to standard. The study concluded that Federal government of Nigeria should endaeavour to develop transportation modes to standard. The study recommended that Federal government of Nigeria should endeavour to develop all the transportation modes to standard among others.

### Keywords:

Form utility,  
Possession utility,  
Time utility and  
Place utility

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### **Background to the Study**

Essence is the true nature of hybrid transportation which is the combination of two or more transportation modes to move products or goods to the market. Hybrid, transportation could be called intermodal transportation. The essence of hybrid transportation is to exploit the joint merits of the combined modes. Transportation is costly, because marketers bring the products or goods close to customer's reach. Hybrid mode (involving water and road) is called fishy back; this states that products are transferred from ship to articulated vehicles. However, if involving rail and road (especially using trucks) is called piggy back; this explains that products are transferred from train to truck. On the other hand, transship utilizes water and rail, which means that products are transferred from ship to train. While air truck uses air and truck; this instigates that products are transferred from airplane to truck in airports. Only fishy back and piggy back are more evident in South – East Nigeria.

Hybrid transportation aid customers a lot in South-East, Nigeria, Hybrid transportation is inevitable because of the external environment which involves physical environment. Customer's transaction is when an agreement is reached between the seller and the buyer to deliver products, goods, or raw materials from the seller's place to the buyer's place there after drivers got involved. Transportation creates place utility by moving the goods from the place of production to the place of consumption. Odedoku, Udakogo and Ogoji (2002) define transportation as a means of moving goods from their place of production to the place of consumption “Improvement in transportation accounts largely for the improved inter-relationship and inter-dependence between the people in the country”. Ezeagu (2006) in his own opinion sees transportation as “a means of moving goods and human beings from place to place”. Eyitera (2005) views transportation as “a means by which people and goods are carried from one place to another”.

Transportation involves moving from one place to another, which engages the use of animals such as Horses, camels, and Donkies. Transportation can be made with the use of wheel barrows, bicycles, motor cycles, tricycles and vehicles etc. challenges are expected to evolve once transportation is concerned. The major of these challenges of this study is delay which can hinder a customer in terms of form utility, possession utility, time utility and place utility.

### **Statement of the Problem**

It is obvious that machines are used for transportation and these machines are operated by engine or engines. These machines involve forklifts and conveyor belts etc. The machines are likely to breakdown at any point in time which will introduce delay. However, since hybrid transportation is the combination of two or more modes of transportation; delay is also experienced because of loading and off loading that are involved, while transportation of good, products, or raw materials from one transportation mode to another. Delay is the problem, buyers envisage, because goods, products or raw materials seem not be arrive at the expected or appropriate time. When this happens there is a tendency that some buyers or customers will seek for another retail outlet where the goods, products or raw materials are available. Once this happens a customer or customers are to be lost.

### **Objectives of the Study**

The general objective of this study is to examine essence of hybrid transportation on commercial driver's transaction in South-East, Nigeria. The study has specific objectives. The specific objectives are to:

- i. Examine form utility on commercial driver's transaction in South – East Nigeria.
- ii. Examine possession utility on commercial driver's transaction in South – East Nigeria.
- iii. Evaluate time utility on commercial driver's transaction in South – East, Nigeria.
- iv. Determine place utility on commercial driver's transaction in South – East, Nigeria.

### **Research Questions**

This study has these research questions to attend to. The research questions are:

- i. To what extent does form utility affect commercial driver's transaction in South East, Nigeria?
- ii. To what extent does possession utility affect commercial driver's transaction in South- East, Nigeria?
- iii. To what extent does time utility on commercial driver's transaction in South – East, Nigeria?
- iv. To what extent does place utility on commercial driver's transaction in South – East, Nigeria?

### **Research Hypotheses**

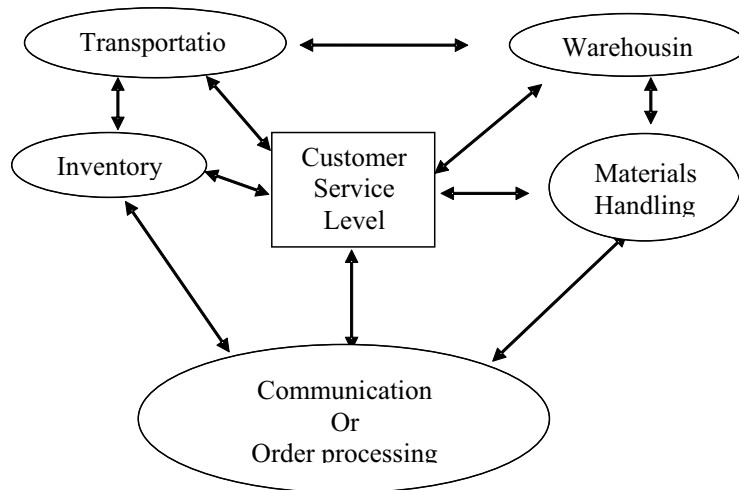
These research hypotheses have to be tested. The research hypotheses are:

- H<sub>0</sub>:** There is no significant relationship between form utility and commercial driver's transaction in South – East, Nigeria.
- H<sub>0ii</sub>:** There is no significant relationship between possession utility and commercial driver's transaction in South – East, Nigeria.
- H<sub>0iii</sub>:** There is no significant relationship between time utility and commercial driver's transaction in South – East, Nigeria
- H<sub>0iv</sub>:** There is no significant relationship between place utility and commercial driver's transaction in South – East, Nigeria.

## Review of Related Literature

### Conceptual Review

**Figure 1:** Components of Physical Distribution



**Source:** Okpara (2012). *Contemporary Marketing: Topical and tropicalised*; Avan Global Publications, Owerri.

Physical distribution system (from the Greek word, *systema*), may be seen as an organized group of parts or components linked together according to a plan, to achieve specific objectives (Kurtz and Boone, 1984). Therefore, physical distribution activities and functions are required to achieve organizational objectives. These activities work like a spider's cobweb with each web strand occupying a unique position in making the spiders objectives of catching prey effective. No activity could be said to be less important in the total quest for customer satisfaction. Managers in charge of these separate components of physical distribution are to minimize costs, even at the detriment of other components.

For instance, moving Dangote cement in bulk from Aba, using train, may be a wise decision by the transport manager of cement, as transport cost is reduced per haulage. But the inventory and ware housing manager may object to this option as his carrying and handling costs especially in Aba will rise. Team work, and wise trade-offs are the holy grail in physical distribution management.

**Transportation:** Is typically the costliest of all physical distribution components. It is probably the most regulated and monitored, by different tiers of government in Nigeria. This component of physical distribution has to do with moving the products to warehouses, middlemen or consumers. Transportation modes include road, rail, water, pipeline, air and intermodal, or hybrid.

- a. **Road:** This is most popular medium of transportation in Nigeria in spite of the bad road network, cars, trucks, push trucks, bicycles and even persons.

- b. **Rail:** This is the mode that uses trains as its vehicle. Railways link all regions in Nigeria, and are operated only by government, through the Nigeria Railway cooperation (NRC). This made the Nigeria Railway Corporation very popular in the country up till 1980s.
- c. **Water:** With major sea ports in cities like Warri, Port Harcourt, Calabar, Lagos etc transportation through water is a mainstay, especially in international marketing, using sea vessels of different shapes and sizes, owned by different individuals, institutions and government. It could be for international or inland operations.
- d. **Pipelines:** In Nigeria this transport mode is still specialized and government owned, for the transportation of petroleum products. These pipelines link the refineries to designated depots.
- e. **Air:** Air transport recently witnessed a boost, with the increased participation of private air lines (both local and foreign) and the construction of more airports.
- f. **Hybrid:** This is the combination of two or more transportation modes in moving the same products to the markets. It could also be called inter modal transportation. The essence of this means is to exploit the joint merits of the combined modes. While minimizing their individual demerits, although not quite popular, it is still prevalent in Nigeria. This type of hybrid mode (involving water and road) is called fishy back. However, if involving rail and road (especially using trucks) is called piggy back. Trans-ship utilizes water and rail, while air truck uses air and truck (Kotler and Armstrong, 1999). Only fishy back and Piggy back are more evident in Nigeria.

**Ware Housing:** This is another prominent component of the physical distribution system and the second costliest, after transportation (Kurtz and Boone, 1984). Ware housing enables goods to be stored till needed by the consumers. The essence is to meet customer service level by ensuring a timely and rapid supply of the products. A ware house may be storage or a distribution warehouse. It is a storage warehouse, when goods are collected and held only for short periods before being distributed down the channel (Brassington and Pettit, 1997). It is designed to help move goods rather than to store them. For instance, many traders who pool their funds to buy truck loads or several containers of goods have a collection point where these are temporarily kept, sorted and shared. Furthermore, warehouses may be private or public. Private warehouses are owned and operated by an organization within a products channel of manufacturer, wholesale or retail. They are usually exclusive for own goods. Public warehouses are rented spaces or properties of other firms or individuals not necessarily engaged in the channel of distribution of any product.

Whether public or private, for storage or distribution, key warehousing decision should be made on:

- a. What type (s) of ware housing needed
- b. How many
- c. Which location (s)

**Materials Handling:** Materials handling is usually an internal operation performed when the goods had reached, remained in or are leaving the warehouses, because of this close link between materials handling and warehousing, they are sometimes, treated together or managed as one function. Appropriate materials handling requires the use and maintenance of adequate men and machines to minimize losses from breakages, spoilage (expiring), or theft. Forklifts, containerization, conveyor belts, etc are popular materials handling facilities that help minimize losses.

**Communication (order processing):** This is the set of procedures for receiving, treating and dispatching orders sent by customers. These orders may be submitted directly by the customers, or indirectly (by a company's sales person). Whether directly or indirectly the means of transmitting the orders could be personal or through phones, fax, e-mail, post, internet etc. orders, once received should be processed with speed and precision, invoices and other documentations are promptly and accurately prepared and sent to relevant units, including the warehouses. The warehouse usually picks, packs and ships the products as ordered.

**Inventory Management:** To avoid out of stock and customer dissatisfaction, good must be available for purchase as and when needed working more with warehouse and materials handling men, inventory managers ensure an appropriate level of stock always. But carrying large stocks to ensure customer satisfaction incurs higher inventory costs (in transportation, handling, warehousing, etc). A tradeoff is required between these two: Customer satisfaction and inventory carrying costs. The trade - off involves a careful analysis of the following.

- a. When to order new stock.
- b. How much to order.

To assist in the above inventory management techniques, exist, and they include:

i. **Economic Order Quantity (EOQ):** this technique emphasizes a balance between two fundamental costs involved in inventory carrying costs, (such as costs of perishability, expiry, damage, theft, rent, refrigeration, insurance, etc) and the ordering costs, EOQ is simply a technique which indicates the required volume of inventory at which the sum of both the inventory's carrying costs and its order processing cost, are at a minimum (Etzet, Walker, and Stanton, 1997). The resultant EOQ is a guide and not necessarily an end in itself. It may be adjusted with hindsight and experience for instance a dealer may approximate an EOQ size of 342 bags of flour to 350 bags if trucks load of flour come in lots of 350 bags. Furthermore, once EOQ is determined, additional decisions are necessarily on issues such as:

- a. **Re-order points:** When to re-order, taking note of order lead time (period between order placement and order supply to the ware house)
- b. The average daily demand of customers and
- c. The required buffer (or safety) stock to take care of likely demand fluctuations.



ii. **Just - in - Time (JIT) Technique:** this was popularized in Japan. It is an integration of purchasing, production scheduling and inventory control. This is where marketing logistics plays a vital role. It involves a firm, buying in small needed quantities, just in time for production, and produces needed quantities, just in time for sales (Etzel, Walker, and Stanton, 1997). The arduous task and cost of carrying and handling inventory (especially safety or buffer stock) etc, are minimized significantly. JIT techniques operates more in expensive complex products such as automobiles, computers, photocopiers, etc.

iii. **Quick response (QR) Technique:** JIT above is accused of being production oriented. Concentrating more on relationships between producers and their suppliers. Quick Response is market oriented, concentrating more on relationships between producers (or middlemen) and their customers. It could also be called the market Response system (Etzel, Walker, and Stanton, 1997).

The rationale of QR technique is that any single purchase for use by final consumers, refuses the product level in the market and should activate a process to produce and deliver a replacement. This consequently results in avoidance of excess inventories and their cost. Quick Response Technique operates more effective and steady power supply.

### **Theoretical Framework**

The theory of rural settlement is propounded by Hudson (1969). The study is anchored to the theory, because the marketer expected the consignments to be delivered appropriately in terms of time utility, place utility, form utility and possession utility. Time utility, it means that the goods are to be delivered at the right time. Place utility, it means that the goods are to be delivered at the place, which means that customers retail outlets or warehouses. Form utility, it requires that the goods are to be delivered at the right form which means that the goods will not be damaged, but in the actual form they were at the production place. Possession utility, this means that the customer will receive the goods and acknowledge that the goods are in good order.

### **Empirical Review**

Gbam (2017) carried a study on effect of transportation on the marketing of agricultural products in Jos North. The main objective of the study is to ascertain the relationship between efficient transportation system and the cost of agricultural products. Survey research method was employed. The population of the study consist of seven markets in Jos North L.G.A. The study adopted purposive sampling technique to enable a deliberate selection. Twenty-five traders were purposively selected from a total sample size of 75. Findings shown that transportation plays an important role in the distribution of Agricultural products. The study recommends that federal, state and local government should provide adequate transportation system which will help in conveying the farm's products from their places of production to places of consumption. The study concluded that all transportation facilities in the country should be upgraded by federal Government and there should be general improvement in the transportation system which will encourage farmers to work harder.

Ajiboye and Afolayan (2009) studied on the impact of transportation on agricultural production in a developing country: a case of Kolanut production in Nigeria. A total of 100 respondents were randomly selected and interviewed which represent 20% of the registered kolanut farmers in Remo land, Ogun State with 40% of the respondents from Sagamu local Government area and 30% each from Ikenne and Remo North L.G.A respectively while the data collected were analyzed using descriptive statistics such as tables of frequencies and percentage distributions. This study revealed that an improved transportation will encourage farmers to work harder in the rural areas for increased production, add value to their products, reduced spoilage and wastage, empower the farmer as well as having positive impact on their productivity, income, employment and reduce poverty level in the rural areas since it will be easier to move inputs and workers to farm as well as products to markets and agro-allied industry. The study concluded that it enhances quality of life of the people, creates market for agricultural produce, facilitates interaction among geographical and economic regions and opened up new areas to economic focus.

Ajiboye (2011) conducted a study on the effects of transportation system on food marketing and security in Nigeria. The objective of the study is that it examines how transportation systems affect food marketing and security in Nigeria. A total of 300 respondents were randomly selected and interviewed which represented 20% of the registered food traders within the study area, while the analysis of the data obtained were based on simple statistics supported by a series of tables showing percentage distribution of some variable. In conclusion, it has been observed that the inadequacy of transportation facilities high cost of transport and high level of wastage due to poor storage and processing facilities in the study area has affected greatly the level of food marketing and security in the study area.

## **Methodology**

### **Research Design**

The study adopted survey research design. Survey research design show cased how hybrid transportation is being utilized in South- East Nigeria. The study was elaborated clearly by the manner; drivers of peace mass transit in Onitsha South-East, Nigeria responded to the questionnaire.

### **Area of the Study**

This study was conducted in Onitsha metropolis in South - East, Nigeria. The respondents were drivers of peace mass transit.

### **Population of the Study**

Population of this study was commercial drivers of peace mass transit that is situated at Oguta road in Onitsha Metropolis Anambra State in South-East, Nigeria.

### **Sampling Plan**

Sample plan, consists of sample designs, which refer to the different ways, a researcher draws samples from any given population as opined by Nnamdi (1991). Sampling plan



involves sample unit, sample size, sample method and sample procedure. The sample unit consisted of drivers of peace mass transit Onitsha. The sample size of this study was two hundred and forty-three (243). Out of 243, two hundred and fifteen (215) respondents duly filled their copies of questionnaire and the copies were used for the study. The method utilized was the distribution of questionnaire. The procedure applied was non-probability sampling and the type applied was the convenience or accidental sampling procedure.

### Data Presentation and Analysis

On the collection of the copies of questionnaire it was acknowledged that two hundred and fifteen (215) copies were to be in a useful form.

**Table 1:** Gender of Respondents

Sex	Frequency	Percentage
Female	-	-
Male	215	100
Total	215	100

**Source:** Field survey, August, 2019

From data extracted, two hundred and fifteen (215) respondents were drivers of peace mass transits. No female respondent was recorded. The percentage was 100%.

**Table 2:** Age Distribution of Respondents

Sex	Frequency	Percentage
18-24	26	12
25-34	106	49
35-44	51	24
45-54	32	15
Total	215	100

**Source:** Field survey, August, 2019

Eighteen (18) to twenty-four (24) years were twenty-six (26) respondents resulted to (12%). Twenty-five (25) to thirty-four (34) years were one hundred and six (106) which was (49%). Thirty -five (35) to forty-four (44) years were fifty-one (51) respondents and percentage was (24%). Forty -five (45) to fifty-four (54) years were thirty-two (32) respondents, which resulted to (15%).

**Table 3:** Level of Education of Respondents

Educational level	Frequency	Percentage
No formal education	05	02
Primary	11	06
Post primary	109	50
Tertiary	90	42
Total	215	100

**Source:** Field survey, August, 2019.

The data extracted from respondents stated that five (5) respondents had no formal education, which resulted to 2%. Eleven (11) respondents had primary education and the percentage was 6% the Respondents that had post primary education were one hundred and nine (109) and the percentage was 50% on the other hand ninety (90) respondents had tertiary education and the percentage was 42%.

**Table 4:** Analysis of Attitude Questions

S/N	Questions	Agree	Disagree
1	Do hybrid transportation modes effective in South-East, Nigeria?	211 (98%)	4 (2%)
2	Is road transportation mode effective in South-East, Nigeria?	205 (97%)	10 (5%)
3.	Is road network reliable in South-East, Nigeria?	20 (9%)	195 (91%)
4.	Do buses of peace mass transit ply all over South-East, Nigeria?	210 (98%)	5 (2%)
5.	Do transportation experience traffic jam in South-East, Nigeria?	213 (99%)	2 (0%)

**Source:** Field survey, August, 2019.

#### **Analysis of Likert Questions**

1. The researcher sought to know the respondent's opinion in South-East, Nigeria. Out of two hundred and fifteen (215). Two hundred and eleven (211) agree that hybrid transportation modes are effective in South-East, Nigeria, which resulted to (98%). While four (4) respondents disagree and the percentage was (2%).
2. The researcher, enquired to know whether road transportation mode is effective in South-East, Nigeria. Two hundred and five (205) agree that road transportation mode is effective in South-East, Nigeria, which was (97%). While ten (10) respondents disagree to that question and the percentage was (5%).
3. The researcher, demanded to know if road network is reliable in South-East, Nigeria. Twenty (20) respondents agreed, which resulted to (9%). While one hundred and ninety-five (195) respondents disagree and the percentage was (91%).

4. The researcher required to know if buses of peace mass transit ply all over South-East, Nigeria. Two hundred and ten respondents agree which amounted to (98%). While five (5) respondents disagree and the percentage was (2%).
5. The researcher obliged to know if transporters experience traffic jam in South-East, Nigeria. Two hundred and thirteen (213) respondents agree and the percentage was (99%). Two (2) respondents disagree and the percentage was (0%).

### **Findings**

This study titled essence of hybrid transportation on commercial driver's transportation in South-East, Nigeria; identified that federal government of Nigeria has not developed any of the transportation mode to standard. However, certain rivers need to be dredged in South-East, Nigeria to ascertain easy movement of people and goods. If the rivers are dredge, water transportation will be preferable in certain riverine areas. Agricultural products will be easily available for people to consume. This development will aid marketers to meet up with the utilities. The railways are moribund and trains carry very bulky goods. The rail transportation is not operational in southeast, Nigeria. The Federal government does not own any airline; it affects the activities of marketers.

### **Conclusion**

The study concluded that federal government of Nigeria should Endeavour to develop transportation modes to standard. As it is obvious that Nigeria is the most populated country in Africa, there is need to develop all transportation modes to standard to ease movement in the country. Development of transportation modes will aid movement of people and goods from place to place. It will also make the transportation fare to be affordable and easy because people will now be selective to travel with the most convenient transportation mode.

### **Recommendations**

The study required that these recommendations should be achieved.

1. Federal government of Nigeria should Endeavour to develop all the transportation modes to standard.
2. Federal government of Nigeria should positively support individuals that have airline.
3. Federal government of Nigeria should ensure that major rivers are dredged.
4. Federal government of Nigeria should assign a committee that will be inspecting all vehicles used for transportation of all modes.

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