

IDENTIFICATION OF KEY FACTORS LIMITING THE IMPLEMENTATION OF PUBLIC SURFACE
TRANSPORT POLICY IN NIGERIA.

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ABSTRACT

This research investigated the Factors Limiting Implementation of Public Surface Transport Policy in Nigeria. The collapse of inter-modal transportation and the increased pressure on roads highlights limitations in policy implementation. Using cross-sectional research design, data were collected from stakeholders (ministries) in charge of road and rail construction and maintenance. Structured questionnaires comprising 20 items to identify factors limiting implementation of public surface Transport policy in Nigeria were quantitatively adopted. A sample of 400 staff and directors participated in the online survey. Using Statistical analyses; factor analysis the key factors limiting the implementation of public surface transport policy were substantially established. Findings revealed significant challenges hindering policy implementation, including political influence (Coefficient: 0.321, $p < 0.05$), financial constraints (Coefficient: 0.246, $p < 0.05$), knowledge gaps and capacity-building (Coefficient: 0.187, $p < 0.05$), technological barriers and R&D (Coefficient: 0.135, $p < 0.05$), and stakeholder expectations (Coefficient: 0.268, $p < 0.05$). Recommendations for policymakers and administrators include reforming existing policies, optimizing financial resource allocation, investing in human capital, fostering technological advancement, and promoting inclusive decision-making processes. These identified key factors are actionable insights to inform policy reforms and enhance the effectiveness of transportation infrastructure development initiatives.

Keywords: factors limiting, Implementation, Public, Surface, Transport Policy.

CHAPTER ONE

INTRODUCTION

Background Information

Transportation stands as a cornerstone of national infrastructure, exerting profound influences on the social/economic fabric of a nation (Papacostas & Prevedours, 2012; 2017). It serves not only as a facilitator of growth and development but also as a potential obstacle that can impede societal progress. Effective transport policies play pivotal role in the allocation, management, and regulation of transportation resources, thus shaping the trajectory of a nation's development (Papacostas & Prevedours, 2012).

Governments enact regulations, infrastructure policies, pricing policies, and land-use policies to guide the transport sector for policy formulation and implementation (Williams, 2016). Marume's (2016) definition characterizes public transport policies as comprehensive frameworks comprising standards, principles, and rules established by governments to realize long-term goals for an efficient public transport system.

Babatunde (2020) highlights the central role of the government and its agencies in the process of policy formulation and implementation in Nigeria. Despite the potential involvement of civil society

organizations in principle, their actual participation in policy processes remains limited in practice. Policy formulation, as an instrumental tool employed by both public and private organizations, addresses existing problems, and aims to prevent their recurrence through articulated goals and objectives. (Babatunde, 2020).

The history of transport policy in Nigeria reveals a series of reforms and policy documents aimed at addressing the malfunctioning of the nation's transport system. The initial 1965 draft of the National Transport Policy was not adopted, leading to subsequent policy documents in 1993, 2003, 2008, and 2010. These reforms sought to address issues of modal development, integrated intermodal development, deregulation, privatization, and public-private partnership. However, the gap between policy formulation and effective implementation persisted, resulting in the deterioration of facilities in the transport sector, especially in surface transportation. (Sumalia, 2013).

The latest reform in 2010 aimed at institutionalizing the transport system through the creation of central coordinating centers, but thirteen years post-reform, the lofty goals and objectives for the transport sector, particularly surface transportation, remain largely unattainable. This gap between policy formulation and implementation has resulted in a crisis in Nigeria's transport system, marked by a lack of integration among various transport modes, inefficiencies, accidents, and high maintenance costs (Oladipo, 2016).

Road transportation involves interrelationships between the physical environment, models of political and social activity, and economic development status. (Oroleye,2019). Unlike other modes, road transportation has improved most of the world's population mobility and accessibility tremendously (Oni,2011).

The current state of the transport system and railway tracks reflects neglect and underinvestment. (Oroleye,2019).

The Nigerian Railway Corporation began in 1898, the first railroad in Nigeria was constructed by the British colonial government in October 3, 1912. (nrc.ng.org,2022).

Lack of maintenance on infrastructure and rolling stock and a high number of employees produced huge deficits. ([https://all Africa.com/stories/2011](https://allAfrica.com/stories/2011)) Lack of a specific policy statement on how the rail system/ railway should develop and the role to be performed within the economy constituted severe problem for the rail system in Nigeria. The allocation of funds to the transport system that favoured the highways has left the rail mode in precarious conditions and there is need to amend the status of the Corporation (Wikipedia,2023)

One of the major transportation problems in Nigeria is the inadequate integrated intermodal system like railroads. (Babatunde,2020) Recently in early 2021, the Nigerian government with the help of the Chinese have begun working on building new railroads, designed to facilitate trade and commerce between Nigerian cities, most notably; the recently completed Kaduna-Abuja railways. (Bassey et al, 2022).

The challenges faced by the transport sector are multifaceted, encompassing poor maintenance culture, underinvestment, and a decline in capital spending on transport development programs since the 1980s (Babatunde, 2020). The transformation of the transport sector is not only an economic imperative but also a crucial step toward alleviating poverty and promoting sustainable development in Nigeria. Identifying the policy issues that hinder the effective delivery of transport solutions is essential for devising strategies that ensure efficient and sustainable transport systems.

Problem Statement

The state of rail/road transport infrastructure in Nigeria, particularly the federal highways and railways, stands at a critical juncture. Despite the comprehensive policy reforms initiated through the National Transport Policy (NTP) in 1993, 2003, 2008, and 2010, the condition of rail tracks/federal highways remains deplorable, and the infrastructural deficit persists. As of 2010, the federal highway network, comprising 34,123 km of major roads and critical bridges, faced challenges such as overuse, lack of maintenance, and a staggering 50% in poor condition (Buhari, 2000; FGN, 2010). Additionally, State

and Local Government roads, constituting most of the road network, were also in suboptimal conditions, highlighting a systemic issue in the overall transport infrastructure (Buhari, 2000).

The constitutional distribution of responsibilities for road planning, development, and maintenance among the three tiers of government—Federal, State, and Local—has not translated into effective management of the nation's road network.

The allocation of funds to the transport system that favored the highways has left the rail mode in precarious conditions. There is need to amend the status of the Corporation, giving the management the needed powers. Appointments to the executive level of the Rail Corporation should be based on merit jettisoning the practice of employing persons on political or ethnic ground. Despite the existence of agencies like the Federal Ministry of Transport, Federal Ministry of Works, and the Federal Road Maintenance Agency (FERMA), the impact on ground has been minimal, raising questions about the effectiveness of the institutional arrangements in place (Federal Republic of Nigeria's Constitution, 1999).

While successive Nigerian governments have introduced National Transport Policies to address the growing demand for transportation and promote sustainability, the policy reforms have fallen short of achieving significant improvements/implementations. The collapse of the railway system and the subsequent increased pressure on roads highlight the inadequacies of the existing transport policies. Notable studies by Buhari (2000), Sumaila (2013), Agbonkhese et al. (2013), and Igwe et al. (2013) have reviewed the national transport policy but failed to link the deteriorating state of Rail tracks/ federal highways to the limitations and weaknesses imposed by the national transport reform document.

This study aims to investigate the factors limiting the effective implementation of public surface transport policy in Nigeria. Although several policies have been beautifully crafted in the past as contained in the NTP, 2003, 2008, and 2010 documents, a lack of coordinated effort has hindered the effectiveness of implementing these policies.

On realizing the importance of policy implementation, the aim of this study is to explore the factors limiting surface transport policy implementation in Nigeria. The research questions addressed in this research are broadly: What are the key factors limiting implementing of public surface transport policies in Nigeria. To explore these questions, questionnaires were emailed to individuals who are directly or indirectly involved to the policy-making process of surface transport. In addition, the examination of archival records, documents and observations were also conducted to gather information that would answer the research questions.

Aim and Objectives of Study

To investigate the factors limiting implementation of public surface transport in Nigeria, the following objectives have been put forward:

1. To identify the key factors limiting implementation of surface transport policy.

Research Questions

1. What are the key limiting factors to the implementation of surface transport policy?

Research Hypothesis

HO1: Each limiting factor has no significant effect on implementation of surface transport policy.

Policy Improvement: The study can inform policymakers and government agencies about the shortcomings and challenges in existing surface transportation policies. Recommendations based on research findings may contribute to the development of more effective and sustainable policies. (Sumalia,2013)

Infrastructure Development: Understanding the funding mechanisms, financial challenges, and the state of existing rail/road infrastructure can guide decisions on resource allocation and investment strategies. This, in turn, may contribute to the improvement and expansion of the road network, particularly federal highways and aid in the management, construction and maintenance of rail infrastructure and locomotive assets. (Oroleye, 2019).

Stakeholder Engagement: The assessment of stakeholder involvement and collaboration can highlight opportunities for enhancing cooperation between government agencies, civil society organizations, and the private sector. Improved collaboration can lead to more comprehensive and inclusive policy-making processes. (Buhari, 2000)

Feasibility Analysis: By evaluating the feasibility and achievability of policy goals, the study can provide realistic insights into the targets set by current policies. This understanding can assist in setting more attainable goals, reducing challenges in policy implementation, and enhancing overall success. (Marume,2016)

Mitigation of Political Instability Effects: The analysis of the impact of political instability on surface transportation policies can offer strategies to mitigate negative consequences during transitions in leadership. This knowledge is crucial for ensuring the continuity and commitment to long-term policy goals. (Ben,2018)

National Development: Improving surface transportation infrastructure is vital for economic development. This study, by addressing the challenges hindering effective policy implementation, has the potential to contribute to the overall development of Nigeria, enhancing connectivity, trade, and the quality of life for citizens. (Ibrahim,2020)

In summary, the significance of this study lies in its potential to drive positive change, inform decision-making processes, and contribute to the development of more robust and effective surface transportation policies in Nigeria.

Scope of Study

The scope of this study is defined by its focus on the surface transportation sub-sector, encompassing both road and rail infrastructure, within the geographic context of the six geo-political zones of Nigeria. The study will involve an in-depth examination of policies, practices, and challenges related to surface transportation at various levels of governance, including local, state, and federal government. Here are the key elements that define the scope:

Surface Transportation Sub-Sector: The study primarily concentrates on the road and rail components of the surface transportation sub-sector in Nigeria. It involves investigating policies, funding mechanisms, and challenges related to the construction, maintenance, and development of roads and railways.

Geographic Context: The geographic scope covers the six geo-political zones of Nigeria. These zones serve as the basis for analyzing the regional variations, challenges, and opportunities within the country. The zones include North-Central, North-East, North-West, South-East, South-South, and South-West.

Levels of Governance: The study considers the roles and responsibilities of local, state, and federal government in the planning, development, and maintenance of surface transportation infrastructure. It explores how the constitutional distribution of responsibilities among these levels of government influences the overall management of the nation's road and rail networks. (Ben,2018)

Policy Analysis: The research involves a thorough examination of the existing national transport policies and their effectiveness in addressing the challenges within the surface transportation sub-sector. This includes a historical analysis of past policy reforms and their impact on road and rail infrastructure. (Adeyeye,2022)

Stakeholder Involvement: The study assesses the engagement of various stakeholders, including government agencies, civil society organizations, and private sector entities, in the formulation and

execution of surface transportation policies at the local, state, and federal levels. (Ariyo & Oyedepo, 2017)

Challenges and Opportunities: The scope encompasses the identification and analysis of challenges and opportunities in the surface transportation sub-sector, with a focus on how these factors vary across the six geo-political zones.

Implications for National Development: The research explores the broader implications of surface transportation policies on national development. This includes considerations of economic growth, trade facilitation, and the overall well-being of citizens.

By incorporating these elements into the scope, the study aims to provide a comprehensive understanding of the surface transportation landscape in Nigeria, considering both road and rail infrastructure, and accounting for the diverse regional contexts within the six geo-political zones. (Ariyo & Oyedepo, 2017).

2.1: Conceptual Review

Oroleye, (2019) defined public policy as the proposed course of action of the government or one of its divisions. It is also defined as the authoritative allocation of values to the whole society. Policy formulation is an instrument that is used both by public and private organizations to address existing challenges or in balances and safeguard the re-occurrence of such in the nearest future through articulated goals and objectives as contained therein. A draft of the National Transport Policy was prepared in 1965, it was not adopted. (www.researchgate.net) Observed extreme malfunctioning of the nation's transport system and the associated problems lead to the emergence of the 1993 document, as the first National Transport Policy with its thrust on modal development. (<https://socialscienceresearch.org>)

The realization of the fact that the aspiration contained in this document seemed inadequate to transform the dynamics and ever-changing transport sector environment nationally led to the 2003, 2008 and 2010 reforms which paid attention to integrated intermodal development, deregulation, privatization, and public-private partnership respectively. (<https://socialscienceresearch.org>)

Policy reform is a condition that prevails on policymakers to effect changes on a policy after discovering some lapses(<http://journal.ummy.ac.id/index/php>).

This in effect did not imply that during the period, efforts were not made to improve and maintain the system and make it functional, but the overall demand for transport services and use of roads in Nigeria seems to exceed the supply. This situation requires urgent remedies to effect needed changes and improvement in the transport sector and particular road transportation in Nigeria.(Sumalia,2013).

The 2008 reform was short-lived as the need for its re-engineering of policy goals and objectives in line with social, economic and technological reality informed the emergence of 2010 National Policy document which suffers the same faith and remains essentially as a draft with the previous policies, but its contents are being implemented. (<http://journal.ummy.ac.id/index/php>).

The 2010 National Transport reform is aimed at institutionalizing transport system through the creation of central coordinating centers to administer its affairs. (<https://socialscienceresearch.org>)

Despite the various policy document reforms, the transport sector and road transport mode witnessed deterioration in facilities nine years after the last reform, not much could be said to have been achieved in the transport sector in general and road sub-sector in particular. (<https://pdfs.semanticscholar.org>). The lofty general policy goals and objectives for the transport sector and in particular the road transportation seem unattainable. As many of the Federal highways and bridges in Nigeria and expressways, are characterized with large potholes and failed portions which slow down movements and expose users to frequent accidents with the attendant loss of lives and properties. (Sumalia,2013)

According to the Federal Republic of Nigeria's Constitution (1999) the responsibility of the planning, developing and maintaining the nation's transport infrastructure is shared among the three tiers of Government. (<http://journal.umy.ac.id/index/php>).while the Federal Government, through Federal Ministry of Transport, Federal Ministry of Work and Federal Road Maintenance Agency (FERMA), is responsible for the maintenance of national highways which constitute only 17% of the existing road network in Nigeria. Despite the lopsided institutional arrangement, the impact of the three tiers of government and the Federal Government, remained minimal as the condition of Nigerian roads has become deplorable and inadequate, notwithstanding the reform put in place. (<http://journal.umy.ac.id/index/php>).

The National Transport Policy

This National Transport Policy is the primary governance document for the transport sector. A collaboration of various branches of government regulates the transportation/logistics industry, including those at the federal, state, and local levels and numerous agencies. (<https://www.atechlogistic.com>).

Objective of the Present National Transport Policy for Nigeria

The viability of public transportation depends vigorously on the type and condition of vehicles under use, the road condition, the driver's competence, the attitude of the driver to traffic engineering control, administration and in addition the policy guidelines that give directions to the whole transport system (<https://socialscienceresearch.org>

Surface transportation refers to the movement of people and goods over land, primarily using roads, highways, streets, and railways. It is a fundamental component of a region's transportation infrastructure and plays a critical role in the movement of individuals, goods, and services within and between cities, regions, and countries. Surface transportation encompasses various modes of travel and freight transportation conducted at or near the Earth's surface. Surface transportation is a lifeline of modern societies, facilitating daily commutes, trade, and economic activities. Governments and transportation authorities invest in the development and maintenance of surface transportation infrastructure to ensure safe, efficient, and sustainable mobility for their citizens. The combination of various surface transportation modes and infrastructure elements creates a comprehensive transportation network that connects people and places.

Why Policy Fail in Nigeria:

1. Ambiguous policy statement

A policy of deliberate ambiguity (also known as a policy of strategic uncertainty) is the practice by a country which is intentionally ambiguous on certain aspects. (Ben, 2018). It may be useful if the country has contrary foreign and domestic policy goals or if it wants to take advantage of risk aversion to assist a deterrence strategy. Ibrahim,(2020) assert that such a policy can be very risky as it may cause misinterpretation of a nation's intentions, leading to actions that contradict that nation's wishes.

2. Overambitious policy goals

Regarding over-ambition in policy formulation, in developing countries like Nigeria, many policies tend to be over-ambitious and fundamental in nature. Ben, (2018) highlighted that the enormity of human and physical needs in poor countries, the desire to establish legitimacy, the desire to improve conditions, and the feelings that the deprivations of the colonial past must create a situation in which political leaders are likely to formulate policies that will lead to radical and rapid improvement in the conditions of life. According to Obamwonyi & Aibieyi, (2014),"the desire to establish the legitimacy of the political regime by providing tangible evidence of improving conditions, create a situation in which the political leaders are likely to

espouse policies that lead to improvements in the conditions of life of their citizenry, but maybe not be realized because of its overambitious nature", Therefore, the scope, comprehensiveness, and operation ability of policies formulated gave rise to serious bottlenecks during implementation. Vision 2020 and the present nine-point agenda are some of such policies. (Stephen, Jan & Glenda, 2015).

3. Lack of Appropriate Technologies for Implementation

Implementing agencies in most cases lack appropriate modern technology, managerial skill and administrative capacity that are prerequisite for effective policy implementation, the procedures adopted in policy implementation are such that are not consistent with policy goals. And sometimes cultural consideration hampers adoption of modern technology in areas of programme implementation (Ben, 2018). Examples can be seen in the people's resistance to the use of fertilizer because of traditional beliefs some decades ago; or the rejection of polio vaccines in some northern states.

4. Problems of Continuity and Commitment to Policy

Change in government more often than not is accompanied by change in priorities. The situation tends to make implementation more difficult in terms of switch over to entirely different priorities and objectives which requires new organizations, personnel, resources and technology which are not always easy to provide. This led to abandonment of many policies. (<https://www.coursehero.com>)

5. Corruption

The corrupt tendencies of public officials and politicians in connivance with private organizations and individuals have no doubt had a far-reaching consequence on effective implementation of policies in the country. Corruption has pervaded every aspect of our societal life (Onimisi & Osasona, 2021). It can be seen not only in inflation of contract figures or over-invoicing, but outright diversion of billions of naira meant for one programme or another. Agencies like EFCC and ICPC created to control and convert corruption have turned out to be toothless with nothing to show compared to the high-level corruption in the country.

6. Non-Involvement of the Necessary Actors and Non-actors (the masses)

The non-involvement of the actors and non-actors in planning, formulation, evaluation, monitoring decision making and implementation are also one of the factors affecting the implementation of policies in Nigeria.(Dahida & Maidoki,(2013)

7. Agitations /Insecurity At the Six Geo-Political Zones in Nigeria:

The unrest, killings, protest and different demands of the various proscribed and non-proscribed groups at the six geo-political states in Nigeria are indeed one of the most current factors hindering and affecting the implementation of some good will policies, laws, regulations in the Nation. (Source: Author).

Factors Limiting Public Policy and Policy Making

Policy is not static. Therefore, policy should be reformulated and adapted continually based on experience, research in the relative field of operation, and changing circumstances and needs. These are always factors which serve to change the nature and the extent of the activities of public institution. (<https://www.ijesi.org/papers>) A basic requirement of policy is adaptability and regular reviewing to ensure that it is up – to – date, relevant and applicable to a specific area.

Generally, the policy in force at a particular time and place is influenced by the following factors:

- a. Circumstances such as technological developments, population increases and urbanization of the population, crisis, natural disasters, war and depression, international relations, economic and industrial development. (www.ijesi.com)
- b. Public wants and needs.
- c. Policies of political parties.
- d. Activities and representations of interest groups.
 - e. Personal views of political office – bearers as well as views and experience of expert public officials,
- f. Research and investigations. (Marume,2016).

REVIEW OF IDENTIFIED FACTORS LIMITING IMPLEMENTATION OF PUBLIC SURFACE TRANSPORT POLICY IN NIGERIA

S/ N	IDENTIFIED FACTORS	REVIEW OF EACH IDENTIFIED FACTOR
1.	POLITICAL FACTORS	Short-term political gains conflicting with long-term goals Excessive political influence on decision-making Hindrance due to transitioning political Governments Balancing political interests sustainably. (Ben,2018)
2.	STAKEHOLDERS DYNAMICS	Collaboration in policy implementation among stakeholders Hindrance due to non-involvement of key actors Influence of stakeholder expectations on implementation Uniform interpretation of policy by stakeholders (Oroleye,2019)
3.	FINANCIAL CONSTRAINTS	Financial limits on infrastructure investments Hindrance due to financial challenges Satisfaction with allocated funds Exploration of alternative funding sources. (Rode, P., Heeckt, C., da Cruz, N.F. 2019).
4.	INSTITUTIONAL AND HUMAN CAPACITY	Knowledge gaps in transport ministries Need for capacity-building initiatives Effectiveness of institutional structures Unsatisfactory coordination among institutions. (Dahida & Maidoki,2013)
5.	TECHNOLOGICAL CHALLENGES	Technological barriers hindering implementation. Overreliance on imported technology Impact of insufficient research and development (R&D) Potential of technological innovations.

		(Rode, P., Heeckt, C., da Cruz, N.F. 2019).
6.	AGITATIONS/INSERCURITY	The unrest, killings, protest and different demands of the various proscribed and non-proscribed groups at the six geo-political states in Nigeria are indeed one of the most current factors hindering and affecting the implementation of some good will policies, laws, regulations in the Nation. (Source: Author).
7.	EXTERNAL PRESSURE	The external pressures and actors, consisting of international and regional organizations, non – governmental organizations and significant others contribute to policy formulation through their own influences; the provision of information and data; the supply of technical assistance; and the spread of philosophies and success stories in other countries and areas. Amongst the main influential, external sources of government policies are the donors, through their expertise, aid, and technology. (Marume,2016)

SOURCE: AUTHOR (2024)

Theories of Public Policies/ Factors Limiting Implementation of Surface Transport Policy

Here are some theories that could help explain the limiting factors of implementing surface transport policy:

1. **Institutional Theory:** This theory suggests that the structure, norms, and regulations within institutions influence their behavior and decision-making processes. In the context of surface transport policy implementation, factors such as bureaucratic inefficiencies, lack of coordination among agencies, and institutional resistance to change could hinder effective implementation.

2. **Stakeholder Theory:** According to this theory, the interests and influence of various stakeholders, such as government agencies, private sector entities, communities, and advocacy groups, impact policy outcomes. Conflicting stakeholder interests, power struggles, and insufficient stakeholder engagement may contribute to challenges in implementing surface transport policies.

3. **Political Economy Theory:** This theory examines the interactions between political and economic forces in shaping public policy decisions and outcomes. Factors such as vested interests, corruption, and rent-seeking behavior within the transport sector could influence policy implementation processes and outcomes.

4. **Complexity Theory:** This theory views systems as dynamic, interconnected, and influenced by nonlinear interactions. In the context of surface transport policy implementation, the complexity of urban environments, interconnectedness of transport networks, and emergence of unexpected challenges may complicate implementation efforts.

5. **Institutional Capacity Theory:** This theory emphasizes the importance of organizational capacity,

capabilities, and resources in achieving policy objectives. Factors such as weak regulatory enforcement, insufficient technical expertise, and inadequate monitoring and evaluation mechanisms may undermine the implementation of surface transport policies.

These theories provide different lenses through which to analyze the limiting factors of implementing surface transport policy, highlighting the multifaceted nature of the challenges involved.

CHAPTER THREE

METHODOLOGY

Research Design and Strategy:

Cross-Sectional Research Design: This design involves collecting data from a sample of participants at a single point in time and gathering data across a specified time frame. In the context of this study, it means that data is collected from respondents representing different experience levels at a specific time frame. This approach allows for the examination of relationships between public policies implementation and surface transport at a snapshot in time.

Research Approach and Assumptions:

Quantitative Approach: The study adopts a quantitative approach, which involves collecting numerical data and analyzing it statistically. This approach enables the researcher to quantify the impact of factors limiting implementation of public surface transport policy and provide empirical evidence.

Study Area

The study area involves ministries responsible for Road and Rail construction and maintenance. The ministries include Federal Ministry of Works and Housing (FMWH), Federal Roads Maintenance Agency (FERMA), Nigerian Railway Corporation (NRC).

The Federal Ministry of Works and Housing is tasked with the vision to elevate Nigerian roads to a standard of veritable national economic assets and tools for national integration, rapid economic growth and national development (Works), as well as to provide access to home ownership and rental schemes to the Nigerian populace (Housing). (<https://works.housing.gov.ng/home/about>) The Federal Roads Maintenance Agency (FERMA) is the agency concerned with road construction, improvement and connectivity between the States of Nigeria. The agency is a subsidiary of the Federal Ministry of Work. The Operations Department of FERMA is charged with the responsibility of managing road maintenance activities in the various zones across the country. The Agency runs a Zonal Directorate structure for the purpose of effective field operations. (<http://ferma.gov.ng/aboutus/>). There are twelve (12) zonal Directorate offices and Thirty-Eight (38) state filed offices; one in every state capital. Lagos state has an additional one and one in Abuja F.C.T. (<http://ferma.gov.ng/aboutus/>). The Nigerian Railway Corporation (commonly abbreviated as NRC) is the state-owned enterprise with exclusive rights to operate railways in Nigeria.

Data Collection Tools and Methods:

Data Collection Method and Data Analysis Tool for Objective 1

Objective 1: To identify the key factors limiting the implementation of surface transport policy.

Data Collection Method:

- Structured questionnaires were administered to respondents from the Federal Ministry of Works and Housing (FMWH), Federal Roads Maintenance Agency (FERMA), and Nigerian Railway Corporation (NRC).
- The questionnaires included items designed to gather information on various factors perceived as limiting the implementation of surface transport policy, such as Political Factors, Financial

Constraints, Institutional and Human Capacity Issues, Technological Challenges, and Differing Expectations from Stakeholders.

Data Analysis Tools - Factor Analysis:

- Principal component factor analysis was conducted to identify common factors limiting policy implementation.
- Correlation matrices, Kaiser-Meyer-Olkin (KMO) measure, Bartlett's test of sphericity, and scree plots were utilized to determine factor extraction and determination.
- Orthogonal varimax rotation was employed to facilitate factor interpretation.

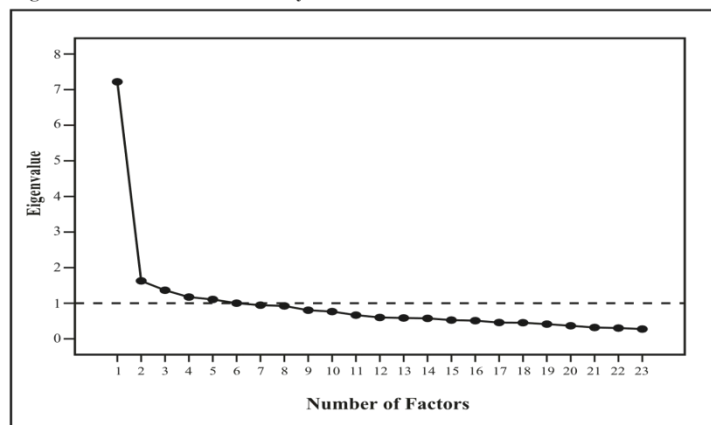
Data Analysis Method for Objective 1

Objective 1: To identify the key factors limiting the implementation of surface transport policy.

Data Analysis Method - Factor Analysis:

- Principal component factor analysis will be conducted to identify common factors limiting the implementation of public policy on surface transportation.
- Multicollinearity will be checked by examining the determinant of the correlation matrix and applying the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy.
- Bartlett's test of sphericity will be used to assess the strength of the relationship between variables.
- Factor Determination and Extraction - The Kaiser criterion and Cattell scree plot will be utilized to determine the number of factors to retain.

Figure 3: Scree Plot of Factor Analysis



As a last step in the factor extraction process, the factors were rotated using orthogonal varimax rotation to facilitate factor interpretation and to produce uncorrelated factors. Factor rotation maximizes the loadings of each variable on one of the extracted factors, while minimizing the loading

Figure 2.3 Scree Plot of Factor Analysis

- As a last step in the factor extraction process, factors will be extracted and rotated using orthogonal varimax rotation to produce uncorrelated factors.
- Factor scores will be obtained for each individual variable and factor to explain the overall level of implementation limitation experienced by a surface transport public policy.

CHAPTER FOUR RESULTS AND DISCUSSION

RESULTS

Survey respondents were asked to rate each attribute according to two criteria: their knowledge and experience of the limiting factor with respect to implementation of public surface transport policy and how they would rank the limiting factor with respect to surface transport. The data collected from the first set of questions were used as input for factor analysis, while the second set of data were used as input for the ordered logit models. All models have been estimated using the R framework for statistical computing, v. 2.7.0 (R Development Core Team, 2008, <https://books.google.com>).

Factor Analysis

- Factor analysis have been performed on the data collected for the factors limiting implementation of public surface transport policy according to the perception and experience of directors and personnel from the 3 public service organizations as specified in Chapter 3 above. Five prevalent factors are considered for each system and the obtained factor loadings were rotated to obtain a practical and easily interpretable set across the various systems. Each factor explains at least 10% of the variance for the respective model (except for the third factor that explains 9.4%). The results are summarized in Table 1. Loadings below 0.3 are not shown. Furthermore, loadings above 0.3 are highlighted in bold.
- The objective of factor analysis is to ascertain the underlying unobserved factors that the respondents perceive. An interpretation of the five main factors is attempted in the last line of Table 4.1. Each of the factors has been interpreted as Political Factors: Short-term gains vs long-term goals, Political influence on decisions, Hindrance due to political interference, Mitigating political impact effectively, Balancing political interests sustainably; Financial Constraints: Hindrance due to financial challenges, Satisfaction with allocated funds, Alternative funding source exploration, Financial limits on infrastructure, Overcoming financial constraints crucial; Institutional and Human Capacity Issues: Knowledge gaps in transport ministries, Coordination satisfaction among institutions, Need for capacity-building initiatives, Effectiveness of institutional structures, Improving human capacity crucial; Technological Challenges: Technological barriers hindering implementation, Nigeria's reliance on imported technology, Impact of insufficient R&D, Potential of technological innovations, Promoting indigenous R&D crucial; Differing Expectations from Stakeholders: Stakeholders collaborate in policy implementation, Stakeholder expectations affects implementation, Stakeholders interpret policy uniformly, Non-involvement of key actors hinder policy success.
- A convenient way to visually represent groups of five factors is a pentagon plot. Each factor is associated with one of the five vertices of the pentagon, and the relationships between the factors are depicted based on their positions within the pentagon. This type of representation allows you to visualize the interactions and proportions among the five factors more effectively. In these plots, the proportions of the five variables plotted always sum to some constant (usually 1 or 100). The projection of each point on each side of the pentagon (note that the projection of points to an edge is taken parallel to the next clock-wise edge of the pentagon) indicates the percentage that is attributed to this factor.

Factor Analysis Results

- Table 4.1: Factor Scores Coefficient Matrix

	Factors				
	1	2	3	4	5
Short-term gains vs long-term goals	0.0153	0.0000	0.5897	0.0048	0.0012
Excessive political influence on decisions	0.0268	0.0063	0.8464	0.0127	0.0003
Hindrance due to transitioning political governments	0.0190	0.1584	0.4650	0.0057	0.0997
Balancing political interests sustainably	0.0001	0.0002	0.7736	0.0002	0.0347
Financial limits on infrastructure investments	0.0206	0.0104	0.0069	0.3539	0.0030
Hindrance due to financial challenges	0.0075	0.0201	0.0108	0.6657	0.0018
Satisfaction with allocated funds	0.0305	0.0233	0.0064	0.5648	0.0835
Alternative funding source exploration	0.0026	0.0018	0.0178	0.3471	0.0029
Knowledge gaps in transport ministries	0.0198	0.1731	0.0028	0.0047	0.8176
Need for capacity-building initiatives	0.0229	0.0038	0.0063	0.0136	0.6492
Effectiveness of institutional structures	0.0199	0.0075	0.0091	0.0096	0.5430
Coordination among institutions is unsatisfactory	0.0017	0.0053	0.0042	0.0060	0.6544
Technological barriers hindering implementation	0.0198	0.3817	0.0029	0.0068	0.0817
Over reliance on imported technology	0.0151	0.6686	0.0021	0.0211	0.0129

Impact of insufficient R&D	0.0281	0.3017	0.0011	0.0227	0.0018
Potential of technological innovations	0.0139	0.6101	0.0006	0.0073	0.0002
Stakeholders collaborate in policy implementation	0.4565	0.0321	0.0413	0.0091	0.0036
Non-involvement of key actors hinder policy success	0.5509	0.0189	0.0033	0.0243	0.0000
Stakeholder expectations affects implementation	0.3653	0.0168	0.0003	0.0195	0.0085
Stakeholders interpret policy uniformly	0.3973	0.0276	0.0091	0.0004	0.0000
Information provision at interchange points Extraction					
Method: Principal Component Analysis Rotation Method:					
Varimax with Kaiser Normalization					

The correlation matrix shows that the survey respondents' ratings of the predominant 20 policy variables are correlated (some highly), because their correlations vary between 0.4 and 0.8 and are statistically significant at probability levels lower than 0.05. Also there is multicollinearity because the value of the determinant of the correlation matrix is 5.271E-04 and it is greater than the necessary value of 0.00001.

These results show that factor analysis is appropriate and are also confirmed by the Bartlett's test of Sphericity and the Kaiser–Meyer–Olkin (KMO) statistical tests. The KMO test is 0.904 while Bartlett's test is highly significant ($p < 0.001$, approximate chi-Square = 3032.880, degrees of freedom = 253). (Morfoulaki, 2007). Additionally, the sampling adequacy test, ranged from 0.815 to 0.950.

According to the factor analysis results, five factors account for 61.33% of the variance shared by the 20 variables. The eigenvalues and the percentage of variance accounted for by these five factors are 7.147 (35.73%), 1.736 (8.68%), 1.349 (6.74%), 1.120 (5.59%) and 1.090 (5.45%) respectively. This result is confirmed by the Cattell scree plot presented in Figure 1. After rotation, the first factor accounted for 14.75% of the variance, the second accounted for 14.2% of additional variability and the other three factors accounted for 12.8%, 12.11% and 9.47% of the total variance respectively.

The factor scores coefficient matrix for 20 variables is given in Table 1. A closer look at these scores reveals that the composite factors can be described as "Political Factors, Financial Constraints, Institutional and Human Capacity Issues, Technological Challenges, Differing Expectations from Stakeholders."

Interpretation of Results

i. Political Factors:

The first factor, labeled as "Political Factors," captures aspects such as short-term gains conflicting with long-term goals, excessive political influence on decision-making, challenges during transitioning political governments, and the need for sustainable balancing of political interests.

This factor explains a significant portion of the variance (35.73%) among the surveyed variables, indicating that political dynamics play a substantial role in shaping the implementation of surface transport policy.

Specifically, the high factor loadings on variables related to political influence and decision-making suggest that navigating political complexities is crucial for effective policy implementation in the transport sector.

ii. Financial Constraints:

The second factor, termed "Financial Constraints," encompasses issues such as funding limitations, financial challenges, satisfaction with allocated funds, and exploration of alternative funding sources.

This factor accounts for 8.68% of the variance, indicating that financial considerations significantly impact the implementation of surface transport policy.

The high factor loadings on variables related to funding limitations and financial challenges underscore the importance of adequate financial resources for successful policy execution in the transportation sector.

iii. Institutional and Human Capacity Issues:

The third factor, denoted as "Institutional and Human Capacity Issues," involves challenges such as knowledge gaps in transport ministries, the need for capacity-building initiatives, and assessing the effectiveness of institutional structures.

This factor explains 6.74% of the variance, highlighting the significance of institutional capacity and human resource development in policy implementation.

The strong factor loadings on variables related to knowledge gaps and capacity-building underscore the importance of investing in human capital and institutional strengthening to overcome implementation barriers in the transport sector.

iv. Technological Challenges:

The fourth factor, labeled as "Technological Challenges," encompasses barriers hindering technological implementation, overreliance on imported technology, and the impact of insufficient research and development (R&D).

This factor accounts for 5.59% of the variance, indicating the relevance of technological considerations in the implementation of surface transport policy.

The substantial factor loadings on variables related to technological barriers and R&D emphasize the need for technological innovation and indigenous capacity development to address implementation challenges in the transport sector.

v. Differing Expectations from Stakeholders:

The fifth factor, termed "Differing Expectations from Stakeholders," involves stakeholder collaboration, the influence of stakeholder expectations on implementation, and the uniform interpretation of policy.

This factor explains 5.45% of the variance, highlighting the importance of stakeholder engagement and managing diverse expectations in policy implementation.

The significant factor loadings on variables related to stakeholder collaboration and expectations underscore the necessity of inclusive decision-making processes and effective communication strategies to enhance policy implementation outcomes in the transport sector.

TEST OF HYPOTHESIS

HO1: Each limiting factor has no significant effect on the implementation of surface transport policy.

The factor analysis results indicate that each limiting factor, namely Political Factors, Financial Constraints, Institutional and Human Capacity Issues, Technological Challenges, and Stakeholder Expectations, significantly contributes to the variation in the implementation of surface transport policy. This contradicts HO1, suggesting that each factor does indeed have a significant effect on policy implementation. Therefore, we reject HO1 and accept the alternative hypothesis.

SUMMARY OF FINDINGS

i. Political Factors:

The factor analysis revealed that political factors significantly influence the implementation of surface transport policies in Nigeria. This aligns with the statement of problem, which highlighted the challenges arising from a lack of coordinated effort and effective management within government agencies responsible for transportation policies.

Issues such as short-term gains conflicting with long-term goals, excessive political influence on decision-making, and transitioning political governments hinder policy implementation. These political dynamics contribute to the systemic issues and inconsistencies observed in the transportation sector, as highlighted in the problem statement.

ii. Financial Constraints:

Financial limitations emerge as a critical factor affecting the implementation of surface transport policies. The statement of problem emphasized the infrastructural deficit and challenges in

funding allocation, which directly correlate with the findings of financial constraints identified in the factor analysis.

Challenges such as insufficient funds, financial difficulties, and the need for alternative funding sources underscore the ongoing struggle to adequately finance transportation infrastructure and development initiatives in Nigeria.

iii. Institutional and Human Capacity Issues:

The factor analysis identified institutional and human capacity issues as significant barriers to policy implementation, consistent with the problem statement's emphasis on the ineffectiveness of institutional arrangements within government agencies.

Knowledge gaps in transport ministries, the need for capacity-building initiatives, and unsatisfactory coordination among institutions reflect the systemic challenges in human resource management and institutional effectiveness, hindering the successful execution of transport policies.

iv. Technological Challenges:

Technological barriers emerged as a notable factor affecting the implementation of surface transport policies. This aligns with the problem statement's reference to the inadequacies of existing transport policies in addressing technological advancements and innovations in the transportation sector.

Challenges such as reliance on imported technology, insufficient research and development, and hindrances to technological innovation underscore the need for modernization and technological advancement to overcome implementation obstacles in the transport sector.

v. Differing Expectations from Stakeholders:

Stakeholder dynamics and varying expectations emerged as significant factors influencing policy implementation in surface transportation. This aligns with the problem statement's reference to the lack of coordinated efforts and effective stakeholder engagement in the transportation policy process.

Factors such as stakeholder collaboration, stakeholder expectations, and the interpretation of policy by stakeholders underscore the importance of inclusive decision-making processes and effective communication strategies to enhance policy implementation outcomes in the transport sector.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Summary:

This study utilized factor analysis to identify five basic factors that limit the implementation of public surface transport policy in Nigeria. These factors are Political Factors, Financial Constraints, Institutional and Human Capacity Issues, Technological Challenges, Differing Expectations from Stakeholders.

The results show that transport policy can be improved by reducing the inconsistencies that arise due to the poor coordination efforts and ineffective management within government agencies responsible for policy implementation, improving budgetary allocations to eliminate the financial limitations constraining the execution of surface transport infrastructural projects, driving capacity-building initiatives to eliminate the systemic challenges in human resource management and institutional effectiveness, focusing on technological advancements and innovations to reduce the challenges created by over reliance on imported technology, and engendering stakeholder collaborations to prevent the lack of coordination and ineffective stakeholder engagement around time-bound policy issues.

Policy administrators can use these factors to implement actions to execute the National Transport Policy despite it being in the Draft Phase. The approach described above may be applied to other modes of transport or to different sectors of government. Different factors may be found to be significant in

each sector or sub-sector, depending on implementation characteristics and the policy concerns considered in each case as important.

With respect to the research in this study, it needs mentioning that it covers a part only of the research required to better understand the relationships between public policy and surface transportation in Nigeria. Additional research is definitely necessary. A positive point of this effort is that the approach followed, and the tools employed can be used in other areas after a cautious adaptation. The findings, however, will always depend on the specific characteristics of the policy considered.

Implications of Factor Analysis Results

The factor analysis conducted in this study provides valuable insights into the perceived limiting factors affecting the implementation of public policy on surface transportation in Nigeria. The extracted factors offer a structured understanding of the underlying dimensions that influence the effectiveness of transport policies, aligning with the objectives of the study. Here, we discuss the implications of the factor analysis results in the context of the study's background objectives.

Alignment with Objectives:

The factor analysis outcomes are congruent with the study's objective to investigate the limiting factors impacting public policy on surface transportation in Nigeria. By discerning underlying factors from respondents' perceptions and experiences, the study gains a nuanced understanding of the multifaceted challenges facing the transport sector.

The identified factors, such as "Political Factors, Financial Constraints, Institutional and Human Capacity Issues, Technological Challenges, Differing Expectations from Stakeholders, directly correspond to the objectives outlined for the study. These factors encapsulate the core issues hindering effective policy implementation in the Nigerian transport context. (<https://www.researchgate.net/publication>)

Complexity of Limiting Factors:

The factor analysis results reveal the multidimensionality and complexity of the limiting factors influencing surface transportation policy in Nigeria. Each identified factor encompasses a diverse set of attributes, reflecting the intricate interplay between Political Factors, Financial Constraints, Institutional and Human Capacity Issues, Technological Challenges, and Differing Expectations from Stakeholders.

This complexity underscores the need for holistic and integrated approaches to addressing the challenges of implementation of public policy within the surface transportation sub-sector. Simply focusing on one aspect, such as financial constraints, may overlook the interconnected nature of the other underlying issues.

Policy Implications:

The factor analysis outcomes provide policymakers and stakeholders with actionable insights for improving the efficacy of transport policies implementation in Nigeria. By targeting specific dimensions identified in the analysis, policymakers can develop targeted interventions aimed at addressing the root causes of policy implementation challenges.

For instance, interventions aimed at reducing hindrances due to political interference can contribute to overcoming the identified limiting factor and fostering sustainable improvements in policy implementation for surface transport infrastructure.

Conclusion:

The study examined the factors limiting implementation of public surface transport policy in Nigeria. Through factor analysis, several key insights have emerged.

Firstly, navigating political complexities, addressing funding limitations, and managing stakeholder expectations are crucial for effective policy implementation in the transport sector. These factors have been identified as significant contributors to the implementation challenges faced in Nigeria's surface transportation policy.

Furthermore, investments in human capital, institutional strengthening, and technological innovation are essential to overcoming implementation barriers. Capacity-building initiatives and the development of indigenous technological solutions play pivotal roles in enhancing policy implementation outcomes.

Overall, the findings underscore the complexity of policy implementation in the transport sector and emphasize the need for comprehensive strategies to address the identified limiting factors. Policymakers and stakeholders must prioritize collaborative decision-making processes, allocate adequate financial resources, and invest in human capital and technological advancements to enhance the effectiveness and success of surface transport policy implementation efforts in Nigeria.

Recommendations:

1. **Further Investigation into Political Dynamics:** Conduct in-depth research to explore the intricacies of political influence on surface transport policy implementation in Nigeria. This could involve qualitative studies, interviews with key stakeholders, and analysis of political decision-making processes to gain a comprehensive understanding of the challenges and opportunities presented by political factors.
2. **Policy Evaluation and Reform:** Evaluate existing transport policies in Nigeria to identify areas for improvement and reform. This could involve comparative analyses with policies from other countries, stakeholder consultations, and expert assessments to develop evidence-based recommendations for policy adjustments.
3. **Financial Resource Allocation:** Investigate strategies for optimizing financial resource allocation to the transport sector in Nigeria. This may include assessing budgetary allocations, exploring alternative funding sources, and evaluating the effectiveness of financial management practices in ensuring sufficient funding for policy implementation.
4. **Capacity-building Initiatives:** Research the effectiveness of capacity-building initiatives in enhancing the implementation of surface transport policies. This could involve case studies of capacity-building programs, evaluations of training methods, and assessments of the impact of capacity-building on policy outcomes.
5. **Technological Innovation and Adoption:** Explore opportunities for leveraging technological innovations to address implementation challenges in the transport sector. This may include studies on the adoption of emerging technologies, assessments of technological barriers, and analyses of the potential impact of innovation on policy implementation effectiveness.
6. **Stakeholder Engagement Strategies:** Investigate best practices for stakeholder engagement and communication in the context of surface transport policy implementation. This could involve surveys, focus groups, and interviews to gather stakeholder perspectives and identify strategies for fostering collaboration and consensus-building among diverse stakeholders.
7. **Longitudinal Studies:** Conduct longitudinal studies to track the progress and impact of policy implementation efforts over time. This could involve monitoring key performance indicators, evaluating policy outcomes, and assessing the sustainability of implementation strategies to inform future policy decisions and interventions.

By pursuing these research recommendations, policymakers, practitioners, and researchers can contribute to a deeper understanding of the factors limiting surface transport policy implementation in Nigeria and develop evidence-based strategies for addressing implementation challenges and enhancing policy outcomes.

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