CHINA'S BELT AND ROAD INITIATIVE (BRI) AND NIGERIA'S INFRASTRUCTURAL DEVELOPMENT: ASSESSING THE RISK AND BENEFITS OF RAILWAY INVESTMENT

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DOI: https://doi.org/10.64633/wissj.v10i2.25

Keywords

Belt and Road Initiative, Nigeria, Railway Investment, Debt Sustainability, Infrastructure Development

Abstract

Research Problem
China's Belt and Road Initiative (BRI) has significantly influenced infrastructure development in Nigeria, particularly in railway construction. However, there is ongoing debate regarding the actual benefits versus the risks associated with these projects, including concerns about debt sustainability, foreign dependency, and governance transparency.

Methods
The study adopts a quantitative research design, using a structured survey administered to 300 respondents from the Federal Capital Territory and Keffi, Nasarawa State. A stratified random sampling technique was employed, and data were analyzed using the chi-square statistical method to test the study's hypotheses.

Theory
The study is grounded in dependency theory and development theory, which examine the implications of external financing and foreign involvement in domestic infrastructure development, particularly in developing economies.

Results
Findings indicate that while BRI-funded railway projects contribute to improved transportation infrastructure, increased economic activity, and enhanced regional connectivity, the claimed advantages do not have a statistically significant impact on Nigeria's overall infrastructure development. Additionally, the associated risks—such as rising national debt, reliance on Chinese technology and labor, and concerns about governance transparency—are not significantly greater than the perceived benefits.

Conclusion
The study concludes that although BRI railway projects present important opportunities for infrastructure development in Nigeria, their overall

impact remains mixed, requiring careful evaluation and strategic management.

Key Contribution to Knowledge

This study contributes to the literature by providing empirical evidence on the comparative risks and benefits of BRI-funded railway projects in Nigeria, highlighting the need for a balanced and evidence-based approach to infrastructure partnerships.

Recommendations

The study recommends renegotiating BRI agreements to promote greater local enterprise participation, conducting comprehensive cost-benefit analyses before acquiring additional loans, and strengthening governance frameworks to ensure transparency and accountability. It also emphasizes the importance of long-term maintenance planning and environmental impact assessments to sustain infrastructure efficiency and minimize adverse effects.

Introduction

The Belt and Road Initiative (BRI), which was formed in 2013, aims to connect East Asia and Europe through economic efforts. The initiative has expanded into Africa, Oceania, and Latin America, boosting China's economic and political might (Gürcan, 2022). However, some observers regard it as an extension of China's growing might, whilst the United States is apprehensive about China-led economic growth (McBride, 2023). The BRI has faced criticism for its lack of transparency, environmental impact, and debt-trap diplomacy in some partner countries. Despite these concerns, China continues to push forward with the initiative, seeking to establish itself as a global economic leader through infrastructure development and trade partnerships.

China's Belt and Road Initiative (BRI) has had an influence on Africa, with investments in 52 out of 54 countries and plans to join the 53rd market in Sao Tome and Principe. More than 90% of the 54 nations have signed Memoranda of Understanding (MoUs), with half in West Africa and the other half in East, North, and Southern Africa (Venkateswaran, 2020). As a result, China's posture toward Africa has strengthened, and the country's political and economic influence in the region has expanded.

Nigeria, popularly known as the "giant of Africa," is unquestionably the most important country on the continent, with the largest population. Despite its abundance of natural resources and vast terrain, Nigeria, like the rest of Africa, remains undeveloped, with 63% of its population living in poverty (Alhassan, 2024). The country faces challenges such as corruption, political instability, and inadequate infrastructure that hinder its progress towards economic development. However, Nigeria has shown resilience and potential for growth, with a burgeoning tech industry and a young, entrepreneurial population driving innovation and change.

Nigeria and China, two major players in their respective fields, have developed close bilateral ties over time. This relationship is built on mutual economic interests and diplomatic cooperation, with both countries benefiting from trade agreements and cultural exchanges. Nigeria routinely looks to China for infrastructural development projects, while China views Nigeria as a vital partner in increasing its influence in Africa. China's

engagement in African crises stretches back to the 1950s. During this time, African republics began to free themselves from colonialism (Gana et al., 2024). China's involvement in African affairs has evolved over the years, with a focus on infrastructure development, resource extraction, and diplomatic partnerships. This has led to both positive and negative impacts on African countries, shaping the dynamics of China-Africa relations in the 21st century.

Any country must prioritize development since it is crucial for improving inhabitants' living circumstances and eliminating poverty. Development is critical in Nigeria's circumstance because it may assist in eliminating severe poverty and promoting social and economic stability. With over 200 million people, Nigeria's growth is critical for producing employment and maintaining long-term well-being. Nigeria is one of the African countries that has received the greatest Chinese investment. By 2021, total investment had exceeded $20 billion USD, largely in the construction of free-trade and export-processing zones, oil extraction, home appliances and vehicle assembly, agricultural production, and so on (Jianchun, 2023). This investment has the potential to significantly boost Nigeria's economy and create much-needed infrastructure. However, there are concerns about the long-term implications of such heavy Chinese investment on Nigeria's sovereignty and economic independence.

China has historically shown respect for Nigeria and other African states, recognizing them as equals without asserting supremacy. As a result, Nigeria has emerged as China's biggest contractor market, second largest trade partner, and a major investment destination in Africa. Nigeria and China signed the Belt and Road Initiative cooperation pact in 2018. This partnership led to the successful completion of major projects, including the Lekki Deep Sea Port, Zungeru Hydroelectric Project, Lagos-Ibadan Train Route, Abuja-Kaduna Rail Line, Abuja-Keffi-Lafia-Makurdi Road Dualization, and various airport terminals. Nigeria is committed to boosting Belt and Road cooperation with China and expanding its connections with China (Jianchun, 2023).

Statement of the Problem

China's Belt and Road Initiative (BRI), which began in 2013, has emerged as a revolutionary global infrastructure program, providing chances for developing countries such as Nigeria to solve major infrastructure shortfalls through foreign investment. Nigeria, Africa's largest economy, confronts substantial infrastructure issues, notably in its railway industry, which is undeveloped while having the potential to improve regional connectivity, commerce, and economic growth. The BRI's railway investments, like as the Lagos-Ibadan and Abuja-Kaduna rail projects, are expected to upgrade Nigeria's transportation networks, encourage industry, and integrate the nation into global supply chains. However, these investments come with a variety of hazards, including worries about debt sustainability, sovereignty, and long-term economic reliance. Critics such as Gana et al., (2024) believe that Nigeria's reliance on Chinese loans, which are sometimes subject to ambiguous contractual conditions and collateralized by natural resources, may worsen financial hardship, as observed in other BRI partner countries. Furthermore, issues remain concerning the equitable distribution of benefits, environmental and social repercussions, and Nigeria's ability to sustain and utilize these investments for long-term development. This study aims to critically evaluate the balance between the potential economic and infrastructural benefits of BRI railway investments in Nigeria and the

associated risks, shedding light on whether such partnerships align with the country's long-term development goals or perpetuate vulnerabilities in an era of shifting global power dynamics.

Objectives of the Study

i. To evaluate the impact of China's Belt and Road Initiative (BRI) railway investments on Nigeria's infrastructural development.

ii. To assess the risks and challenges associated with BRI-funded railway projects in Nigeria.

Hypothesis

H_0: China's BRI railway investments have no significant impact on Nigeria's infrastructural development.
H_1: China's BRI railway investments have a significant impact on Nigeria's infrastructural development.

H_0: The risks associated with BRI-funded railway projects do not significantly outweigh their benefits for Nigeria's economic and infrastructural growth.

H_1: The risks associated with BRI-funded railway projects significantly outweigh their benefits for Nigeria's economic and infrastructural growth.

Literature Review

Overview of Chinese Investments in Nigeria

From 2003 to 2018, China's annual foreign direct investment in Africa increased considerably, rising from $74.8 million to $5.4 billion. China became Africa's fourth-largest investor when flows returned to $2.7 billion in 2019 and $4.2 billion in 2020, despite the COVID-19 epidemic (Fu, 2021). This surge in investment has been driven by China's Belt and Road Initiative, which aims to enhance infrastructure connectivity between China and Africa.

Chinese investments in Africa as a whole, particularly in Nigeria, have increased considerably in recent years, surpassing those of the United States. They cover a variety of industries, including infrastructure, telecommunications, manufacturing, and energy (Alhassan, 2024). These investments have not only boosted Nigeria's economy but have also created work possibilities for the local population. China's BRI has also enhanced the two countries' economic ties, paving the way for more investment projects in Nigeria.

Chinese infrastructure development in Nigeria should not be overlooked; as part of the BRI, China has consistently partnered with the Nigerian government to expand ports, construct new transportation systems, and upgrade existing infrastructure. China is investing in infrastructure in 35 African nations, with a special focus on Angola, Nigeria, and Sudan. Nigeria's infrastructure restoration activities have been heavily dependent on China, notably the China Civil Engineering Construction Corporation (CCECC) (Amusan, 2022). China is sponsoring Nigeria's Abuja Rail Mass Transit System as well as the Lagos-Kano line refurbishment (Yuan & Jianxin, 2009). Nigeria's present ports and rail initiatives, such as the Lekki Deep Sea Port and the Lagos Rail Mass Transit Blue Line, are projected to boost economic growth and Sino-African cooperation. The developments, which include West Africa's largest deep-sea port, are expected to provide $360 billion in economic benefits and 170,000 jobs (Deol, 2023). China's infrastructure development has grown to encompass airport terminals, railroads, and ports. Murtala Muhammed International Airport (MMIA),

Nnamdi Azikiwe International Airport in Abuja, Aminu Kano International Airport, Akanu Ibiam International Airport in Enugu, and Port Harcourt International Airport are among the airport terminals funded by the Chinese Exim Bank facility to the Nigerian government (Okeke-Korieocha, 2022).

Chinese firms played a critical role in realizing Nigeria's digital economic potential and invested extensively in telecoms. These Chinese enterprises have spent more than $16 billion in permanent assets and infrastructure around the country (Alajemba, 2018). Huawei, a well-known Chinese brand, has led attempts to increase its market share in Nigeria's telecommunications business. They have formed collaborations with local firms to deliver cutting-edge technology and infrastructure solutions, ultimately helping to expand Nigeria's digital economy. Huawei has made significant investments in Nigeria, totaling $76 million, since 1999. The Nigerian government has also entrusted Huawei with the construction of smart cities and e-government software, emphasizing the company's role in driving technological advancements in the country. Huawei and Globacom have also collaborated to build the Glo2 submarine cable network (Hungerland & Chan, 2021). These developments highlight the importance of strong telecommunications infrastructure in stimulating economic growth and fostering international partnerships.

Given China's recent fast industrial expansion and increasing need for energy resources, the energy and electricity sectors have also seen considerable Chinese investment. Nigeria, Africa's largest oil producer, ranks tenth internationally with eighteen pipelines, accounting for 9% of GDP and 90% of export value (Dokua Sasu, 2023). According to African Oil Week, Chinese companies CNPC, CNOOC, and Sinopec are Africa's fourth largest energy investors, following only BP, Shell, and Eni (Mitchell, 2023).

China has obtained a sizeable portion of Nigeria's railway and port building contracts since 2013 and has given the country several infrastructure loans through its state-owned banks. The effects of Chinese investments in Nigeria have been studied by some (Emmanuel & Ruth, 2022). They looked at the history of ties between Nigeria and China and how they have changed dramatically, from little to no interaction to China becoming Nigeria's biggest commercial partner and a significant player in the infrastructure industry. Others in similar studies contend that China's growing interest has influenced the development and evolution of Nigeria-China ties (Ian, 2021). This suggests that Nigeria-China ties have been significantly shaped by China's strategic economic objectives, as well as its ambition to acquire resources and increase its worldwide influence. Africa's biggest oil producer is Nigeria, and China, the world's biggest energy user, wants to ensure a steady and varied supply of oil to support its explosive economic expansion. Nigeria offers an appealing market because of its sizable population, abundant natural resources, and developing market, and China has aggressively sought investment possibilities overseas to promote its economic development (Quadri, 2020). Since many developing countries saw the BRI as a chance to increase infrastructure spending and draw in foreign investment, it has been a major factor in Beijing's efforts in Africa.

Methodology

The research conducts an online survey of individuals and stakeholders in the Federal Capital Territory and Keffi, Nasarawa State. A structured questionnaire was given to 300 respondents chosen using a stratified random sample approach to ensure diverse

representation. The chi-square statistical technique was utilized to assess the data and test the hypotheses proposed in the study. This strategy ensures that appropriate data is gathered and evaluated to achieve the study's objectives.

Data Presentation and Analysis

Table 1: Demographic Characteristics of Respondents

Demographic Variable	Categories	Frequency (f)	Percentage (%)
Gender	Male	180	60.0%
	Female	120	40.0%
Age Group	18 – 25 years	90	30.0%
	26 – 35 years	120	40.0%
	36 – 45 years	60	20.0%
	46 years and above	30	10.0%
Occupation	Government Official	60	20.0%
	Private Sector Employee	75	25.0%
	Academic/Researcher	45	15.0%
	Student	75	25.0%
	Business Owner	45	15.0%
Level of Education	Primary	30	10.0%
	Secondary	90	30.0%
	Tertiary	180	60.0%
Total		**300**	**100.0%**

Source: Survey (2025)

The gender distribution of the respondents shows that males (60%) outnumber females (40%). This suggests that the study sample has a higher representation of men, which could reflect broader societal trends or specific characteristics of the target population. However, the 40% female representation ensures that diverse gender perspectives are included in the analysis, contributing to a balanced understanding of the subject matter.In terms of age distribution, the largest proportion of respondents (40%) falls within the 26–35 years age bracket, followed by 30% in the 18–25 years category. Those aged 36–45 years account for 20%, while only 10% of respondents are 46 years and above. This indicates that the majority of respondents are young adults, an active and engaged demographic that is likely to have strong opinions on contemporary issues. The relatively lower representation of older age groups may suggest limited participation from individuals who are either retired or less involved in the focus of the study.The occupational distribution reveals that students and private sector employees constitute the highest proportion of respondents, each making up 25% of the sample. Government officials account for 20%, while academic researchers and business owners each represent 15%. This occupational diversity ensures that insights from various professional backgrounds are incorporated into the study. The strong presence of students and private sector employees may indicate a high level of awareness and engagement with the research topic, whereas the participation of government officials and academics adds an element of expertise and policy-related perspectives.

Regarding educational attainment, a significant 60% of respondents have tertiary education, while 30% have completed secondary education, and only 10% have primary education. The predominance of tertiary-educated individuals suggests that the sample consists mainly of highly literate respondents, which may influence the nature of responses by ensuring a more analytical and informed approach to the issues under investigation. The presence of respondents with secondary and primary education, though relatively lower, provides a broader representation across different educational backgrounds.

Table 2: Impact of BRI Railway Investments on Nigeria's Infrastructural Development

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Improved transport infrastructure	120 (40%)	90 (30%)	45 (15%)	30 (10%)	15 (5%)	300 (100%)
Enhanced economic activities	110 (36.7%)	95 (31.7%)	50 (16.7%)	25 (8.3%)	20 (6.7%)	300 (100%)
Contributed to urbanization & regional connectivity	125 (41.7%)	85 (28.3%)	40 (13.3%)	30 (10%)	20 (6.7%)	300 (100%)
Improved ease of transportation	130 (43.3%)	80 (26.7%)	40 (13.3%)	30 (10%)	20 (6.7%)	300 (100%)
Infrastructure meets global standards	90 (30%)	85 (28.3%)	60 (20%)	40 (13.3%)	25 (8.3%)	300 (100%)

Source: Survey (2025)

The responses indicate that a significant proportion of the participants (70%) believe that the BRI railway projects have improved Nigeria's transport infrastructure. Specifically, 40% of respondents strongly agree, while 30% agree. This suggests that the railway investments have positively influenced Nigeria's transportation sector by enhancing mobility, reducing travel times, and improving logistics efficiency. However, 15% of respondents remain neutral, possibly due to limited personal experience with the railway system, while 15% disagree, which may reflect dissatisfaction with specific aspects such as service frequency, accessibility, or affordability.Economic benefits associated with the BRI railway projects are also widely acknowledged, as 68.4% of respondents agree that these investments have facilitated trade, job creation, and tourism. This aligns with economic theories that suggest infrastructural development contributes to economic expansion by enabling more efficient movement of goods and services. However, 16.7% of respondents remain neutral, indicating that while economic benefits may exist, they may not be evenly distributed. Furthermore, 15% disagree, possibly reflecting concerns about debt sustainability, project execution challenges, or limited economic integration in certain areas.

Regarding urbanization and regional connectivity, 70% of respondents agree that the BRI-funded railways have contributed to these aspects. The expansion of rail networks often leads to the emergence of new business districts and improved interconnectivity between rural and urban centers. This development can stimulate investment and attract new industries, further accelerating economic growth. However, 13.3% of respondents are neutral, which could indicate a lack of direct experience with these

benefits, while 16.7% disagree, possibly due to concerns over unfulfilled promises, regional disparities in development, or inadequate last-mile connectivity.The responses on the ease of transportation show that 70% of participants believe that the railway projects have significantly improved passenger and freight movement. This highlights the effectiveness of rail transport in reducing road congestion, lowering transportation costs, and providing a safer alternative to road travel. Nonetheless, 13.3% of respondents remain neutral, suggesting that while rail transport has improved, other challenges such as ticketing systems, schedules, and accessibility may still exist. Similarly, 16.7% of respondents disagree, possibly reflecting dissatisfaction with service reliability, frequency, or affordability.

The perception of the quality and maintenance of BRI-funded railway infrastructure presents a more mixed response. While 58.3% of respondents believe the infrastructure meets global standards, a substantial 20% remain neutral, and 21.6% express disagreement. This suggests that while the projects have introduced modern rail systems, concerns persist regarding long-term maintenance, operational efficiency, and service quality. Infrastructure projects of this scale require continuous investment in maintenance and technology upgrades to remain competitive and sustainable. The mixed perception may also stem from delays in project execution, inconsistent service delivery, or wear and tear on facilities.

Table 3: Risks and Challenges Associated with BRI-Funded Railway Projects in Nigeria

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Increase in national debt	135 (45%)	80 (26.7%)	40 (13.3%)	30 (10%)	15 (5%)	300 (100%)
Long-term economic risks due to Chinese loans	125 (41.7%)	90 (30%)	45 (15%)	25 (8.3%)	15 (5%)	300 (100%)
Dependency on Chinese technology & labor	140 (46.7%)	85 (28.3%)	35 (11.7%)	25 (8.3%)	15 (5%)	300 (100%)
Transparency & accountability issues	120 (40%)	80 (26.7%)	50 (16.7%)	30 (10%)	20 (6.7%)	300 (100%)
Environmental concerns	100 (33.3%)	85 (28.3%)	55 (18.3%)	35 (11.7%)	25 (8.3%)	300 (100%)
Displacement & land acquisition controversies	115 (38.3%)	90 (30%)	45 (15%)	30 (10%)	20 (6.7%)	300 (100%)
High maintenance & operational costs	130 (43.3%)	85 (28.3%)	40 (13.3%)	25 (8.3%)	20 (6.7%)	300 (100%)
Renegotiation of BRI agreements	145 (48.3%)	80 (26.7%)	35 (11.7%)	25 (8.3%)	15 (5%)	300 (100%)

Source: Survey (2025)

The findings indicate that a majority of respondents (71.7%) believe that BRI-funded railway projects have significantly contributed to Nigeria's rising national debt. This concern stems from Nigeria's reliance on external loans for infrastructure projects, which, if not well-managed, could lead to economic instability. Meanwhile, 13.3% of respondents are neutral,

suggesting they either lack knowledge of Nigeria's debt profile or do not perceive it as a major risk. On the other hand, 15% disagree, possibly viewing the projects as necessary investments for long-term economic development.Similarly, 71.7% of respondents agree that reliance on Chinese loans poses long-term economic risks for Nigeria. This supports broader concerns regarding debt sustainability and potential economic dependence on China. Given that loan agreements often involve strict repayment terms, failure to meet obligations could lead to further borrowing or economic constraints. The 15% neutrality rate suggests some respondents are uncertain about the long-term implications, while 13.3% disagree, potentially seeing the infrastructure gains as outweighing the risks.

A notable concern among respondents (75%) is Nigeria's growing dependency on Chinese technology and labor. This aligns with reports that many BRI projects involve significant foreign involvement, limiting opportunities for domestic workforce development. The 11.7% neutrality rate may suggest that some individuals recognize both positive and negative aspects of foreign involvement, while 13.3% disagree, possibly believing that knowledge transfer and local employment opportunities are sufficient.Issues of transparency and accountability in BRI railway project implementation are also significant, with 66.7% of respondents agreeing that these projects face governance challenges. Infrastructure projects of this magnitude require strong oversight, yet concerns over opaque contract agreements, procurement processes, and project execution persist. Meanwhile, 16.7% of respondents are neutral, possibly due to a lack of detailed information, and 16.7% disagree, potentially trusting the regulatory frameworks in place.

Regarding environmental impact, 61.6% of respondents express concerns about the ecological consequences of BRI railway construction. Infrastructure development often involves deforestation, habitat disruption, and pollution, which can negatively affect communities. However, 18.3% remain neutral, possibly due to limited awareness of specific environmental issues, while 20% disagree, potentially perceiving economic benefits as outweighing environmental drawbacks.The displacement of communities due to land acquisition for railway construction is another major concern, with 68.3% of respondents acknowledging controversies surrounding this issue. Land disputes can arise when compensation is inadequate or relocation plans are poorly executed. However, 15% remain neutral, likely due to a lack of personal experience, while 16.7% disagree, possibly believing that land acquisition was conducted fairly.

Another major concern is the high cost of maintaining and operating the BRI railway infrastructure, with 71.6% of respondents agreeing that this poses sustainability challenges. Railway projects require continuous funding for repairs, modernization, and operational efficiency. If revenues generated do not cover maintenance costs, the financial burden could fall on the government, increasing fiscal pressure. Meanwhile, 13.3% of respondents remain neutral, and 15% disagree, possibly viewing long-term economic benefits as justification for high maintenance costs.Finally, a significant majority (75%) support renegotiating the terms of BRI railway agreements to mitigate economic risks. This suggests widespread recognition of the need for more favorable loan conditions, local content integration, and greater transparency in agreements. The 11.7% neutrality rate indicates

that some respondents are unsure about the feasibility of renegotiation, while 13.3% disagree, potentially believing that current agreements are reasonable and beneficial.

Hypothesis Testing

The chi-square test is a statistical method used to determine whether there is a significant association between categorical variables. In this study, the chi-square test is employed to examine whether China's Belt and Road Initiative (BRI) railway investments have significantly impacted Nigeria's infrastructural development and whether the risks associated with these projects significantly outweigh their benefits.

Hypothesis for Impact on Infrastructure

H_0: China's BRI railway investments have no significant impact on Nigeria's infrastructural development.

H_1: China's BRI railway investments have a significant impact on Nigeria's infrastructural development.

Hypothesis for Risks vs. Benefits

H_0: The risks associated with BRI-funded railway projects do not significantly outweigh their benefits for Nigeria's economic and infrastructural growth.

H_1: The risks associated with BRI-funded railway projects significantly outweigh their benefits for Nigeria's economic and infrastructural growth.

Observed Frequencies (O)

The observed frequencies for each response category were extract from **Table 2** (Impact of BRI Railway Investments) and **Table 3** (Risks and Challenges of BRI Railway).

Impact on Infrastructure (Table 2)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Improved transport infrastructure	120	90	45	30	15	300
Enhanced economic activities	110	95	50	25	20	300
Urbanization & regional connectivity	125	85	40	30	20	300
Ease of transportation	130	80	40	30	20	300
Infrastructure meets global standards	90	85	60	40	25	300

Risks vs. Benefits (Table 3)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Increase in national debt	135	80	40	30	15	300
Long-term economic risks	125	90	45	25	15	300
Dependency on Chinese technology & labor	140	85	35	25	15	300
Transparency & accountability issues	120	80	50	30	20	300
Environmental concerns	100	85	55	35	25	300
Displacement & land acquisition	115	90	45	30	20	300
High maintenance & operational costs	130	85	40	25	20	300
Renegotiation of BRI agreements	145	80	35	25	15	300

Compute Chi-Square Statistic

Hypothesis	Chi-Square Value ($\chi 2$\chi^2)	Degrees of Freedom (df)	p-value	Decision
Impact on Infrastructure	22.52	16	0.127	Fail to Reject H0H₀
Risks vs. Benefits	30.06	28	0.360	Fail to Reject H0H₀

Source: Computation

Interpretation of Results

The p-value for the first hypothesis (0.127) is greater than the significance level of 0.05, meaning there is no statistically significant relationship between China's BRI railway investments and Nigeria's infrastructural development. This suggests that while respondents perceive positive impacts, the variation in responses does not indicate a statistically significant effect.

The p-value for the second hypothesis (0.360) is also greater than 0.05, indicating that the risks associated with BRI-funded railway projects do not significantly outweigh their benefits for Nigeria's economic and infrastructural growth. While concerns such as debt, dependency on Chinese labor, and environmental issues exist, the statistical test does not confirm that these risks outweigh the potential benefits.

Conclusion

The Belt and Road Initiative (BRI) has had a considerable impact on Nigeria's infrastructure development, especially in the railway industry. According to the study, while BRI-funded railway projects such as the Lagos-Ibadan and Abuja-Kaduna rail lines have improved transportation efficiency, connectivity, and economic activity, concerns about debt sustainability, reliance on Chinese labor and technology, and governance transparency remain. The statistical research shows that, while there are visible beneficial effects, they are not statistically significant in validating

Nigeria's overall infrastructure development. Furthermore, worries about hazards like debt accumulation, economic reliance, and environmental consequences do not exceed the advantages. This shows that Nigeria's participation in the BRI requires a more balanced strategy to maximize rewards while reducing potential hazards.

Recommendations

Based on the findings, the following suggestions were made:

i. The Nigerian government should improve the conditions of BRI agreements to encourage more participation of indigenous enterprises, skilled labor, and technology transfer. This will lessen reliance on Chinese knowledge while encouraging local capacity creation.

ii. Before making any new BRI loans, the government should do rigorous cost-benefit analysis. Policies should be put in place to guarantee that borrowing is consistent with Nigeria's long-term economic goals while preserving financial stability.

iii. Stronger regulatory frameworks and independent supervision are required to guarantee accountability throughout project implementation. Contract terms, loan agreements, and implementation procedures should be made public in order to encourage openness.

iv. Given the significant maintenance costs associated with BRI-funded projects, Nigeria should develop dedicated financing channels and technical training programs to guarantee that railway infrastructure stays operational and viable for the long term.

v. Future BRI projects should include rigorous environmental and social impact evaluations to reduce negative consequences like relocation and ecological deterioration. Community participation should be stressed to guarantee that local residents benefit from these initiatives.

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