

Applying the Principles of Indigenous Logistics Systems to Supply Chain Management in Africa: Learning from Historical Culture in Nigeria

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Abstract

Trade in Africa has been disproportionately affected over the years by a poorly developed logistics and supply chain management system. Few explorative research has been done on indigenous logistics systems across Africa. This study examines the indigenous logistics systems in Nigeria, Africa's most populous country. Qualitative data was gathered from the six zones of the country examining the most popular logistics system, reasons for its popularity, its strengths and weaknesses, and opportunities for scaling up. For the first time ever, this paper defined indigenous logistics systems and supply chain management. The "waybill" system or sending goods through registered vehicles at motor parks is the choice of the majority of the citizens. The system is consistent with the cultural norms and habits of the people, prioritizes the use of local knowledge and resources in an integrated manner, offers competitive advantage to practitioners, and is sustainable. This paper concludes that, if standardized and improved upon, the "waybill" system has the potential of being the sole supply chain management system in Nigeria and across Africa.

Keywords: indigenous logistics systems (ILS), indigenous supply chain management (ISCM), supply chain management (SCM), Africa, "waybill"

1. Introduction

Africa has since its habitation experienced unique trade relations within and without. The geographical space known today as Africa has benefitted from various civilizations in its trade dealings and these have contributed immensely to the shaping of unique practices and mechanisms of logistics and supply chain management (SCM). Trade in Africa can be divided into three distinct epochs, pre-colonial, colonial, and post-colonial. These different eras have significantly influenced the way trade is facilitated on the continent. *It would be remiss to attempt an understanding of the problems associated with logistics and SCM on the continent without getting a firm grasp of its history, its struggles with and assimilation of foreign influences, and the crystallization of its unique path.*

Since trade is intrinsically linked with culture and the various influences of civilization, there are indigenous logistics systems (ILS) across the length and breadth of Africa. While there is no single pattern that fits all of Africa, similarities can be observed in various countries, brought about by factors such as a shared history of colonization, similar ethnicity, cross-border trade, and so on. Instead of sinking huge resources in creating a brand-new logistics and supply chain system in Africa in a bid to facilitate cross-border trade as envisioned in the African Continental Free Trade Agreement (AfCFTA), it makes more economic sense to study the pre-existing indigenous arrangement, identify the strengths, weaknesses, and potentials for its adoption to accelerate the much-desired intracontinental trade in Africa.

The Slave Trade and Colonization of Africa by Europeans changed the dynamics of trade, logistics, and SCM in Africa. The Europeans maintained an uneven trade with the continent, exploiting the resources and manpower readily available here. Arising from that fact, they controlled the logistics and supply chain mechanisms. They basically imported a mechanism that worked for them and protected their interests, and not necessarily one that benefitted the continent, built resilience, and ensured sustainability. Despite the imposition of the Western prototype on the continent, indigenous logistics systems (ILS) have endured to this day and are the most popular

in various parts of Africa. It would therefore be prudent to examine logistics and SCM systems indigenous to Africa, built over centuries of interactions with various cultures and forces. The fact that they remain today is a testament to their resilience and popularity. They may well be the way forward for trade in Africa.

1.1 Justification for the Study

There is hardly any substantial body of work when it comes to ILS in Africa. Even when it comes to conventional SCM, the body of literature is unacceptably thin. Oyedijo, Adams, & Koukpaki (2021) stated that only a few studies (e.g. Adebajo, Ojai, Laosirihongthong, & Tickle 2013; Ojadi, Tickle, Adebajo, Laosirihongthong, & Boon-it 2017) have considered Nigeria and the whole of Africa when it comes to SCM. Most literature in the field is focused on other countries and continents, most notably developed countries, to the exclusion of developing economies and emerging markets (Oyedijo *et al* 2021). For the few that do, they are fixated on Western SCM models, they rarely look inwards.

1.2 Research Objectives

This study has as its over-arching objective the assessment of the ILS in Africa, with Nigeria as a case study. The specific objectives of the study are:

- i) Evaluate the reasons behind the popularity or otherwise of the ILS
- ii) Analyse the strengths and weaknesses of the ILS
- iii) Assess opportunities for scaling up the ILS

1.3 Research Questions

- i) Why does the indigenous logistics system enjoy popular appeal or not?
- ii) What are the strengths and weaknesses of the ILS?
- iii) What opportunities are there for systematically scaling up the ILS?

2. Literature Review

According to Adewole and Struthers (2019), the word “logistics” was introduced into general use from the military lexicon, where it developed during the Second World War. It arose from the efforts the Allied Forces employed to win the war. After the World War, business organizations adopted similar logistics management skills employed in the war to create competitive advantages for their businesses. The acceptance into the mainstream in the latter part of the last century transformed the concept into one generally viewed as conferring advantages in business practices (Adewole & Struthers, 2019). From its creation in military concerns, it has come a long way to have everyday applications. For supply chain, on the other hand, the concept was introduced to literature at the beginning of the 1980s by R.K. Oliver and M.D. Weber, two consultants in the field of logistics (Felea & Albăstroi, 2013). Although they are credited with the coinage of the term, actual research into the roles played in integrating and coordinating different functional units began long before the introduction of the expression. Diverse fields such as logistics, marketing, organizational theory, management, and operational research pioneered what would later be integrated into SCM (Felea & Albăstroi, 2013).

The United Kingdom’s Chartered Institute of Logistics and Transport (CILT, 2018) described logistics as the positioning of resources to meet user requirements, in relation to time, which involves getting the right products to the right place in the right quantity at the right time in the right conditions and at the right costs. The notion in this description is that these products and services must conform to customer requirements. So not only must these products and services be moved, they must be done in a way that would meet with the approval of the end users. This definition makes a strong case for the incorporation of the desires and preferences of the end user in the processes which are traditionally initiated by the manufacturer. These desires and preferences cannot be understood in isolation from the situation and yearnings of a group of people which uniquely marks them; their culture and their way of life.

Ayers (2001) characterized a supply chain as “life cycle processes comprising physical, information, financial, and knowledge flows whose purpose is to satisfy end-user requirements with products and services from multiple linked suppliers” (Ayers, 2001 p. 4). This characterization attempts to paint a holistic picture of the whole process, making it a life cycle approach and including all the resources mobilized towards the delivery of the product or service to the consumer, both intellectual, physical, and financial. Khalfan, McDermott, and Kyng (2015) submitted that SCM consists of a network of different organizations, linked both upstream and downstream in a cycle, to get products to the end users through integrated processes and activities. Chopra and Meindl (2007) opined that “a supply chain consists of all parties involved, directly or indirectly, in fulfilling a

customer request. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service” (Chopra & Meindl, 2007, p. 3). This definition expands the scope of SCM to include internal activities undertaken by the company to improve the end-user experience such as product development and customer service. Whereas such activities are not traditionally seen as being part of SCM, they do play important roles as they significantly affect the value derived by the consumers. This shows that the field is dynamic and ever-changing to reflect the realities of the environment in which the system operates. Waters (2008) believes that logistics and SCM are interchangeable terms. the definition states that “Logistics - or SCM - is the function responsible for the transport and storage of materials on their journey from original suppliers, through intermediate operations, and to final customers” (Waters, 2008, p. 38).

Going by the various definitions of logistics and SCM proposed by scholars over the years, it is obvious that the two concepts share a lot of similarities. To however conclude that they are the same will be to take a simplistic view of the debate that has been generated over the years. The relationship between the two is well expressed by Hugos (2006). He acknowledged that SCM embraces logistics in its traditional concepts. He then went further to note a major difference between the two concepts. He points out that logistics manages the movement of materials within the confines of a single organization. On the other hand, SCM oversees the movement of materials through all organizations that form the supply chain. Therefore, SCM takes up logistics in addition to other activities like marketing, new product development, finance, and customer service (Hugos, 2006). *It can then be safely surmised that SCM goes beyond and above logistics and is a natural evolution of logistics, its predecessor. While logistics is internal, SCM is external.*

2.1 Problems of Western Logistics and SCM within the African Context

The Western system of logistics and SCM has been in Africa for centuries now, more than the six-centuries-long relationship it has had with Nigeria, since making its debut in the 15th Century AD (Salau, 2005). One would have expected that the system would now be operating at near-perfect levels considering the number of years the continent has had to play around with it. But that is not the case in the continent as a whole. Literature, over the years, has documented the state of trade logistics infrastructure in Africa. It is important to note that trade logistics infrastructure is a requirement for effective logistics and SCM, especially the Western system. For example, Adewole and Struthers (2019) bemoaned the fact that trade logistics infrastructure in Africa has attracted minimal attention over the years. They went on to list specifics like ‘road and rail networks, air and seaports, as well as modern technologies’, as either being poor or inadequate (Adewole & Struthers, 2019). The fallout is that trade, especially within Africa is suffering significantly. Instead of exploiting the inherent advantages of intra-African trade, the bulk of trade that Africa does is with other continents. For instance, the British Arab Commercial Bank in its 2021 White Paper said intra-African trade accounts for *less than 17%* of its total trade volume. The dire picture this statistic paints can be gleaned when it is compared with what is taking place on other continents. The same paper listed 68% and 59% as the intra-regional trades of Europe and Asia respectively. A lot of economic potentials is wasted because the continent is ignoring a ready market with its closest neighbors. One of the many reasons possibly responsible is that the continent has severally failed to develop its indigenous logistics and supply chain mechanism and has continually struggled to build a prototype of the Western system. This of course has resulted in a mixed bag of outcomes for the continent.

As a result of the poor state of infrastructure in Africa, there is a high level of unpredictability in delivery times (Adewole & Struthers, 2019). This forces companies on the continent to order for and make arrangements for storing high volumes of goods that they would not have otherwise stored if delivery times are not subjected to fluctuations because of poor infrastructure. This results in additional costs for warehousing, interests, and other associated costs (Adewole & Struthers, 2019). An estimate pins the cost at around USD 850 million a year in additional interest paid solely to buy inventories in advance (Adewole & Struthers, 2019). The same report estimated that the loss was 40% higher for African firms than for businesses in East Asia. The majority of these companies would be forced to pass on the additional costs to their customers in the form of higher prices for these commodities. The adoption of this Western model, instead of making commodities cheaper and the experience worthwhile, has resulted in higher prices for African residents. The end user is invariably paying the cost of production, transportation, and additional cost occasioned by the foisted system adopted by the manufacturer of every piece of merchandise or whose raw materials were imported. This runs contrary to the spirit of SCM which, among other things, aims to deliver *superior customer value at less cost to the supply chain*. Additionally, Matsuert (2015) wrote that transport and freight costs in Eastern Africa are among the most expensive in the world, with freight logistics expenditure reportedly 50% higher per kilometer than in Europe

and the USA.

Going further, Adewole and Struthers (2019) identified other constraints confronting the development of logistics and SCM in Africa as “a high level of bureaucracy and poor decision-making processes; inadequate technology; corruption and crime; and, more important, cultural issues” (Adewole & Struthers, 2019 p. 21). The authors seemed to have identified the crux of the matter when they mentioned, inter alia, “*and, more important, cultural issues*” (italics ours). The most important and neglected obstacle to the desired growth of logistics and SCM in Africa is the neglect of cultural issues. Failing to understand and situate the practice within the unique cultural situation of each indigenous group or country, as the case may be, has resulted in the stunting of this most important sector. Academics and practitioners have for a long time shied away from considering the effect this is having on the continual underdevelopment of trade within the African continent, and have rather concentrated time, effort, and resources on other factors without a concomitant return for all the investments. Unless empirical evidence is gathered on indigenous logistics systems in various African countries, and home-grown solutions that build on the unique strengths of local practices mixed with insights from other climes are proffered, the present trend may be here to stay for a long while.

The various submissions synthesized above have shown clearly that Western-style logistics and SCM have not produced the same results as it has in Europe and other parts of the world. Although the reasons are multi-dimensional, the impacts of culture and belief systems on why this is so are the least explored of all. The absence of concrete research on the peculiarities and strengths of ILS in Africa is costing the continent a lot and must be urgently reversed.

2.2 Definition of Terms

There is no working definition for ILS and indigenous logistics and SCM (ISCM), although the term indigenous logistics and SCM is known in the literature (Uzo & Meru 2018). This work will attempt to give working definitions to these two closely related concepts in a bid to draw the needed attention to these concepts to give trade the impetus it deserves in Africa. Tylor Edward (1871) famously described culture as the totality of the social behavior, institutions, and norms found in human societies, as well as the knowledge, beliefs, arts, laws, customs, capabilities, and habits of the individuals in these groups. In other words, culture is the way of life of a group of people or a distinct society. Indigenous Logistics Systems (ILS) involve all logistical activities that involve the forward movement and storage of goods from the original producer to the final consumer developed from an amalgam of local cultures, beliefs, and external influences and entrenched over time in a specific geographical area. It also includes the backward movement of goods from the consumers to the manufacturers for the purpose of repair or exchange for new goods, thereby reducing waste and conserving resources.

Indigenous Logistics System (ILS) refers to all logistical activities that involve the forward movement and storage of goods from the original producer to the final consumer developed from an amalgam of local cultures, beliefs, and external influences and entrenched over time in a specific geographical area. It also includes the backward movement of goods from the consumers to the manufacturers for the purpose of repair or exchange for new goods, thereby reducing waste and conserving resources

Arising from the definition above, there are systems that drive ILS within the unique ecosystem in which it operates. These interrelated systems and the practices that make them work can rightly be referred to as its supply chain system. Indigenous supply chain management (ISCM) can safely be defined as the coordination of all supply chain-related activities and processes across various interrelated operational levels geared towards getting goods and services to consumers, anchored on the utilization of local knowledge and resources in a way consistent with the cultural norms and habits of a people while minimizing operational costs and maximizing customer satisfaction, in a profitable and sustainable manner.

Indigenous supply chain management (ISCM) is the coordination of all supply chain-related activities and processes across various interrelated operational levels geared towards getting goods and services to consumers, anchored on the utilization of local knowledge and resources in a way consistent with the cultural norms and habits of a people while minimizing operational costs and maximizing customer satisfaction, in a profitable and sustainable manner.

Even though the concept of circularity and reverse logistics is just gaining traction and becoming mainstream in SCM, it is a practice that has been utilized for a long time across many cultures in Africa. Defective goods have always been returned to their makers for corrections or replacements. Containers or cases of products were routinely converted into new products like lamp holders or repositories for jewelry and other valuables. Among the Yorùbás of West Africa, there is a practice called *Pààrò*. It literally means “exchange”. Old goods and materials, particularly clothes are exchanged for other household goods that are needed. Old clothes in good

condition that have not been used for a while, or that have gone out of fashion, are exchanged for buckets, containers, and other products. This SCM model is an indigenous and innovative circular system that reduces waste, preserves the environment, and boosts the regenerative power of the whole supply chain ecosystem. This is another example of how the study of local practices and systems can generate solutions that ensure sustainability while ensuring minimal impact on the environment.

The working definitions adopted introduce the novel concepts of prioritizing the use of local knowledge and resources in an integrated manner. Both offer a competitive advantage to practitioners as they are readily available and would be at a lower cost. It would not only enhance the whole process but also save organizations considerable resources. Another new dimension introduced is managing the whole supply chain process in a way consistent with the cultural norms and habits of the people. The fact that a supply chain network respects the peculiarities of the people and deliberate efforts are made to ensure they meet customer requirements is a step that will confer dignity on the end users and ensure sustainability.

3. Study Design and Methods

3.1 Study Locations/Areas

The study was conducted in Nigeria. Many reasons justify the use of Nigeria for a pilot study on ILS in Africa. Nigeria is the most populous African country, with an estimated population of 217,093,603 (National Population Commission), and arguably the most diverse multinational state in the world, with 250 indigenous ethnic groups and over 500 distinct languages (CIFORB). Probably nowhere else in the world would such a pool of indigenous population be found to critically appraise ILS, the effects of cultural norms and Western civilization on the system, and its evolution over time. Also, Nigeria has the highest nominal GDP and largest economy in Africa (World Bank) and is an emerging global power. Nigeria is ranked as the fourth fastest-growing economy in the world. This makes the country a leading destination for international investors (Adewole and Struthers 2019). Also, the country is a hive of cross-border trade, having a combined border length of over 4,000 km (over 2,500 mi) with neighboring countries. Of this, it shares 1,497 km with Niger, 87 km with Chad, 1,690 km with Cameroon, and 773 km with Benin (Country Reports). It has a coastline of about 853 km (530 mi) in the South (Country Reports), making its ports a choice destination for merchant vessels around the world and a major entry point for West and Central African trade.

To ensure the even spread of the study, six states were purposely selected from each geopolitical zone of the country. The states are Borno (North East), Abuja (FCT and North Central), Kano (North West), Anambra (South East), Lagos (South West), and Akwa Ibom (South-South). Lagos and Abuja were chosen because they are the commercial and political capitals of the country respectively. Lagos is also the most populous city in the country, the commercial nerve center and the preferred entry point for trade, boasting an international airport and seaport. Goods are supplied to all parts of the Federation through Lagos. All other states chosen are regional commercial powerhouses and also have indigenous ethnic groups with a long history of trade. There are the Kanuris, Shuwa Arabs, and Mandara in Borno, the Hausas and Fulani in Kano, the Gbagyi and Nupe in Abuja, the Igbos in Anambra, the Yorubas and Eguns in Lagos and the Ibibio, Anang, and Oron in Akwa Ibom. The states also share boundaries with neighboring countries like Cameroon, Niger, Chad, and Benin, potentially enriching the study, as post-colonial cross-border trade and supply chain systems can be explored.

3.2 Study Population

Stakeholders and actors in SCM are the focal points of this study. Since the study is geared towards examining the pre-existing indigenous methods of goods facilitation along various points in the supply chain, the evolution of peculiar ILS, their co-existence with modern supply chain systems, and identification of the strengths and weaknesses of the hybrid systems, attention was paid to key actors like transport unions, senders/receivers (consumers), logistics companies, motor park officials and drivers.

Table 1. Sampling distribution per state

| Key Informant | Number | Total |
|------------------------|--------|-------|
| Transport Union Worker | 1 | 6 |
| Motor Park Officials | 3 | 18 |
| Drivers | 2 | 12 |
| Logistics Companies | 1 | 6 |
| Senders/Receivers | 4 | 24 |
| Total | 11 | 66 |

3.3 Sample Size/Technique

A state from each geopolitical zone with high commercial activities and the presence of indigenous ethnic groups with a known history of trade was chosen. Popular and visible players in the transport and supply chain and logistics sector like transport unions, motor park officials, drivers, and logistic companies were randomly chosen (See Table 1). Finally, the consumers, the sender,s and receivers of goods, were randomly selected on the day of visits to the parks and logistic companies.

Table 2. Sampling distribution per geopolitical zones

| Geopolitical Zone | State | Number of Interviews |
|-------------------|-----------|----------------------|
| North Central | Abuja | 11 |
| North East | Borno | 11 |
| North West | Kano | 11 |
| South East | Anambra | 11 |
| South-South | Akwa Ibom | 11 |
| South West | Lagos | 11 |
| Total | | 66 |

3.4 Methods of Data Collection/Literature Review Procedure

The main type of data collected for this study was qualitative. Secondary data were collected from extant literature on SCM and the evolution of SCM in Africa, where available. Extensive work was done in documenting the oral history of the indigenous logistics system in Nigeria since this field is uncharted and largely undocumented.

3.5 In-Depths Interviews

In-depth interviews were conducted with key actors like transport unions, senders/receivers (consumers) logistics companies, motor park officials, and drivers. This is because they are the major actors in the field and have witnessed the evolution of SCM in their various localities. In-depth Interview guides were prepared to capture the goals and over-arching objectives of this novel study on the indigenous logistics systems in Africa.

Structured interview guides were produced in line with the objectives. They are Motor Park IDI, and Customer IDI Guides (See Data Availability Statement).

In all, 66 In-depth interviews were conducted across the six geopolitical zones of the country (See Table 2). The themes covered in the IDI include history, development, effectiveness, strengths, weaknesses, and standardization of indigenous logistics system (See Data Availability Statement).

3.6 Data Collection Procedures

A desk review was done using relevant literature to appraise SCM in Africa and the inherent gaps were identified. A major discovery, which birthed this research work, is the inability of most scholarly work to focus on the social aspect of SCM and the indigenous logistics system methods most prevalent in Africa. Relevant data regarding the adoption of western models and their imposition in Africa, its peculiar challenges, and so on were gathered.

To ensure the integrity of field data to be gathered as empirical evidence for this work, some important steps were taken to ensure that high-quality data is generated. The discussion guides were administered by seasoned consultants who have had upward of 10 years experience in social and anthropological research, and who also served as field supervisors and team leads. For each study location, a trained research assistant was employed to assist the team lead. The research assistants had a deep knowledge of the subject matter, and the study location(s). A local guide with a working knowledge of the study location, local cultures, norms, and beliefs was also part of the team. A seasoned recruiter was also employed to get persons of interest already identified above in the SCM ecosystem. The recruiters ensured that knowledgeable individuals were recruited for the interviews to ensure the quality of the output. First-class kings who have a deep knowledge of the history and culture, as well as its evolution over time, of the indigenous groups that have been selected, were sought out. The interviews were recorded and later transcribed to aid the analysis of the field study. Extensive notes were taken and photographic evidence was procured for documentation purposes.

3.7 Training of Research Assistants and Local Guides

Although the research assistants employed are experienced in field surveys, a one-day training was organized to acquaint them with the objectives, focus, and ethical considerations of the study. There were practice sessions on how to conduct interviews, respond to objections and assertions, and emergencies when the security of the team is threatened.

The Recruiters and Community Liason Officers in the research work were also briefed on the general objectives and goals of the study so that their contributions would play a part in the overall success of the work.

3.8 Administration of Research Instruments and Techniques in the Field

The in-depth interviews (IDIs) were conducted by the consultants and in some cases, the trained research assistants. They were carried out in person to ensure uniformity of the data generated. Informed consent of all participants was sought and permissions were obtained before recording the interview or taking pictures.

3.9 Data Analysis Procedure

The Qualitative data gathered from the in-depth interviews (IDIs) were transcribed for ease of analysis. They were thereafter analyzed using the ATLAS.ti Windows version 22.1.4 using the *deductive analysis* approach. This approach was used because the in-depth interview guides were structured to elicit responses to already predetermined themes. The already established themes as identified in the objectives of the research work were mapped to the responses of the respondents, corresponding to the established categories. This was done to ensure the integrity of the data generated from the fieldwork

4. Empirical Findings and Discussion

4.1 ILS Today: "Waybill" or "Message"

The cultural methods of sending and receiving goods discussed above have further evolved into what is now referred to as the "Waybill" or "Message" system in most parts of Nigeria. The waybill or message system is the use of motor parks in sending or receiving goods through drivers. This system is primarily based in motor parks across the country. All interstate motor parks operate this system in Nigeria, and this delivery method is also adopted at intracity motor parks when the need arises. The drivers can deliver goods to receivers along their routes and at the final destination. The main requirements that must be met before a person could be entrusted with goods for delivery or "waybill" was a bus or vehicle that can carry both goods and passengers, and the registration of the vehicle with the motor park union in any of the 36 states of the country. In addition, the bus must be known to run a particular route. Aside from these, there are no further elaborate requirements before a driver can be entrusted with goods to deliver.

This "waybill" system is an integral part of the overall motor park operations, and drivers are eager to deliver goods as it gives them additional income apart from the fare that they receive from passengers. In many motor parks, offices have been established to coordinate issues related to the "waybill" system. Where there are no dedicated offices or storehouses, the office of the National Union of Road Transport Workers (NURTW)/Park officials in the park is used for that purpose. These offices, though, are not the sole authority on "waybill" matters at the motor parks. It is a common practice for customers to bypass the offices and meet the drivers directly. This is an acceptable practice. However, many senders prefer to go through these offices as it serves as an "insurance" or "guarantee" that their goods are in safe hands and would be delivered. It also means that if disputes occur after payment, the park officials will readily take it up and resolve it. However, even in cases of disputes involving a sender that bypassed the office and approached the driver directly, the park officials get involved in dispute resolution when it is reported to them. They do this to preserve the reputation of the "waybill" system operated in their motor park as a system that can be trusted.

Also, many motor parks have an organized system to receive goods from senders and from drivers that come from other states to drop goods for receivers. Since the movement of drivers cannot be predicted once he gets to the final destination, all items brought are dropped in the office or stores for pickup by receivers. Each park has a store and storekeeper that takes a daily inventory of all goods received and informs receivers of the arrival of their goods. Even some roadside motor parks (drop off/pick up parks) have "unofficial" storekeepers that receive items from drivers and contact the receivers. The "waybill" system operates 7 days a week. Although sending of goods may be limited at some parks during the night period, there is always a park official on hand to receive goods brought in by drivers from other states. More so, in parks known for night travel, sending of goods continues long into the night until the last bus leaves in the early hours of the morning. The following comments by stakeholders explain how the "waybill" system works in Nigeria:

“Whenever you bring your luggage to send, you meet the driver directly and bargain with him. You can pay instantly or the receiver pays. If a third party meets you at the gate and collects it from you, after negotiating with you the driver will give the third party a commission” - Driver, Lagos

“We collect the driver’s phone number and give it to the receiver, and we give the phone number of the receiver to the driver and give them the item to load into the vehicle. Then there is a law that we check the goods to know what it contains, we check to know whether is legal or illegal and who and who has the right to receive the item before it can be sent” - Park Official, Maiduguri

“When I get to the park for instance I’m sending to Kaduna, I locate where the Kaduna vehicles are and I liaise with the driver, then when we conclude on how much he’s willing to take my item for me, he requests for my number and the receiver’s number, I also take his number and the car vehicle’s number so that I can send to the person receiving it then I pay him. When he gets to the destination, they receive it” - Sender, Abuja

Because senders have the option of dealing with the driver directly or going through the motor park officials, it is common for a bus loaded with goods to have goods that were directly received by the driver and those given to motor park officials. In all cases, the mobile phone number of the receiver is written on the goods and the driver’s number is given to the sender who then forwards it to the receiver. In most cases, the driver contacts the receiver using the phone number he gave to the sender. This is often done in the presence of the sender. That act of establishing contact with the receiver in the presence of the sender builds trust in the system. With the mobile phone number of the driver in the hands of both the sender and the receiver, the goods can be tracked through telephone calls by either the sender or the receiver or both of them.

More so, most parks visited have simple registers where goods received are entered as well as the name and phone number of the sender and receiver. Any name given will suffice, no request for a form of identification is made. The mobile phone numbers and a description of the goods to be sent are the important details kept in the register. Some parks also include the name of the driver that delivered or will deliver the goods. The registration of goods delivered to the motor parks or to be sent out through motor parks was introduced in the recent past for efficiency.

The “waybill” system in operation at the motor parks delivers different categories of goods. These goods include food items, furniture, documents, machines, spare parts, and any other thing that can fit into a bus, even if it means leaving the booths open and tying the items to hold them to the vehicle. These “waybill” buses and vehicles reach all parts of the country. In most cities, it is possible to get a bus going to major cities such as Lagos and Abuja and from these cities, buses go out to all parts of the country. In other states apart from Lagos and the FCT, buses connect people and goods to the people of the state in the states visited often or traded with, or states where a sizable population of their indigenes are present. In this way, buses from different motor parks crisscross the length and breadth of the country every day, carrying with them goods sent through the “waybill” system. The comment below is an example of the various States and cities people can send goods to from just one motor park in Kano.

“To Lagos, Ibadan, and other parts across the country, and we receive goods from Lagos, Ibadan, Onitsha, Auchi, Katsina, and all over the country that is not produced here in Kano. I have sent textile materials to Maiduguri, Adamawa, Onitsha, and Abuja respectively, and I have also received from Owerri, Onitsha, and Palm Oil from Port Harcourt” Park official, Kano

However, the “waybill” or “message” system, as it is called now, is not new. It is simply an adaptation and an enhancement of past delivery methods with modern-day technological conveniences that are widely available in the country. It is the modern-day equivalent of the ILS in the days before vehicles and mobile phones. One respondent links the “waybill” or “message” system today to what was done in the past in the following comment:

“In the past, those who sell fish or those who sell caps or whatever they have for sale can travel themselves to send their goods, but now they just package the item, attach the details of the receiver, and waybill them using vehicles (waybill system). With drivers and technology (availability of mobile phones) we can waybill goods without having to travel along with it and your goods will get to the receiver” - Sender, Borno

4.2 Strengths of the Indigenous Logistics System

The “Waybill” system has particular strengths or advantages that make it the preferred means of delivery for the majority along the length and breadth of the country. Many of these strengths arise from peculiarities that can be attributed to the culture and religion of the people. From the fieldwork carried out, respondents spoke freely about the reasons why they prefer using the indigenous system rather than the Western prototype that also exists

around them. This section will enumerate those reasons and discuss them under broad subheadings. It should be noted that the strengths of the system are the same factors that account for its popularity.

4.2.1 Low Cost and Convenience

The single most recurring reason given by all respondents across the six geopolitical zones visited as to why they prefer using indigenous logistic service providers is because of the cost relative to the Western type. The prices are not fixed nor are the goods weighed. The flexible approach of not having prices that are cast in stone makes the system appealing to many Nigerians. This allows for the very African practice of haggling or 'pricing', to use the common parlance. This is a practice rooted in the African custom of generosity and being a blessing to those around us. Since the financial capacities of individuals differ, most operators at the parks believe that clients should pay according to their financial abilities. In this way, they reason that equalizing would take place. Those of little means can still access the same service at a reduced price, while the surplus from those with more means will offset their deficiencies. As gathered from the operators at the park, there are instances when nothing will be charged for goods to be sent to customers. These are cases where the operators determine the sender is indigent, a student, an official that renders public service, or a person otherwise unable to afford the payment. In other cases, a businessman or regular patron unable to pay because of some factors can have the payment deferred until he sells his goods and can afford the payment. This humane consideration cannot be found in any other system of logistics.

Some might not have anything to pay because he wants to help someone, but we accept their package. If he/she doesn't have enough or is a student and doesn't have money to pay, we can help to waybill the item free of charge. For example, a package might be sent without being paid for at first but on delivery, the receiver can pay for the item already waybilled. Driver 1, Borno

This social redistribution is a very good practice and should not be misconstrued as ripping off of the unsuspecting. The same principle of redistribution can be found in the tax system practiced all over the world, where the rich pay more so that social services can get to all. The reasoning is that those who have been fortunate should be willing to pay more.

As I stated earlier, the charges are not much and are negotiable. Customer 2, Kano

Of course, you need to bargain until we reach an agreement. Driver 1, Abuja

Different systems are used to determine the prices and they are often dependent on the park and the driver involved. Prices are charged based on such factors as the quantity of what is to be delivered, the distance of the destination, or the value of the commodity. Some simply charge the price or a proportion that a passenger would ordinarily pay for passage on the vehicle.

We charge the customer according to the quantity and taxes that would be paid before arriving at the final receiver's point and the charge is usually 50% of the total charge per passenger. General Manager, Welfare Transport, Kano

We pay for the charges at the reception spot, and it is usually the price of a seat. Receiver 1, Kano

Those big logistics companies are expensive, that is why people prefer to use motor parks since it is cheaper. The park drivers charge the price per passenger for each package which is like an extra for them and if you talk to the driver calmly, he can still reduce the price he charged for the delivery. Receiver, Lagos

There are some items you weigh like food items, yam, and rice we try not to charge too much on food items so that it will not affect the price. AKTC Staff, Akwa Ibom

Motor parks dot the landscape all over the country. The abundance of the parks and proximity to many Nigerians make it easy to access them and make use of them rather than logistics companies that are limited to one or two branches in an entire state. Even rural areas have parks through which goods could be sent to the urban centers, and rarely have branches of logistics companies or even included in their route. Many find it difficult to walk or drive to the nearest park and send the goods to the intended destination. The arrangement is very convenient for many people.

One of the factors is the easy access to delivery services, it also saves my time and energy. Receiver 1, Kano

Cost is one of the basic things that has influenced it and easy access to the parks closest to you. Like I said the proximity, they are very close to me and it's cheaper for me. Customer 2, Abuja

For clients with high volumes of goods to be delivered to other states, making use of the parks for delivery saves them a lot of money compared to accompanying the goods themselves. This system is especially cost-effective

for small and medium-sized businesses that would not move quantities of goods that would justify owning trucks. A system has been developed with these parks to facilitate the movement of the commodities at mutually beneficial prices. This has eased a lot of burdens that would otherwise have been borne by these fledgling enterprises.

We find it easier because when we compare the amount we will spend on 'way billing' items, and what we would spend to send it ourselves (traveling to send the goods by oneself) it is less, and it is cheaper. Receiver 1, Borno

The charge is not much compared to the cost of the person accompanying the goods, and it is negotiable. It is easier and more familiar to me. Male Sender, Kano

It is easier and cheaper for people to send the drivers instead of taking the message themselves. Instead of spending like ₦5000-₦6000 to go to and fro because of goods, you will just spend like ₦1000-₦2000 to send your goods. We do agree on the price. We don't have a standard price and we don't weigh. Manager Borno Express

4.2.2 Speed and Regularity

The various parks that deliver goods in Nigeria also convey passengers to destinations on their routes. In fact, for most of them, their main area is mass transit. This confers on them the advantage of plying the route every day, in many cases, multiple times a day. Customers who are interested in sending goods at different times during the day can be assured that there would be a vehicle going in their desired direction. On the other hand, for logistics companies who specialize only in courier services, the volume of goods received for delivery often determines when they would leave their point of collection. This usually results in packages waiting for days before delivery. Most logistics companies have a 7-day delivery window. This huge disparity makes sending commodities through the parks appealing to a cross-section of Nigerians. Many parks guarantee same-day, or at most 24 hours delivery anywhere in Nigeria. It makes little economic sense to pay more, only for the goods not to be delivered promptly. This has boosted the popularity of sending goods through the parks.

Apart from that, it is easier and faster. The buses at the parks travel every day which means they are always available and there will be no delay unlike in logistics companies where they will have to wait to receive plenty of goods going to a particular place before they can deliver. Receiver Lagos

The fact that we move every day contributes to the effectiveness. Manager Borno Express

The motor parks are more popular because there are certain parcels you bring here and by tomorrow, they will be in Maiduguri. No matter how big the goods are. But NIPOST you can give it to them and it will be delivered days later. it is very fast. If you have an emergency, you can just rush to the motor park and give it to the driver loading at the moment and it will be delivered. Driver 1, Abuja

It is faster because if you use courier services because of the formality involved it may take 3-4 days to receive your parcel, from my experience. Their availability, they are available almost 24/7. Number two, you can anticipate exactly when your goods will arrive. Customer 1, Abuja

A fallout of this is that formal logistics and courier companies now use these parks as back-channels for moving the goods of their clients. Instead of waiting for the commodities to get to quantities that would be economically viable for them to use their vehicles, they send these packages as they are received to their various states and pick them up at the parks for doorstep delivery. They advertise same-day delivery, charge their clients standard prices, and send them through the parks, paying them only a fraction of what was received

*Because there are scenarios where the driver or a mode of transport can develop faults and we already have goods on the ground that we need to send so we would just go ahead and use the motor parks to send them. We already have a motor park that we have liaised with. Those are the people we use. **Private Logistics Company, Abuja***

Yes, UPS and Courier Plus do too. Yes, but most times when they have goods to transport, they bring them to us. And sometimes when they even collect items, they still bring them to us for us to do the Waybill. Park Manager, Borno

Even Post-Office people bring their packages here for us to deliver, they bring their packages to drivers here to send and we deliver their items for them. It is the fastest and easiest and the delivery charges are affordable. Chairman Kaduna Line, Kano

4.2.3 Trust Anchored on Culture and Religion

The practice of sending goods through motor parks is widely trusted across the country. This might come as a bit

of a surprise considering the informal way business is transacted and the somehow loose process involved. In most cases, only the phone numbers are exchanged between the driver and the client. This notwithstanding, there are rarely cases of stolen goods occurring. The fieldwork investigated this seeming contradiction, as discussions with many stakeholders across Nigeria unfolded. A common thread running through the various submissions is that religion and culture exact a huge influence on this astonishing level of trust between total strangers. Many drivers and operators reiterated that trust is the only commodity they are trading. In other words, trust is the single most important requirement for their continual stay in business. Many cultures advocate honesty and transparency in dealing with one another. Additionally, religious tenets require that goods kept in trust should be guarded jealously.

When people believe that you are a good Muslim, they can trust you. Yes, you must not touch goods that you want to deliver, it's called Amana in Hausa. Amana is when someone asks you to keep something for him and the person will collect it in some days' time, I won't touch that thing even if it means dying. Chairman Kaduna Line, Kano

Because we have been running this system for years now and we are Trustworthy. People don't fear that their goods would miss or anything like that. Let's say someone who is supposed to pick up his item travels outside the country, even if he spends up to 2 years there before he comes for his goods, it is safe and he can come and pick it up so far he is with a receipt. And you know people stick to a place since they know that it is reliable. Secretary, God's Favour Transport, Borno

Number one is the culture. We are all of the same culture; we understand each other's languages and we trust each other due to our understanding of each other's culture. Customer 3, Abuja

The different parks, also have their system of tracking the drivers registered in their respective parks. There are codes, mostly unwritten, that guide the conduct and operations of all members. They are also internal mechanisms for dealing with errant members or fishing out bad eggs among the operators. Such self-regulations make it almost unheard of that drivers at registered parks abscond with the commodities of clients meant for delivery.

All those park drivers can be traced. If the driver refuses to deliver the package, the owner of the package will report to the chairman and is sure that the issue will be resolved. The chairman arranges for people that will beat a driver that has stolen someone's goods or he takes the driver to the police station. Although it may not be a digital or computerized database, the parks have a database that makes it possible for the drivers to be traced. Receiver, Lagos.

This reputation meticulously cultivated over the years has engendered trust in the clients who patronize these parks. They have the assurance that their goods would be delivered in good condition without compromise, as the following comments show:

Because of the peace of mind and satisfaction you get with the honest delivery of the goods. When I send goods it arrives safely and when others send them too, it arrives successfully. Receiver 1, Borno

When people come to the park even if there is no vehicle on the ground to Waybill their item at that particular time but their mind is at rest because the service the park renders is guaranteed. Park Manager, Borno

4.2.4 Ease

To ensure standardization, many logistics companies have processes that customers would have to go through, including in some cases, the filling of forms. Many Nigerians find this intimidating, concluding that their services are only meant for the educated and the elite. This perception drives many from patronizing logistics and courier companies. The motor parks, however, are noted for their simplicity. Forms are hardly filled, and where they are, it is filled by the agent in charge of the park. This simple approach gives the indigenous method another edge over the formal logistics system. A lot of valuable time is saved. The whole process is easily grasped, even by persons without formal education.

The procedures for the waybill are not as cumbersome as other ones. Customer 2, Abuja

It is less stressful, unlike those big logistics companies where you will have to go through the stress of filling forms and they delay in sending goods sometimes. Receiver Lagos

4.3 Weaknesses of the Indigenous Logistics System

Like any other human enterprise, the indigenous logistics system as much as it has strengths has its weaknesses or disadvantages too (See Table 3). The weaknesses identified by the different stakeholders would be aggregated and discussed in this section.

4.3.1 Occasional Delay

On a few occasions, there are delays occasioned by unforeseen circumstances like vehicle breakdowns, gridlock caused by road construction, accidents, and so on. A lot of inconveniences are caused by these situations. For example, the vehicle may arrive so late that a client would not be able to pick up the item sent. In other cases, important deadlines or opportunities may be missed.

The complaints/challenges are mostly on not receiving the goods on time due to maybe technical issues like having problems with car or road accident which may delay the goods/products to be received on time. General Manager, Welfare Transport, Kano

They have challenges. Because of the road, the dangers on the road, they face an accident or armed robbery, and not only that too, but the vehicle might also develop a fault on the road. Park Manager, Borno

When situations like this occur, there are often frictions because the indigenous logistics system has no inbuilt mechanism to absorb shocks or make plans for contingencies. Problems that could be solved by simply having storage for goods, and allowing clients to pick late, may lead to conflicts.

The disadvantage of some of them which I have not witnessed but have heard of is that some of them don't have a courier unit at a point where you can keep your goods in case it comes late in the night and you can come and pick them it up, they don't have such at their motor parks. Customer 2, Abuja

4.3.2 Poor Communication

Respondents on both sides of the divide complained about poor communication or a complete breakdown in communication sometimes experienced. Clients cited instances when the drivers spoke to them rudely in the course of transacting business with them. The politeness that is the standard and the respect accorded customers in formal logistics companies is often missing in the motor parks. This is a turn-off for many who would have ordinarily patronized them.

As I stated earlier inconveniences, as well as impoliteness of some drivers and officials. Sender 1, Kano

It is mostly delays in delivery and rowdiness at the parks. Sender 2, Kano

Drivers also complain of the incessant phone calls or the verbal abuses they are subjected to by customers who feel slighted because of one thing or the other. The calls they receive from customers tracking their goods may make it difficult for them to concentrate on driving. This may exasperate them and contribute to their responding angrily to the customers. In some instances, some have vowed not to deliver goods again because of the embarrassment they have received in times past

The only problem is with the owner of the goods if he needs them urgently, will keep disturbing the driver with phone calls, the driver should bring his goods, he should do this he should do that. Park Manager, Borno

Like me, I don't collect messages from anybody, because there was a day, I collected one message from one military person and the message was free. By the time I reached Kano, I called him to come and collect his message, he started abusing me, talking anyhow to me. From that time, I have never collected any message from anybody, because of the way he is talking he showed me that he is a military officer, he has the power to do anything to me. I hate that. Driver Jabi Park, Abuja

4.3.3 Absence of Insurance Coverage

A major weakness of the indigenous logistics system is the absence of insurance cover for the goods to be delivered. The informal nature of the system and the cheap rates charged makes it almost inconceivable for most operators to think of insurance coverage for the goods they carry. The belief system of most Nigerians that bad things can either be wished or prayed away also contributes to this trend. Some drivers interviewed thought that a firm believer in God would not need insurance, or that subscribing to insurance only attracts bad luck.

As Muslims, we believe that insurance creates problems. If I know that I have insurance as a driver and my motor is doing somehow, I can use it to create problems since I know I have insurance. Driver Jabi Park, Abuja

Other parks make subscribing to insurance optional because of the additional cost that would be incurred by the customers. Many customers seldom go for insurance mainly because of the cost and also because loss of commodities rarely occurs.

So, we always advise customers to subscribe for insurance because we have a reputable insurance company Leadway Insurance that undertakes our risk. The only thing is that most times a typical Nigerian would not like to pay for insurance, they will say let's leave it to God. Also, the insurance does not come for free. AKTC Staff, Akwa Ibom

When a loss occurs from either accidents or robbery, the parks have different ways of resolving the problem. Usually, meetings for the amicable resolution of the issue are called. Some clients may decide to forgo compensation for the goods in cases where the item sent is not expensive. In most cases, the loss is shared among the client, the driver, and the park management. In a few cases, when all the efforts at amicable resolution fail, law enforcement agents are involved, and the matter becomes protracted.

But most times when this kind of issue arises, both the driver and the owner of the package are called for resolution and the way it is resolved depends mostly on the owner. Receiver Lagos

No, there is no insurance. Someone who has good faith will leave the matter to God but if it's someone without good faith, the person will insist that you pay him for the lost goods. The union, our organization, and the driver. For example, some time ago, one driver was given a package to deliver to Kaduna. When he got there, he did not meet the person he was supposed to deliver it to, he brought it back to Kano, kept it in his vehicle and someone stole it from there. The owner of the package insisted that the driver must pay her #25,000, so the arrangement was made here, and the driver has been paying in instalments. Chairman Kaduna Line, Kano

4.4 Opportunities for Scaling Up the Indigenous Logistics system

The strengths of this system lie in its peculiarities rooted in deep cultural and religious beliefs and practices. It would therefore be a tricky business to preserve its uniqueness, while at the same time scaling it up and improving its services. However, simple interventions that do not destroy the core of the practice can be investigated and introduced.

4.4.1 Use of Simple Phone-Based Apps to Link Senders with Nearby Parks

The deployment of a simple phone app that lists and links senders with nearby parks and their destinations can offer customers a wide range of choices for deciding how to send their goods. The app would be furnished with other details like maps and driving instructions to the parks. A means of tracking the progress of the goods up to when they are ready for pick-up will be a welcome bonus.

4.4.2 Use of Phone-Based Apps to Link Parks with Other Parks

The development of an app that can link motor parks with other motor parks that have vehicles that ply farther routes can increase the reach of the Indigenous Logistics System. Goods would be moved from one point to the next point before eventual delivery to their destinations. For example, goods meant to be delivered across the border in Seme from Maiduguri can be brought to a park in Lagos that plies the Seme route for onward delivery to Seme. The app will link interested parks and increase their reach across Nigeria and eventually, Africa.

4.4.3 Introduction of Insurance Coverage

A partnership between the various park unions and a reputable insurance company, that will develop an arrangement for obtaining cheap premiums for the commodities to be sent to various parts of the country. Particular care would be taken not to impose something that would not be affordable to the class of people who prefer this method of logistics. This is because a high premium passed on to the customers would negate the most important appeal of this logistics system, which is affordability.

In response to their needs and socioeconomic environment, Nigerian indigenous groups have long developed an efficient and effective SCM system that was based on their cultural values. The Indigenous Logistics System developed in Nigeria has evolved in response to the needs and resources available to each generation of people. Today the "waybill" system is the present expression of the ILS in Nigeria. This evolution which has made it more natural to the everyday life of the people has, however, not deviated from the basic principle of trust, simplicity, affordability, kindness, and optimal utilization of available resources. The system is sustainable and offers a competitive advantage to practitioners as they are readily available and cost less. It would not only enhance the whole process but also save organizations considerable resources. The "waybill" system has the potential of being the sole SCM system in Nigeria and across Africa if standardized and improved upon.

4.5 Limitations

This study has some limitations. One limitation is the restriction of the sampling area to one state per zone of the country. The availability of more funds would have made including more states feasible. Additionally, the number of participants is proportionately small compared to the population of the country because only six states were included. Since this study is an exploratory one, a future study could include more states in the country, to make up for zonal variations, and widen the participant pool to mitigate response bias.

5. Conclusions

The practice of moving goods through motor parks, popularly called ‘way billing’ is the most popular in the country because it is consistent with the cultural norms and habits of the people, prioritizes the use of local knowledge and resources in an integrated manner, and offers a competitive advantage to senders and receivers. The findings of this exploratory research show that there is an existing SCM that is indigenous to Nigeria, which even facilitates cross-border trade and is cheaper than the Western prototype. This is consistent with the assertion that Africa has its unique logistics and SCM systems. If standardized and improved upon, the “waybill” system has the potential of being the sole supply chain management system in Nigeria and across Africa.

Table 3. Strengths and weaknesses of the ‘waybilling’ system

| Strengths | Weaknesses |
|---|-----------------------------------|
| <i>Low Cost and Convenience</i> | <i>Occasional delay</i> |
| <i>Speed and Regularity</i> | <i>Poor communication</i> |
| <i>Trust anchored on culture and religion</i> | <i>Absence of Insurance Cover</i> |
| <i>Simplicity</i> | |

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Data availability statement

The results of the fieldwork are available on request. The questionnaires designed for in-depth interviews are also available on request. Since the interview participants were promised anonymity information that could lead to organizational, or participant identification will be removed. Additionally, recordings of the interviews will not be provided.

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