

# SOCIO-ECONOMIC IMPACT OF THE MODERNIZED NIGERIAN RAILWAY SYSTEM BY THE CHINESE

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## Introduction

Railways in Nigeria date back to the colonial times when the Europeans constructed them to foster their economic engagement. After independence, the railway system in Nigeria almost nosedived not until 1995, which experienced the most efficient modernization attempt through Chinese support.

Indeed, various interventions were made under the military regime to revamp the Nigerian Railway, yet none so far have been as impactful as the Chinese intervention. The 1995 China-Nigeria Railway deal, under General Sani Abacha, saw about 87 percent completion of the rehabilitation, which became a pointer in the subsequent years that China could be that foreign investor Nigeria needed in the modernization of the Railway. Through various administrations since 1999, China has become actively involved in the modernization of the railway, which has tremendously increased the patronage of the railway in Nigeria. Upsurge in the awareness of railway and high level of patronage has not only boosted economic activities along coastal regions but also had positive implications for development.

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Railway in Nigeria is now a common means of transport in routes where hold up (traffic) is the order of the day. In regions where railway lines are, numerous people now shun the road to travel by the train knowing fully well that they would enjoy no delay in their trip. It is gradually becoming a major means of transport for both corporate people and businesspeople who desire to meet their schedules. For instance, businesspeople who travel the Lagos-Ibadan expressway have avoided the road due to traffic, opting instead for comfortable coaches with well conditioned environments. The impact of the upgrades made by China, even though it has its challenges, is commendable. The current length of the Lagos-Ibadan railway is 157 km, which runs on a double gauge with a design speed of about 200 km/h with 10 stations. The NRC earned approximately N1.08 billion from passenger patronage in the second quarter of 2021, alongside an increase in freight service revenue, which rose from N26 million to N71 million. Since the modernization, railway service patronage has increased, with a total of 565,238 passengers traveling by railway in the first quarter of 2021 (Emewu 2021).

After 1999, the involvement of China in the Nigeria railway took a new shift. There has been tremendous improvement in freight services, which has helped many companies move their containers and heavy duties around the country without fearing accidents or delays. Amidst these advancements, there is still more ground to cover and more improvements to be made. Yet, the question that demands a serious answer is whether Nigeria has the capacity to sustain the modernization and if the continuous dependency on China for these services is safe. China has been able to provide the Nigerian Railway with a complete overhaul through funding that comes from China Exim Bank, under the auspices of the Belt and Road Initiative.

The railway development has contributed economically to Nigeria beyond its generation of revenue; it provides daily income for some small business owners. It has helped contribute to the financial stability of businesses that have benefited from the freight services. It contributes to economic growth by reducing transportation costs, improving logistics, and increasing the movement of goods and people. It has facilitated the flow of raw materials, goods, and products to markets, thereby boosting trade and stimulating industrialization (Kemi 2022). It has created employment opportunities directly within the railway sector as well as indirectly in related industries such as manufacturing, construction, and services. Beyond the economic impact, the railway also contributed to infrastructural development which has led to environmental development. The infrastructure development changes the overall outlook of Nigeria especially in places where these facilities are present. Railway modernization has contributed to environmental sustainability

and mitigates the negative impacts of transportation on air quality and congestion. The modernization of Nigeria's railway system has the potential to catalyze economic growth, foster regional development, create employment, promote environmental sustainability, enhance social inclusion, and facilitate cultural exchange (Kemi 2022). However, to realize these benefits, it is essential to ensure effective planning, investment, governance, and stakeholder engagement in the development and operation of the railway infrastructure.

The impact of the modernization since the partnership of China with Nigeria on the railway deal has been commendable, it has recorded socio-economic impacts, amongst others. Although these welcomed developments are not void of its challenges, especially with the stakeholders involved in the modernization plan. These stakeholders include the China Civil Engineering Construction Company (CCECC) and Nigerian Railway Corporation (NRC). The subsequent subheadings shall critically examine the identified impacts and challenges.

## History of Sino-Nigeria railway engagement

China Civil Engineering Construction Corporation (CCECC) rose into prominence in 1976 due to its execution of the Tanzania-Zambia Railway project, which was the biggest economic-aid project undertaken by China in Africa in the 1970s. With China's go-out policy (as a result of economic reforms) and the desire to engage its firms in international contracting and construction, the presence of Chinese firms, both state and private, began to be greatly felt in Africa. Specifically, China gained entrance into the Nigerian railway sector in 1994 when The Chinese Chamber of Commerce was founded under Gen. Abacha's administration (Brown 2006). Gen. Abacha's effort was quite commendable in gradually and steadily improving these bilateral ties, signing about \$600 million agreement in 1995 to rehabilitate the railways and apply to roll stock and engines, although, the contract was short-lived due to a lack of funds from the Nigerian government (Oni and Okanlawon 2011). Hence, CCECC gained prominence in Nigeria in 1995 when the contract was awarded. The contract was a kind of 'reward' for the role China played when General Abacha was facing sanctions from Western countries.

When the United States and European countries isolated Nigeria due to its human rights abuses, mainly the hanging of Ken Saro Wiwa in 1995, along with eight others from Niger Delta, China, in its 'usual' manner,

maintained non-interference in the internal affairs of other states and did not come forward to criticize the Nigerian government. This stance attracted the Nigerian government to China. Hence, General Sani Abacha's government made a reversal to the East (Oni and Okanlawon 2011). China became the Nigerian government's 'favourable' partner, and, subsequently, the railway rehabilitation contract was awarded to the Chinese-state firm, CCECC (Bukarambe 2001). The execution of that contract was not completed. The railway rehabilitation, which was scheduled to be completed in four years, was later abandoned. Reasons such as inadequate funding and the non-disbursement of funds by the Nigerian government were cited by both the Nigerian government and the Chinese firm. However, the passenger patronage increased from 784,491 in 1994 to 2,889,977 in 1995 as a result of the rehabilitation project undertaken by the China Civil Engineering Construction Corporation (CCECC), which began in 1995 (Brown 2006).

In 2002, after decades of neglect, the government under President Olusegun Obasanjo commissioned a twenty-five-year strategic vision to modernize the railway network; this vision was amended and ratified again in 2012. The plan aimed to rehabilitate and transition existing rail routes toward higher-capacity standard-gauge tracks and to connect all thirty-six major states and economic hubs with new railway networks (Onuoha 2013). Efforts aimed at rehabilitating the Nigerian railway system to enhance its performance included technical cooperation between the Nigerian Railway Corporation (NRC) and the Rail India Technical and Economic Services between 1979 and 1982 and with the China Civil Engineering Construction Corporation between 1995 and 1999. These agreements focused on improving rail tracks, rehabilitating existing locomotives, coaches, and wagons, as well as supplying a few new ones and reopening previously closed routes (Akinjide and Bello 2005). China's rehabilitation project has improved the Nigerian railway sector.

## Dependency theory

Theotonio dos Santos (1971) accentuated the historical phase of the dependency relationships. In his definition, dependency is a historical condition that shapes the structure of the global economy in a way that favors certain countries to the detriment of others, thereby limiting the development opportunities of subordinate economies. This presents a situation in which the economy of a certain group of countries is conditioned by the development and expansion of another economy, to which their own is subjected.

The external forces that favor the developed countries include multinational corporations, international commodity markets, foreign assistance and any other means by which the advanced industrialized countries can represent their economic interests abroad. Thus, these external forces that benefit the developed countries are the same factors that slow down the development of developing countries such as Nigeria. Therefore, the theory suggests that the presence of Chinese FDI has slowed down progress because Nigeria is regarded as a mere raw material deposit used to satisfy the desires of China at the expense of national development.

In essence, dependency theory explains the underdevelopment of some nations and how the interactions between the developed and underdeveloped countries have been the factors responsible for the economic breakdown of the Third World countries. Thus, dependency theorists explain inequality as the consequence of imperialism. This explains why Nigeria is regarded as a producer of raw materials and a depository of cheap labor, being denied the opportunity to market its resources in any way that competes with China. China only sees Nigeria as a place to realize its goals. Hence, this theory explains in part why Nigeria is not highly developed despite the fact that the necessary ingredients are present. Also, China has made no determined effort to develop the country once it gets what it wants.

Another aspect of the dependency theory posited by Ferraro (1996) is the diversion of resources, which is not only maintained by the power of developed states, but also through the power of elites in the dependent states. Dependency theorists argue that these elites maintain a dependent relationship because their own private interests coincide with the interests of the dominant states. The elites in a dependent state are consciously betraying the interests of the poor; the elites sincerely believe that the key to economic development lies in following the prescriptions of liberal economic doctrine. Typically, Nigerian politicians and elites have their interests wrapped up in the deals that have hindered the nation's development. Indeed, this theory stresses the reliance of developing countries such as Nigeria on China, because of better technological advancement, better service delivery and 'stress-free' deals. Many argued that China uses the infrastructure strategy to increase a continuous dependency of Nigeria on China and sidelining development in the process. It is with this submission that this theory is considered appropriate for this research.

## Economic impact

Globally, it has been a renowned phenomenon that railway modernization contributes immensely to the development of a nation through various initiatives and the exposure it brings. Railway modernization contributes to economic development by improving transportation infrastructure, increasing connectivity and trade, generating cost savings, creating jobs, enhancing productivity, promoting sustainable development, stimulating urban development, and fostering tourism growth. Railway modernization has enhanced the economic development in Nigeria. Nigeria still has a long way to go in revamping the railway sector, but, in the meantime, the upgrade has positively affected citizens and many businesses across the nation. According to the NRC records, millions of people are being conveyed weekly using the train facilities and thousands of freight services have boosted the economy and the national revenue. Many Nigerians see the upgrade as an optimistic sign of development and embrace its advancement. The subsequent heading below examines various economic contributions of railways to the Nigerian economy and citizens.

## Employment in the rural and urban areas

One of the most important aspects of the economic impact of the modernization of the railway is the creation of jobs. The upgrade affords diversification of operations which gives room for job opportunities. The job creation cut across the rural and urban dwellers because of the development that railway brings to the hinterlands. This essentially boosted the economy and brought about a steady developmental pattern. The major stakeholders in the railway upgrade are the CCECC and the NRC, these two organizations provide a platform where people can earn their livelihood.

### *Chinese Civil Engineering Construction Corporation (CCECC) job creation*

There is a large, appreciable, and notable contribution of job opportunities created by the Nigeria railway modernization. Zette (2005) stated that the expansion and improvement of the rail network creates more jobs by connecting business and activity centers in an efficient way. Railway construction and upgrade leads to an increase in human capital, which gives room for the creation of many departments that provide people with job opportunities.

These opportunities cut across various cadres: those boarding passengers, those in the train stations, the cleaners, the operative personnel, etc. The Chinese Civil Engineering Construction Corporation (CCECC) is one of the major stakeholders in the modernization of the railway system in Nigeria, and it has over the years created numerous job opportunities based on their engagements.

The employment opportunity in the railway sector cut across various stakeholders, including both the Chinese (CCECC) and the Nigeria Railway Corporation, who recruit personnel at various levels, from skilled to unskilled labor (Bello 2022). There are many artisans employed by the Chinese contractor, not by the Railway Corporation (NRC) itself. The Chinese have the technical team; these are the consultants of the entire project. This team consists of both the Nigerian consultant in charge of the railway modernization projects in the country and Chinese experts who work directly with the Exim Bank to supply the funding terms and conditions, and the annual percentage remittance to Exim bank. There is a large corporate league that oversees the upgrade of railway modernization in Nigeria which in itself increased the labor demand, amplifying its economic impact (Cheng 2022).

The Chinese employ local workers, especially in places where the routes of the rail are located. Modern railway systems require regular maintenance and repair to ensure safe and efficient operations. This creates jobs for technicians, mechanics, and maintenance workers, both in railway depots and workshops located in various regions, increasing employment opportunities. Also, areas that are virgin lands where there are no rail lines, the Chinese companies usually go through acquisition and clearing of the land which in most cases is done by the indigenous people to provide a means of daily earnings for them (Cheng 2022). The company also contributes to the community by schools, providing furniture and water. There are instances where clinics were built for the communities, which provide employment opportunities for the staff of these mini establishments. This gives the community more employment power, railway upgrade does not only benefit the urban dwellers alone, even the rural people gain access to the amenities that comes with the traction of the modernization of railway (Akor 2022). Usually, the company examines the peculiar needs of the neighboring community and seeks for means where the indigenous people of the community can benefit from the project. Although these things are supposed to be the responsibility of the government, the Chinese contractor sees the need for a corporate social responsibility to support the community and not act as the government (Bello 2022).



Also, indigenes who own the land where the railway tracks are laid struggle to adjust to the reality of the loss of their lands, which could have been used for farming. The company also tries to ensure they engage them in menial jobs for compensation. This becomes difficult for many because of the ancestral connection they have with their land. There are already obvious tensions that these projects bring, which is why the company seeks ways of ensuring to provide some relief within its means and affordability (Cheng 2022). The company also tries to balance the employment provided amongst tribes to avoid conflict. For instance, during the Abuja-Kaduna project, where the route primarily went through villages, there was a need for both skilled and unskilled workers. The recruitment was made open to the communities and neighboring areas without any form of discrimination, they were all put on a test, the most qualified were engaged on the project (Bello 2022).

After the Abuja-Kaduna project, some skilled workers were transferred to work in the Lagos-Ibadan line based on their skills, and some of them are already regarded as part of the company. Some workers were also sent from Lagos back to work in the Kano-Kaduna area. As long as there is efficiency and effectiveness, the company retains workers who are willing to be mobile. However, workers often decline transfers from the southwest to the north, stating they do not want to work in the north due to various security challenges (Bello 2022).

The company also has a scheme called “catch them young”. A visit is often paid to universities; final year students in some Nigerian universities are brought in, and are introduced to what the company does, and asked for their willingness to work with the company after graduation. This was done in 2015. Some obliged, while some demanded to know how much the company is willing to pay, making it clear that they were not ready to work for free; otherwise, they said they would rather work for an oil company that probably pays better CCECC, over the years has made concerted effort to ensure that jobs are created through the modernization of the railway in Nigeria, especially through the involvement of university students. The focus of the company went beyond those who are engineering-inclined, including law and every other department relevant to the company. This is another method the company uses for Nigerian inclusiveness (King 2022).

Furthermore, the company (CCECC) is regulated by the Ministry of Foreign Affairs of Nigeria regarding the number of expatriates, interpreters and cooks (the Chinese are quite rigid with food, they eat only what they are accustomed to, hence the need for their own cooks). All of these are regulations that serve as checks, because there must be Nigerians working with the



Chinese (this is part of the regulations and specifications of the ministry). Every project has work force specifications; the number of Chinese experts and Nigerian experts depends on the project. By the virtue of exposure and years of experience, some Nigerians, though very few, have been able to become experts through observations and training (King 2022). Working closely with the Chinese expatriates has its implications, as even Nigerians become experts themselves, although in most cases these are not deliberate initiatives from the Chinese company (Bello 2022). According to the documentation accessed from the Chinese embassy in Abuja, the Lagos-Ibadan railway alone supported the employment of 20,000 people. CCECC also organizes training sessions to contribute to the cultivation of talent for Nigeria's railway modernization (Embassy of the People's Republic of China in the Federal Republic of Nigeria 2023).

### ***Nigerian Railway Corporation (NRC) job creation***

The Nigerian Railway Corporation is another stakeholder in the railway sector. The Corporation serves as the end users after the Chinese have handled over various projects upon completion. The modernization, over the years, has increased the wide range operation of the corporation, from skilled workers to unskilled workers. The corporation has experienced growth in human resources since 1995. The Nigeria Railway Corporation often employs indigenous people to ensure the tracks are not tampered with or stolen — a job similar to community policing to deter vandalism. Upgrading railway systems requires the manufacturing and supply of new trains, locomotives, signaling equipment, and other components. This has stimulated manufacturing industries, providing employment in factories and supply chain businesses located in both rural and urban areas. The Nigerian railway Corporation has an extensive operational chain; including those in the urban and rural areas, as well as full-time and contracted staff (Kolawole 2022).

To ensure the safety of the tracks, the corporation has 'whistleblowers' within various communities to alert the Corporation anytime there is a vandalization or an attempt on the tracks. They also inform the corporation when there are hindrances on the tracks to avoid accidents. The upgrade and modernization of the railway have led to an increase in the workforce of the Corporation. For instance, every infrastructure set up by the railway sector needs facility managers and various personnel to maintain the facilities. The advancement in the ICT of the railway corporation has also increased the number of hands needed to prevent glitches. More than ever, the Corpo-

rations now have needs for cleaners and other unskilled workers to keep the facilities operational (Idiat 2022).

### ***Revenue generated through freight and transportation***

The railway upgrade led to an increase in freights services, establishing a vital link between the port and the rail, thus expediting the flow of import and export goods, alleviating port congestion, and contributing significantly to the growth of Nigeria's largest port, the Lagos Apapa Port (Ogochukwu *et al.* 2022). More businesses have been drawn to railway transportation since the upgrade and modernizations. The high-speed railway has significantly impacted industrial business movement and concentration, as well as the secondary labor force (Mohammed 2021). The economic impact of the rail network encouraged the movement and concentration of companies and staff. Introducing high-speed rail widened the pathway for production circulation and the interaction demand for factor flows between urban and rural units, affecting the distribution trend of enterprises.

One of the most efficient ways for transporting large supplies of commodities, manufactured goods, and achieving economies of scale for passenger transport is rail (Rodrigue and Comtois 2013). The Associated Port & Marine Development Company partners with the Nigerian Railway Corporation to operate a world class, efficient railway freight transport system in Nigeria. The goal of their partnership is to decongest the Nigerian port system, reducing delivery time to end users, saving cost on cargo delivery. With improvement on electronic data interchange, container real time report, direct report to line and many other services has increased, generating revenue.

According to Rodrigue and Comtois, rail transportation has been playing a crucial role in economic development in terms of improving the land transport technology and positively changing the movement of freight and passengers. Rail can transport heavy mineral resources, enhancing economic performance by increasing productivity and improving distribution. (Rodrigue and Comtois 2013). Moreover, by carrying heavy bulk freight over long distances, rail transport reduces production and commercial costs. Consequently, economies of scale are achieved (in tonnage transported), while road transport usage is limited.

The safety of the railway and its almost predictable means of operation have increased patronage. Many companies with heavy duties see the need to reduce cost by using the train freight service. Companies are often willing to pay a premium for expedited delivery of their goods, thus generating

additional revenue for the NRC. Apart from deductions in the second quarter of 2021, the NRC generated N1.18bn (Nigerian Naira), which is a significant raise in revenue (Lawrence 2022).

Upgraded railways have improved reliability and punctuality, reducing the risk of delays and associated costs for freight companies. This reliability has attracted more business from shippers looking for dependable transportation options. Railway operators (NRC) negotiate long-term contracts with freight companies, providing them with a predictable revenue stream over an extended period. These contracts often offer volume discounts or other incentives to encourage businesses to commit to using the railway services (Lawrence 2022). Many have affirmed that the predictable timing has made companies subscribe to the service in recent times. Indeed, both as a means of transport and freight, many companies use trains because of their safety and the ability to carry heavy loads.

### *Small business owners*

Rail transport has made varying degrees of impact on the development of the countries where they exist. The rail lines have become zones of economic activity, serving as focal points for the expansion of settlements and economic input and output (Kolars and Malin 1970). At various train stopovers, there are traders and hawkers displaying their businesses hoping that the train passengers alighting from the train or waiting for the train would patronize their business. Some of the traders affirmed that this is their primary means of livelihood, and with the increase in the number of passengers, their businesses have also grown significantly. At these various stopovers, there are people selling snacks, drinks, food and all manner of things that they believe passengers might need.

In terms of the economy, railways play a major role in integrating markets and increasing trade. Railways facilitate all forms of local development by providing access to people, information and employment opportunities. For some of the hawkers, the daily station routine offers an assured customer base as long as the train service is active (Arike 2021). The money they earn daily is used to feed their family, and cater for the school fees and the general welfare of their children (Hikmat 2021). They use the predictable schedule of the train service to their advantage, preparing each day to meet customer needs. Some train passengers are also able to secure business contracts with fellow passengers they meet on board after casual conversations.

Transport infrastructure brings firms closer to a larger customer base and a larger pool of workers, which can stimulate hiring and investment by local firms. The upgrade and modernization of the railway has also created a daily means of livelihood for drivers who come to pick up passengers at the train station. For instance, the Ibadan station is far from the city, so the train station is filled with many commercial drivers waiting for passengers to transport to town. This provides a significant source of income for these drivers; they are grateful to have a place to go daily, and they feel assured of patronage (Lalekan 2021).

### *Tourism*

For some individuals and families, the train experience is one of a kind for them. For some, it is an opportunity to get to know Nigeria better, and appreciate the beauty of nature in a very comfortable setting in the train (Kim 2021). This has generated revenue due to the increased patronage of the railway (Lawrence 2022). Railway as a form of tourism seeks to enhance travel experiences, including nostalgia, a sense of history and authenticity. Furthermore, in the experiential travel scene, it offers services that meet travelers' expectations. Railway heritage attracts both the young and old generations looking for new experiences, or feeling nostalgic. The ability of marketing to harness people's enthusiasm for new experiences has increased the attractiveness of railway patronage (Kim 2021). People love to travel because the trip has a remarkable inherent utility. The experiences of traveling on a steam train have become an attraction, and the journey leads to excitement. Many opt for the new coaches to experience them firsthand. The coaches are modern, and designed with facilities that offer passengers comfort and the pleasure of traveling. All the coaches are air-conditioned and have tinted windows. This has indeed led to an upsurge in people's preference for using the train as a means of transport. The tourist railway stimulates the railway market by emphasizing both the values of railway heritage and the quality of the travel experience.

### *Investment in railway and its improvement on GDP*

An infrastructure network, ranging from roads and bridges to freight rail and ports, as well as electrical grids and internet provision, plays a critical role in every nation's growth and prosperity. It also improves households' social and economic welfare. Studies have shown that accessible and quality infrastructure enhances economic growth in both developed

and developing countries. Improved rail connectivity promotes tourism by making it easier for people to travel to various destinations. Additionally, it encourages development in regions along railway lines, boosting local economies and contributing to GDP growth. Rail transport is generally more energy-efficient and environmentally friendly compared to road transport. Increased investment in railways has led to a modal shift from road to rail, resulting in reduced carbon emissions and environmental damage, which have positive long-term effects on GDP by mitigating the costs associated with environmental degradation (Pedroni and Canning 2004).

### ***Social harmonization***

The railway upgrade has increased the number of people using rail as a means of transport. It has also increased socio-cultural interaction, which in itself impacts on national development. The use of railways brings people of different cultures and tribes together, fostering engagement and interaction. People find common topics to discuss while on the train to make the journey smoother. The amazement caused by the modern facility of the rail wagons encourages people's interaction. It also develops a nationalistic view and helps foster national interest, in a way that people see themselves as one while on the train (Kim 2021).

The common goal is to reach destinations while the journey remains smooth. Modernized railways in Nigeria enhance connectivity, making transportation more accessible to a wider segment of the population. This accessibility has led to greater social inclusion by enabling people from different backgrounds to access education, healthcare, employment opportunities, and cultural activities more easily. Railway networks facilitate cultural exchange by enabling easier travel between regions and countries. This promotes understanding, tolerance, and appreciation of diverse cultures, ultimately fostering social cohesion and harmony. Railway modernization has a multifaceted impact on social harmony by improving accessibility, fostering economic development, promoting environmental sustainability, reducing congestion, facilitating cultural exchange, enhancing safety and security, and promoting community engagement and participation. These benefits contribute to creating inclusive, resilient, and cohesive societies where people can thrive and live harmoniously together. The subsequent headings below examine various contributions of railway upgrade to social harmonization across the country.

## ***Networking***

Train is one of the best means of social interaction. Sitting with people for a period of hours gives you the chance to have some chitty chat that affords the opportunity to network. Passengers often engage in conversations with fellow travelers during their journey. Whether it's small talk, sharing experiences, or discussing common interests, train journeys provide opportunities for social networking among passengers. Just by sitting next to someone in the train and wasting time with conversations, connections can be made that lead to business opportunities. Over time, some passengers have confirmed how a chat on the train led to a significant contract, such as makeup jobs, which later brought additional referrals (Obisesan 2021).

Passengers can share their journey updates, photos, and experiences on platforms like Twitter, Facebook, and Instagram, using specific hashtags related to the railway or train journey. This has also increased the awareness and promoted railway services and modernization in Nigeria. Train travel often involves traversing through various regions and cities, each with its own unique culture, language, food, and customs. Train passengers have the opportunity to interact with people of different regions, observe their way of life, and engage in cultural exchanges, thereby broadening their understanding and appreciation of different cultures. Trains provide shared spaces where people from diverse backgrounds come together. Passengers share cabins fostering interactions and opportunities for cultural exchange. These shared experiences lead to the formation of connections and friendships across cultural boundaries. Nigerians find it most exciting to relate on trains to encounter new ways of life, they develop a deeper appreciation for cultural diversity and become more open-minded individuals (Obisesan 2021).

## ***Beautiful love stories***

Sometimes, people simply strike up conversations with fellow passengers during a train journey. These chance encounters can lead to a connection that evolves into a romantic relationship over time. Perhaps they sit next to each other. Some people intentionally choose to travel by train with the hope of meeting someone special, which some train travelers affirmed worked for them. They might be open to the idea of finding love during their journey and actively seek out opportunities to connect with other passengers (Kim 2021).

The impact of train travel cannot be erased from some people's life as it affords them the opportunity of meeting with their life partner which has given them a beautiful life together. Train commuters connect over shared

interests, such as a love for adventure, literature, or music. Finding someone who shares your passions can create a strong foundation for a lasting relationship. People can also meet their life partners while commuting on trains. Frequently seeing the same faces on their daily travels can lead to friendships that evolve into something more meaningful (Obisesan 2021).

### *Family bonding time*

The modernizations of the Nigerian railway have given some families ample opportunity to explore this means of transport to strengthen family bonds and create memories together. Oftentimes at the railway station, you will see families with their children boarding and using the first class cabin to give them a worthy travel experience. This has fostered family connection and for some family train travel has become a getaway time. Train travel offers a unique shared experience for the entire family. From the excitement of boarding the train to watching the landscapes together, watching movies played on the train screen together, every moment becomes a shared memory. Train journeys often provide uninterrupted time together without the distractions of traffic or electronic devices. This creates an ideal environment for conversation, or simply enjoying each other's company. The new coaches simply offer a more relaxed atmosphere compared to other modes of transportation. Train travel has led to memorable moments that families cherish for years to come. Whether it's appreciating the beauty of nature through the train window or meeting interesting fellow passengers, these experiences can strengthen family bonds and create lasting memories (Kim 2021).

### *Education*

The modernization of railways in Nigeria led to the creation of the Transportation University in Kastina. The University of Transportation is part of the technological transfer attempt and social contribution of the Chinese to Nigerian society. This initiative was conceived during the contract negotiation of the Lagos to Kano Railway Modernization Project on May 15, 2018, between the Federal Ministry of Transportation and Messrs China Civil Engineering Construction Company (CCECC Nigeria Ltd), with the sole purpose of technology transfer in the area of transportation. The establishment of the University is aimed at properly safeguarding and sustaining the huge investment of the Federal Government of Nigeria in the transportation sector while addressing the need for a transport-focused education and research-based institution to complement the shortage of human capacity in



the transportation sector, with a deepened focus on the nation's rejuvenated railways (FUTD 2018). For the University project, CCECC Nigeria Limited promised to commit an amount not exceeding fifty million United States Dollars (US\$50,000,000.00) as an obligation, and the development of the University will span through the period of the construction of the Lagos to Kano Railway Project.

The Federal University of Transportation, Daura (FUTD) has three faculties: the Faculty of Basic Engineering, the Faculty of Traffic and Transportation Engineering, and the Faculty of Logistics, Management and Planning. Within these faculties there are eleven dynamic departments, including Civil Engineering, Electrical and Electronics Engineering, Mechanical Engineering, Highway Engineering, Railway Engineering, Aviation Management, Highway Management, Logistics and Supply Chain Management, Maritime Management, Railway Management, and Transportation Management and Planning (FUTD 2018).

The modernization of the Nigeria railway sector by the Chinese also led to the creation of empowerment and education initiatives for Lady Engineers. In Abuja, there is a concrete unit responsible for rail maintenance, known as the Lady Engineers. This section is staffed entirely by women, who work exclusively in that department. This is an attempt to encourage the female child, and empower them to learn about technology. The women are recruited from the local communities and they are trained for a specific duration under the guidance of a supervisor in all intricacies of engineering (Bello 2022).

## **Challenges of the modernization in the Railway sector**

Modernization of the railway system in Nigeria has its unique challenges. Every developmental measure comes with its own challenges, and the various stakeholders involved in the modernization process face diverse obstacles. The subsequent paragraphs identify the challenges confronting the Nigerian Railway Corporation (NRC) and the Chinese company handling the railway construction (CCECC).

### ***The challenges facing the Chinese investor/CCECC***

There are three parties involved in every project set up: the contractors, the consultant and the clients (Bello 2022). Every government wants a particular project completed within a time frame, so the political influences

often come into play at times. The contractor will always express his own time frame, which is convenient. Sometimes there is a conflict of timing between the government (Client) and the contractors and consultants. For instance, in the Lagos–Ibadan project, the agreement was three years but as the project advanced along the way, there were constraints that made the three years agreement impossible. The obstacle on the project took more than nine months to solve. The implication is that for nine months, work was not done, which had an adverse effect on the initial agreement on the timeline. It is important to make the client (government) aware of the challenges. The construction started in 2017, with its foundation being laid by the then vice-president, and was expected to be completed in three years, which would have been 2020, but COVID-19 came and affected the project. Moreover, the then minister was not giving the contractors the breathing space so that the work could be completed (King 2022). The pressure of the minister was very commendable, as it helped facilitate the project. The subsequent paragraphs identified the key challenges of the Chinese investors in Nigeria.

### ***Delays in providing necessary facilities disrupt the overall project timeline***

The provision of necessary facilities such as stations, maintenance yards, signaling systems, and security infrastructure significantly impedes progress and also dampens the zeal of the worker (Bello 2022). A lack of coordination among various stakeholders, such as construction teams, government agencies, and utility providers, hinders the delivery of the facilities on schedule. Railway projects must comply with various regulatory standards and requirements related to facilities, particularly those concerning accessibility, environmental impact, and safety. Failure to meet these standards results in regulatory hurdles, fines, or legal challenges, further delaying the project and increasing costs.

### ***Willingness to be able to work***

It is important to look at what is reasonable and not unnecessarily prolong the project. Usually, the contractors have the tendency of prolonging the project, which is one of the challenges faced in a project. There are constant pressures from the government especially under the Buhari administration to ensure that the project is delivered on time. Most times, it depends on how the contractor sees the supervising agency; if he can bully them, the project will last as long as there is no pressure. But if the govern-

ment's projected completion is within its tenure, then the pressure becomes heightened, and, in such cases, workers would have to work even at night to ensure the work is completed within the stipulated time. The Buhari government was bent on completing the project within his tenure. For instance, the Abuja-Kaduna project started during President Jonathan's administration but could not be completed, and it was completed during Buhari's administration. If the Buhari administration was not interested in railway development, the project possibly would have lost its driving force. The Lagos-Ibadan project was started and finished during Buhari's administration. When it comes to projects, many contractors often want to run the project at their own pace. How fast the project goes is determined by how engaging the government is in the daily report of the project (Bello 2022).

One of the major reasons the contractors delay in adhering to the time frame agreed is attributed to various factors such as the availability of materials, and the time required for shipping these materials, as well as engaging expatriates, among other factors. There is always a little change in the time agreed, though the contractors ensure that there is no drastic change in the agreed duration. Projects that should take 3 years but end up taking 8 years are usually delayed because there was no proper conception and planning from inception (Bello 2022).

### *Climatic condition*

A lot of construction activities do not occur in Nigeria in the early part of the year because of the climatic condition. It is easier for contractors to work around November to February before the rainy season begins. When rain starts, the contractors have to reduce the work force and the pace of work. Climate plays a significant role in determining the duration of the project. Though there are aspects of projects that are feasible during the rainy season, some parts, such as certain bridge works, are not possible during this time, particularly tasks involving the upper structure.

The way this challenge is addressed is by planning and reshuffling activities, identifying work that can be executed during a specific period and ensuring it is completed so that, overall, the project meets the scheduled time frame (King 2022). Though weather is a valid challenge, it is not considered a tenable excuse for contractors. Contractors are expected to have factored weather conditions into their planning before agreeing to a time frame with the government. However, it is important to note that climatic conditions often vary and are not always predictable.

### ***Fund and policy bureaucracy***

Funding and government policies are key issues that affect a project. Due to a policy challenge, the project got delayed for 9 months. The major one for that project occurred when workers were working on the rail line and encountered a water pipe that was supplying water to a community or even an entire state, which was not foreseen by any of the parties involved. The dilemma was whether to relocate it, or replace it, or dig a new water channel for the community. The discussion of various alternatives became a key issue. If it is to be relocated, the implication is that the community will be without water for a period of time. Therefore, the question of which alternative to choose and who will provide the alternative remains a significant policy issue, requiring ongoing discussions. Whichever decision is made usually impacts the project and its delivery time (King 2022).

### ***Unforeseen challenges***

There are many times when unforeseen challenges are met by the contractors and consultants during the course of the project. An example of such challenges is the presence of electrical poles and electrical facilities on the corridor of the rail lines. It is not the duty of the contractors to relocate electrical poles and facilities, so there is a need to alert the concerned authority to address the impending hindrance to the project. How long it takes the concerned authority to respond and resolve the problem makes a lot of difference on the project. If it is a challenge they can be attended to immediately, it helps, but if not, the authority may delay the process. Every Nigerian organization and institution has its own bureaucracy which drags issues that need prompt response. The issue of securing approval from various quarters is draining and highly tiring. No matter how willing or fast the contractors are, without resolving these issues, it is likely the project will not advance as planned.

### ***Security challenge***

Security challenges are also a concern for project delivery and advancement. Kidnapping and other security challenges are issues beyond the control of the contractors, these are issues that can only be dealt with effectively by the government. Workers also avoid work sites when there are security challenges. The need to keep the working equipment safe from theft and vandalization is also another major challenge. Railway construction sites are also vulnerable to unauthorized access by trespassers, vandals, or thieves

(Cheng 2022). The security challenge is proactively addressed by conducting thorough risk assessments (King 2022). Implementing security measures such as lighting, alarms, and security personnel can deter potential criminals and protect assets. Most importantly, it requires a comprehensive approach that involves collaboration between project stakeholders, government agencies, law enforcement, and security professionals.

### *Health and family issues*

Employees dealing with health or family issues experience reduced productivity or absenteeism. This leads to delay in project timelines and increased costs due to overtime or hiring temporary workers. Workers slow down when they have health challenges, and some would even have to be excused from site if the health problem persists or intensifies. These issues compromise the safety of workers on the project site, leading to accidents or injuries. When team members are dealing with personal health or family crises, it affects overall morale and motivation which leads to decreased cooperation, communication breakdowns, and a lack of cohesion among project team members. Often, they have to leave to attend to such health emergencies. For instance, there was a time when a key personnel was absent due to health issues. It caused a disruption in project planning and coordination efforts. This resulted in miscommunication, errors in decision-making, and inefficiencies in project execution (Mohammed 2021).

Similarly, when workers are distracted by family issues, they do not fully focus on their tasks, increasing the risk of accidents. Some also leave the site to attend to family issues. These challenges, over the years, have been recurring problems that need to be effectively managed to ensure they do not cause delays in the project. Delays or setbacks caused by health or family issues strain relationships with stakeholders such as investors (contractors), government agencies, and the public. They perceive the project as unreliable or poorly managed, leading to reputational damage and potential conflicts. The health issues are resolved by providing prompt medical attention for the workers, though this depends on the project and the handler. It is not a common operation (Mohammed 2021).

## **Pandemic: the Covid-19**

Lockdowns and restrictions imposed to curb the spread of the virus led to disruptions in the workforce. Construction workers were unable to work at full capacity due to social distancing measures, quarantine requirements, and illness among staff. Many railway projects rely on materials and components sourced from various regions globally. Supply chains were severely disrupted during the pandemic due to factory closures, transportation restrictions, and delays in procurement, causing shortages of essential materials and equipment needed for construction. Pandemic-related regulations and safety protocols often required adjustments to construction practices and project plans. Obtaining necessary permits and approvals became more complicated and time-consuming due to changes in regulatory frameworks and administrative delays (Oyewole 2022).

## **Challenges facing the Nigeria Railway Corporation (NRC)**

As stated earlier, the NRC is an important stakeholder in the Nigeria railway sector. As the end-users, the corporation is also faced with challenges. Adopting modern railway technologies such as high-speed trains, automated signaling systems, and digital ticketing systems requires expertise and investment in research and development. Integrating these technologies into the existing framework remains a major challenge for the Nigerian Railway Corporation. NRC accuses the government of not involving the corporation enough, which is the reason why they do not fully get involved in the operation of the Chinese contractors until the project is completed and handed over. The Corporation has its own engineers who supervise the project when it is done, but the engineers do not get involved in the production phase (Oyewole 2022).

Nigerian Railway Corporation currently lacks the capacity to maintain the modernized railway upgrades underway in the country due to the lack of integration between the Corporation and the Chinese contractors. The government, through the Ministry of Transportation, seems to be the only one having direct dealings with the Chinese, without a mandated connection between NRC and CCECC. This lack of synergy has been a major challenge for the corporation. It is expected that when the bilateral talks and MoUs on railways are signed, the NRC should be duly represented and given the opportunity to also make contributions that can foster efficiency. One of the

major challenges faced by the NRC in the modernization of the railway service is the lack of incorporating the NRC officials into the upgrade system. The corporation, as the end users, often waits until the project is completed before becoming involved (Bello 2022).

Modernizing the railway system requires a skilled workforce trained in operating and maintaining modern equipment and systems. Ensuring an adequate supply of trained personnel and overcoming any resistance to change from existing staff is a significant challenge. An upgrade means increased work, patronage and effectiveness. The corporation has been pleading with the government to carry out a restructuring of the NRC workforce to accommodate the overhaul modernization that is envisioned (King 2022). The NRC is also faced with developing and implementing policies and regulations conducive to railway modernization while ensuring safety, efficiency, and environmental sustainability. This process is very complex, requiring coordination among various government agencies and stakeholders.

Security challenges are also an area the corporation needs to pay adequate attention to. Ensuring the security of railway infrastructure and operations against vandalism, theft, sabotage, and terrorist attacks is a significant challenge, especially in regions prone to unrest or insurgency (King 2022). Addressing these challenges would have required a coordinated effort involving government agencies, private sector partners, international organizations, and local communities to ensure the successful modernization of the Nigerian railway system.

## Conclusion

It is safe to say Nigeria has a lot of catching up to do in terms of modernizing its railway sector. However, it is not out of place to state that the effort made so far is not like it used to be in the 1980s, when the railway was almost in a state of coma. The new upgrades have given Nigeria a fresh outlook and have been impactful. Railway modernization has contributed to economic development, social harmonization and infrastructure development. The China-Nigeria partnership on railway deals has transformed the sector over the last 25 years and more. China has proven to be highly efficient in her technological delivery, providing the modernized train service in Nigeria. More ground is yet to be covered, and the need for consistent commitment through policies made by various administrations to prioritize the railway sector will yield long-term positive results. The restructuring of Nigerian



Railway Corporation to accommodate the gradual but effective changes that come with railway modernization is needed. Finally, for maximum utilization of the railway services in Nigeria, the need to unbundle the railway sector calls for urgent attention. Introducing public-private partnership to reduce the government's management monopoly over the sector will ensure that the absence of Chinese involvement does not lead to a relapse of the railway system in Nigeria.

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## ABSTRACT

Railway modernization has a long term effect in enhancing national development when there is commitment to improving the sector. China has been heavily involved in the revamping and rehabilitation of the Nigerian Railway sector, and her role in the process gave railway a new outlook in recent times. The contribution of railway modernization as a means of transport fosters infrastructural development and economic advancement. Hence, this article examined the Socio-Economic impact of railway modernization in Nigeria, the promotion of social harmonization through railway travels, and the notable economic development recorded as a result of the railway upgrade. The purpose of this article is to investigate the extent of the impact of the railway in recent times on Nigerians and how it has enhanced socialization. The paper adopted the historical and analytical method to analyze data. The paper also identified various intricacies and challenges of the railway modernization faced by the stakeholders involved. The article concluded by stating that China's involvement in the Nigerian railway modernization upgrade has a positive impact on the Nigerians, although there is more improvement that needs to be done to sustain the modernized facilities.

## KEYWORDS

Socio-Economic. Modernization. Infrastructure.

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