

# FORGING THE IRON AND STEEL INDUSTRY IN NIGERIA; IDENTIFYING THE PROSPECT AND IMPEDIMENTS

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## ABSTRACT

With renewed efforts to revive the Iron and Steel Industry in Nigeria, this paper attempted a re-visit of the industry by attempting to know;

- The state of affairs of the Iron and Steel industry in Nigeria?
- Science, Technology and Development indicators for Nigeria especially on manufacturing, in line with the state of affairs.
- The Science and Technology policies pertaining to industry support and the level of government efforts, as well as;
- Whether the government is conversant with the political economy of Steel manufacturing. The paper relied on empirical data of notable institutions as well as secondary data from related studies.

Among major findings are that even though Nigeria is blessed with an abundance of raw materials, there has been no consistent progression in the state of affairs of iron and steel production in Nigeria. There are also issues of policy inconsistency. Nigeria has neither made an appropriate deployment of Iron and Steel, nor taken any concrete effort to sustain the development. Government is also not seen to be conversant with, and ready to align with the established political economy especially of the dynamics of 'visible and invisible actors within the global system. However despite the seemingly unimpressive performance of Nigeria and its recent bid to revive the Iron and Steel industry in the country, it is believed that the steel industry in Nigeria could still be reactivated to provide the necessary vehicle for industrial growth, provided there is commitment and patriotism especially of the government

**KEYWORDS:** Forging, Iron and Steel, Nigeria.

## FORGING THE IRON AND STEEL INDUSTRY IN NIGERIA

### INTRODUCTION/ RATIONALE

Steel is the heartbeat of any national development plan for industrialization. The

appropriate deployment and sustained development of iron and steel products has been linked with the ability of several economies especially in Asia, Western Europe

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and the Americas to cope with the challenges of their economies, and provide for their citizens welfare. This became feasible perhaps because the steel industry is a crucial input in agriculture as well as in the military industrial sector. The stimulation and innovation of several technologies that are critical to the welfare of the people make this industry invaluable. (Agbu: 2007) The affiliated uses of Iron and Steel products is therefore crucial to the growth and industrialization of, and sustainable development of economies. Japan was also able to develop its Iron and Steel industry and consequently transcended many of its basic development challenges and crises.

According to (Agbu:2007) quoting Amsden (1983:3), "the first industrial revolution in Britain toward the end of the 18<sup>th</sup> century, and the second Industrial revolution in Germany and the U.S. approximately 100 years later, shared the distinction of generating new products and processes mostly through inventions and innovation. Many of these inventions could not have had commercial value without iron and steel as critical inputs. In retrospect the early spread of industrialization traced to Western Europe between 1750 and 1800 was enabled by the development of iron and steel, when Britain had industrial monopoly compared to other parts of the world... it was iron and steel that enabled West Germany to almost over-run Europe, and Japan to suddenly leap to the forefront of modern technology with unprecedented and yet unrivalled innovations in computer and automobiles..."

The establishment of the iron and steel industry received priority attention in Nigeria's bold march towards industrialization. About 1 billion Naira at that time was allocated to this sector in the 3<sup>rd</sup> National Development Plan of 1970-1974. With increasing demand for steel, the availability of iron ore and coal in the country, and the importance of the steel

industry as a leading factor in rapid industrialization, the Federal Government decided to accelerate the establishment of suitable iron ore and steel plants in the country. This gave birth to the National Steel Council, the Ajaokuta Steel Company Limited and the Associated Ores Mining Company Limited. Construction work was intensified on the infrastructural requirements for the Ajaokuta blast furnace steel plant. The plant went into full production by June 1983 (Effoduh: 2014)

In line with latest efforts to revive the Iron and Steel Industry in Nigeria, this paper will attempt a re-visit of the industry by attempting to answer these questions;

- i. What is the state of affairs of the Iron and Steel industry in Nigeria?
- ii. What are Science, Technology and Development indicators for Nigeria especially on manufacturing, in line with the state of affairs?.
- iii. What are the Science and Technology policies pertaining to industry support and the level of government efforts?
- iv. Is the government conversant with the political economy of Steel manufacturing and looking in the direction of possibility of partnerships for an enduring and resourceful Iron and Steel industry in Nigeria?

## **SIGNIFICANCE OF THE STUDY**

The study underscores the significant role of the Iron and Steel industry in any nation and especially in Nigeria, as a crucial contributor to economic development and the overall well being of the citizens of the nation.

Results can provide baseline information on possible challenges in terms of technical feasibility, geographical feasibility and viability of the Iron and Steel industry in Nigeria's quest for development.

It may possibly identify other key players in terms of manpower and human resources and how their roles can be brought together for a more inclusive policy, planning, operation, and management.

In an attempt to identify issues and concerns that the Iron and Steel industry in Nigeria can address, it is expected that findings of the study will serve to illuminate underlying notions of fostering economic development towards a well planned economic welfare of civil-society that uphold the values of good governance.

On the whole, it is expected that this study will enhance a better appreciation of the inter-linkage between Science, Technology and Development and their level of significance for economic development.

Meanwhile, potential investors and development partners can use the results of this study as benchmark data on the feasibility of Iron and Steel Industry in Nigeria and enable them to determine their degree of involvement and support.

## **THEORETICAL FOUNDATIONS OF THE STUDY**

Mallick, (2005) has posited two challenges that Development theories have had to deal with. According to him, they include the analysis of social-economic phenomena of 'under-development' on one hand, and on the other, a problem analyses which offer opportunities for development strategies with a focus on economic, social, political or cultural factors. Industrial and technological growth discourse have from earliest times been predominantly tied to modernization theories, and continue to influence the climate of thought of contemporary modernization discourse. While most of the theories and concepts affirm the efficacy of growth as an ultimate index of development, perhaps non lays more emphasis

on the need for economies to desire a need to modernize and grow, than Rostow's stages of growth model. The model presents a central focus for this study, and provides the lenses to discover strategies, identify problems, as well as find the possible factors upon which the challenges and implications of the issues surrounding the Nigerian Steel Industry are hinged.

Rostow established stages of growth from a traditional society of mainly subsistence farming to that with pre-conditions for take-off, where agriculture becomes mechanized. From this stage the economy moves to the take-off stage where the manufacturing industry assumes greater importance and political institutions begin to spring up while savings and investments also grow. All of this shows signs of pre-conditions for take-off until the real take off is underscored by the manufacturing industry assuming greater importance with savings and investments growing and agriculture assuming a lesser role. The take-off progresses to the stage of the drive for maturity where industry becomes diverse with growth, spreading to different parts of the economy as the state of technology grows with a consequent move from dependence on factor inputs for growth, towards making better use of innovation for visible increase in real per capita income. This stage heralds the age of mass consumption witnessing growth in output levels with a shift towards tertiary sector activity and a growth sustained by the emergence of a growing middle class consumers.

## **RELATED LITERATURE**

According to Ohimain (2013), Nigeria is blessed with all the raw materials required for steel development including iron ore, coal and natural gas and limestone. He is of the view that these projects were expected to kickstart a virile iron and steel sector in Nigeria. However several factors which include political,

technical, logistical and managerial challenges made all the publicly owned Iron and Steel companies fold up in Nigeria. To him Iron and steel development in Nigeria will continue to be a mirage until these issues are tackled.

Ocheri et al, (2017), situated the conception of the idea of a steel industry in Nigeria as dating back to 1958. They are of the view that the industry like any of it in other economies has a vital and strategic role to play in the transformation and reformation of the economy. To them the industry must not only be completed but be made operational if Nigeria ever desires to drop the toga of "underdeveloped economy" for that of "industrialized economy" They believe if the steel industry had been completed, commissioned and effectively operated as conceptualized in the vision of the initiators, Nigeria would have been a different country in terms of industrial and economic development.

In their critical look at the situation, Obikwelu and Nebo (2015), opined that the bright light at the end of the tunnel for the steel industry in Nigeria can only come from professional rethinking and armament as well as serious implementable policies on the power sector. They recommended the decentralization of Ajaokuta Steel Company, the scrapping of foreign technical assistance, and criticized the counterproductive backward integration system adopted. They also indicted the Raw Materials and Research Development Council which was established with a major assignment of developing raw materials for the steel industry but which they claimed derailed by concentrating on agriculture and gemstone raw materials production.

Negedu, (1980) in his findings on the problems and prospects of development of Iron and Steel industry in Nigeria mentioned that several problems ranging from politics, administrative, technical and financial were militating against

the successful establishment of an effective steel industry in Nigeria. He also added that the problems identified were the common ones associated with public enterprises in Nigeria, in view of their complexity and the technical know-how required for them to function effectively and effectually.

Agbu (2007) in his study began from the premise of the long standing view about Africa's inability to organize technological development, a development which has much to do with the development of the Iron and Steel industry. Using Japan's case of success in harnessing her potential for Iron and Steel development, he strongly recommends a possible cooperation between Japan and Nigeria, believing that this idea of cooperation should not be seen as utopian.

In his analytical exploration of the industrial sector and its performance in Nigeria, Ekpo (2014) concludes that the policies identified have not helped Nigeria to attain the required level of industrialization that can produce dynamic change in the economic structure of the country and the performance of industrial sector especially manufacturing. According to him, the policies have a common feature of foreign inputs reliance which makes their successful implementation in Nigeria very costly. He recommends proper conception and implementation of industrial policy, human capital development especially sciences and technical education for skill development, acquisition of relevant technology in the world, massive public investment in the provision of roads, rail system and electricity, and completion or rehabilitation of industrial core projects especially iron and steel projects.

Ajayi et al (2014) reiterated that the steel sector in the developed economies is the highest employer of labor of the entire economic sector mainly due to their work multiplier effect. They asserted that the vision

20:2020 of the transformation agenda of the Federal Government of Nigeria cannot be realized unless there is timely and sustainable iron and steel production in Nigeria. The study concludes that there is no doubt that the steel industry in Nigeria could still be reactivated to provide the necessary vehicle for industrial transformation and growth, provided there is the will, commitment and genuine patriotism, even though it has been stagnant for a long time.

## **METHODOLOGY**

This paper relied on empirical data of notable institutions as well as secondary data from related studies.

## **WHAT IS THE STATE OF AFFAIRS OF IRON AND STEEL INDUSTRY IN NIGERIA?**

An attempt to find a consistent or systematic pattern of progression in the state of affairs of iron and steel production in Nigeria is largely wasted. At most, what the rundown provides is a chequered progression. A timeline tabulation of key events in the history of the Steel Development in Nigeria would look like this;

1958: The idea to establish a government-owned Steel Company was conceived, but the politics of location killed the idea. The idea re-emerged in the mid-sixties just before the conclusion of the Nigerian crisis.

1967: During the Nigerian civil war, the idea matured into a bilateral relationship between Nigeria and the former Union of Soviet Socialist Republics (USSR) and a team of Soviet experts was commissioned to conduct the feasibility study on setting up an integrated steel plant in Nigeria.

1971: The Nigerian government signed a contract with the Techno-export Company of USSR for a detailed geological and geophysical

exploration of Nigeria for the raw materials requirement of the Steel Industry. This contract was executed with the then Federal Ministry of Mines, Power and Steel. Abundance of raw materials especially iron ore, limestone and dolomite was confirmed.

14<sup>th</sup> April 1971: the Nigerian Government in a Decree No.19 established the Nigerian Steel Development Authority (NSDA) to identify, locate and procure locally available raw materials for the steel industry. By the mid seventies, NSDA re-established the availability of Iron ore and coal in Nigeria.

In 1974 Tiajpromexport (TPE) of USSR submitted a preliminary project report (PPR). rationalized in 1975: rationalized when the siting of the Company at Ajaokuta to utilize the Itakpe iron ore was agreed upon.

1979: NSDA was replaced with the National Steel Council made up of the Mining and Exploration Division based in Kaduna and the Metallurgical Development Centre based in Jos.

18<sup>th</sup> September, 1979: the Associated Ores Mining Company (AOMC) now the Nigerian Iron Ores Mining Company (NIOMC) was established by Decree No.60 3 In the same 1975 TPE was commissioned to prepare a detailed project report (DPR) which was submitted to the Nigerian Government in 1977.

In 1978 DPR was examined, modified and finally accepted. The above account shows that DPR for the Ajaokuta Steel Company became a working document since 1978, a period of almost thirty-nine (39) years now.

At this stage the then Federal Ministry of Mines, Power and Steel and the Steel Companies negotiated to establish the beneficiating plant at Itakpe near Okene, the site of iron ore deposit, to supply iron concentrates to the Steel Plants.

1975/80: National Development Plan: the Nigerian Government disclosed its intention to set up additional steel plants based on the Direct Reduction Route of producing iron to be sited in Ovwian-Aladja in order to utilize copious natural gas being flared in the various oil fields.

The Nigerian Government also decided to establish three (3) Rolling Mills, each of 210,000 tons annual capacity to be sited in Katsina, Oshogbo and Jos.

October, 1977: The contract for the construction of Delta Steel Company at Ovwian-Aladja, Warri was awarded to the German Consortium headed by Messrs GMBH. Delta Steel Company would consist of seven units integrated process-wise to produce 1 million tons of liquid steel per annum and a captive rolling mill with 320,000 tons rolling capacity.

29th July 1982: The fully completed Delta Steel Plant was commissioned and production started in the same year.

1982 and 1983: the Rolling Mills at Jos, Katsina and oshogbo were all commissioned and were expected to obtain their billets from Delta steel company Ovwian-Aladja in Warri., (Obikwelu and Nebo 2015)

1987: Government established the Raw Materials Research and Development Council (RMRDC) by decree No.39 under the Federal Ministry of Science and Technology to establish self- supporting small scale projects on raw materials exploitation to expedite industrial development for maximum utilization of local raw materials deposits as inputs to the steel industries.

In 2015, President MuhammaduBuhari of Nigeria, reiterated his campaign pledge to revive Ajaokuta Steel and make it functional, as part of his government's actualization of their

drive towards diversification and industrialization. Expectation of Nigerians were high, believing this promise on his assumption of office would end all the obstacles inhibiting the successful completion and take-off of the Ajaokuta Steel Company.

On August 2, 2016, a modified concession agreement was signed by the Federal Government and Global Steel Holding Limited (GSHL), an Indian-owned company.

However, according to (Al-Amin 2013) "despite initial promise and high expectation for turnaround of the Nigerian economy through Iron and steel production, the reverse has been the case"

Jegede (2017) opines Virtually all the nations that are playing big globally have enhanced capacities for steel production. Even those that do not have any of the key mineral inputs needed for steel making have over the years developed the capacity to produce steel. Japan and South Korea, for instance, have no mineral resource for iron and steel, but they rank among the world top 10 countries in steel production. On the contrary, Nigeria that is blessed with all the raw materials (iron ore, coal, natural gas and limestone) needed for the manufacture of steel is nowhere to be found in the global chart of steel production.

However, Noble (1992) declares that from inception, Western donors were skeptical about the plant's location. The site is nearly 250 miles from the ports that handle critical raw materials, coke and iron ore. And because the Niger River is at times relatively narrow, it would have to be dredged before steel barges could navigate its waters. According to him, this and other factors led some observers to conclude that the project would never be competitive in terms of price or quality with European or North American steel, not to mention steel made at recently built and

technically more sophisticated plants in Japan and South Korea.

**What are Science, Technology and Development indicators for Nigeria especially with regards to manufacturing in line with the state of affairs?**

Going by Global Competitive figures for Nigeria in the spate of the last five years, there are enough indicators to align with the state of affairs of Steel development in Nigeria and show that Nigeria may not have fared well in the area of Science technology and Development generally. The lack of appreciable progress in this indicator also tallies with figures from explicit and implicit indicators of Science, Technology and Development progress. For example, only a minimal increase from 115/144(3.7) in 2012/2013 to 120/148 (3.6) in 2013/2014 was recorded against Nigeria's global competitive index. There has not been any appreciable growth in three subsequent years to change the unimpressive figures as the figures reveal 3.4, 3.5 and 3.4 respectively in 2014/2015, 2015/2016 and 2016/2017 respectively. Explicit indicators of technological readiness and the sub-index of innovation and sophistication especially in 2016/2017 all reflect the stagnancy and inconsistency in the growth rate in this sector. For instance, in terms of technological readiness. Nigeria scored an appalling 105/127(3.1) while in terms of innovation and sophistication factors for the same year, the country recorded 110/127(3.3) For more specific indicators under this pillar and sub index in the same period, in terms of availability of latest technology, firm level technology absorption and FDI and technology transfer, Nigeria recorded 97, 83, and 73/127 respectively while in terms of capacity for innovation, quality of scientific Research institutions, availability of Scientists and engineers as well as Government procurement of advanced technology products, the country

recorded 77, 126, 88 and 97/127 respectively. This has been highlighted believing that many of the inventions and innovations could not have commercial value without iron and steel as critical inputs and this might lend credence to the claim that there has been no consistent or systematic pattern of progression in this sector and in the industry as outlined in the state of affairs.

**What are the Science and Technology policies pertaining to industry support and the level of government efforts?**

The global competitive index figures contain implicit indicators that can be translated to buttress the Science and Technology policies atmosphere generally as well as determine the level of industry support including government efforts. For example listed among the most problematic factors for doing business in Nigeria include inadequate supply of infrastructure 22.2, corruption, 15.9, policy instability, 11.0, inefficient government bureaucracy, 9.5, inflation, 0.7, Government instability, 0.7, and insufficient capacity to innovate, 0.6. These figures perhaps lend support to the fact that Nigeria's industrial development has been constrained by a myriad of factors which include poor conception and implementation of industrialization strategies and the reality that Industrialization programs/ strategies so far adopted in Nigeria failed to bring about expected results because they were poorly conceived and haphazardly implemented. Quoting Roberts and Azubuike (2005), Ekpo (2014) had observed, Nigeria's industrial policy and strategy was not necessarily a unitary, closely coordinated or planned program of the state intervention; rather it consisted of an improvised amalgam of ad hoc objectives and instruments intended to influence the behavior of firms and other stakeholders. Besides, the industrial programs were not well implemented.

Concerning policies,(Hussainni2015) hints that ;  
...to move the steel sector forward in a country where 95% of private sector investments is owned by foreigners leading to serious capital flight we demand a paradigm shift from the present state of phobia and distrust of alternative suggestions by our colleagues in the public sector to one of openness, accommodation and constructive engagement...

Ohimain (2013) however brings more detail into the policy lens. According to him;

...Nigeria has released several fiscal and economic development policies. Vision 20: 2020 economic blueprint as approved by the federal executive council clearly recommended that the nation shall produce 12.2 million tonnes of steel per annum by the year 2020 out of which Ajaokuta steel plant is to produce 5.2 million tonnes/ annum, Delta Steel Company (DSC) to produce two million tonnes per annum and the remaining by private entrepreneurs if Nigeria is to join the league of 20 industrialized nation by 2020... It should however be noted that work has already started on adhoc basis in the iron and steel sector before policies guiding the sector was released...

There are instances of policy inconsistency. The vision 2020 document targeted the production of 2 million metric tonnes of steel products from Delta Steel Company, (DSC) whereas the plant is designed to produce 1 million tonnes of liquid still at full capacity. It is therefore uncertain if the government plans to expand the plant by doubling its capacity before 2020. During the second National Development plan (1970-1974), the government established the National Steel Development Authority (NSDA) that was saddled with the responsibilities of iron and steel development in Nigeria.

There is also issue of the backward integration policy, 2002-2012 embarked upon by the

government. During the period 2002 -2012, the government implemented the backward integration policy, whereby import licenses for steel products were only granted to companies which have plans for domestic steel productions. Hence, the Russian contractors built the rolling mills in Ajaokuta Steel Company first and started using imported billets from Ukraine before embarking on the steel plant, which was never completed till date. The privatization that was done was not transparent and was unable to revive the steel sector. The inconsistent policy framework, corruption and poor contracting strategy led to the failure of the iron and steel sector in Nigeria. All of these seem in tune with Ekpo (2014) opining that policies identified have not helped Nigeria to attain the required level of industrialization that can produce dynamic change in Nigeria's economy.

It should be noted that the 1<sup>st</sup> Pillar of the Global Competitive index which is institutions, contain figures to prove the validity in the claims made so far under this section of the paper. For instance it was recorded that in 2016/2017 alone, in terms of diversion of public funds, Nigeria recorded 127/138 , in public trust in politicians the country recorded 131/137, while under favoritism in decision of government officials, wastefulness of government spending, transparency of government policy making, the country recorded 127, 126 and 113 /138 respectively. All of these could not have successfully berthed a virile iron and Steel industry.

**Is the government conversant with the political economy of steel manufacturing, and looking in the direction of possibility of partnerships for an enduring and resourceful Iron and Steel industry in Nigeria?**

There are no indications from the state of affairs timeline for steel development in Nigeria as well as recorded industry indicators that the



government understands and is truly committed to the search for answers to the challenges of smooth take off- and sustainability of iron and steel production in Nigeria and especially that of industrialization and technological advancement in general. A considerable number of the issues already identified as challenges in the path of a smooth take- off of iron and steel production in Nigeria are perhaps implicit indicators and reflections of the political economy test that many developing nations especially in Africa who have had to grapple with industrialization and technological advancement have often overlooked in their hasty search for solutions to their challenges. Before now, many literatures on the issues of industrialization and technological advancement in Africa have limited their search for answers to the state as a measure of their analysis overlooking what Agbu (2007) calls the 'global level of analysis'. He agrees that the state level of analysis is necessary to determine constraints, capabilities and potentials but calls for a need to adopt a perspective beyond the territorial state as a unit of analysis. To him there is a world of competing states seeking security of their states and would not give way to rival states. In what he describes as the dynamics of 'visible and invisible actors within the global system' He believes those who control and direct the global production system set the agenda and the goals and greatly determine and influence the direction of development. This according to him includes the determination of what goes into acquisition, adaptation and development. Concerning the political economy of Africa's technological crisis and development, to him no meaningful view can be canvassed without first espousing the nature and character of the post colonial African state. Agbu declares that the post colonial African state is seen as a product of colonialism; the colonial African state was designed to achieve certain selfish ends , which are now in conflict with the people's desire for

progress and the good life and that the African state therefore needs development cooperation to involve human resources development and technological cooperation. It is therefore suggested that the African state will determine what type of 'co-operation' and the level of 'co-operation' she is ready to get to, to be able to harvest the riches and abundance of the stimulus of Iron and steel production especially for its own development

## **CONCLUSION**

This paper attempted to find a way of forging the Iron and Steel industry in Nigeria. It was able to establish the potential of Nigeria for industrialization because of the huge deposit of the raw materials for Iron and Steel exploration in the country. The paper aligns with the notion that steel is the heartbeat of any national development plan for industrialization. It believes that it is the appropriate deployment of Iron and Steel products that has contributed to the ability of several economies in Asia, Western Europe and the Americas to cope with providing for the well being of their citizens. In line with latest efforts by Nigeria to revive the Iron and Steel industry in the country it attempted to answer these questions;

- i. What is the state of affairs of the Iron and Steel industry in Nigeria?
- ii. What are Science, Technology and Development indicators for Nigeria especially on manufacturing, in line with the state of affairs?.
- iii. What are the Science and Technology policies pertaining to industry support and the level of government efforts?
- iv. Is the government conversant with the political economy of Steel manufacturing and looking in the direction of possibility of partnerships for an enduring and resourceful Iron and Steel industry in Nigeria?

It also included related literature for deeper insight into the problem.

From the premises of analysis, the following were observed;

Nigeria has neither made an appropriate deployment of Iron and Steel, nor taken any concrete effort to sustain the development. There is no consistent or systematic pattern of progression in Nigeria's bid for industrialization through Iron and Steel. Key events show effort at kick-starting this vision. But despite huge capital investments, Nigeria was nowhere found in the global list of steel production. Science and Technology indicators for Nigeria especially in the last five years align with the observed state of affairs of stagnant and unimpressive growth in this sector and proved beyond doubt that Nigeria has not fared well and that iron and steel have not made any contribution to the well being of its citizens. Science and Technology policies adopted did not bring expected results, because they were poorly conceived and haphazardly implemented. There are also issues of policy inconsistencies. Government is also not seen to be conversant with, and ready to align with the established political economy guarding industrialization and technological advancement especially of steel production as it relates to past colonies to which Nigeria belongs. It believes that in a world of competing states seeking security of their states, advanced players in the field of steel production may not wish to give way to the realization of the goals of technological advancement. It is of the view that the dynamics of 'visible and invisible actors within the global system' will always be at work to protect only their interests since they seem to set the agenda and the goals and greatly determine and influence the direction of development. The post colonial African state is seen as a product of colonialism; the colonial African state was designed to achieve certain

selfish ends, which are now in conflict with the people's desire for progress and the good life and that the African state therefore needs development 'co-operation'.

In line with the theoretical foundations established for this study, Mallick, (2005) has claimed the two challenges that Development theories will have to deal with, which are the analysis of social economic phenomena of 'underdevelopment' and the problem analyses which offer opportunities for development strategies with a focus on economic, social, political or cultural factors. This confirms Ohimain (2013), as he claims concerning factors which include political, technical, logistical and managerial challenges which made all publicly owned iron and steel industry fold up in Nigeria. It is also not far from Negedu (1980) where he states several problems ranging from politics, administrative, technical and financial as militating against the successful establishment of an efficient Iron and Steel industry in Nigeria. Vis-a-vis Rostow's stages of Development, the take-off progression challenges might have answers in Mallick's social economic phenomena of 'underdevelopment' and the factors that determine the effectiveness of the progression. It might also imply that Nigeria's government's lack of an appreciation or understanding of the political economy of steel production in a globalized economy is an offshoot of the 'underdevelopment' culture. However despite the seemingly unimpressive performance of Nigeria so far and its recent bid to revive the Iron and Steel industry in the country, It might still be in order to agree with Ajayi et al's declaration that there is no doubt that the steel industry in Nigeria could still be reactivated to provide the necessary vehicle for industrial transformation and growth, provided there is the will, commitment and genuine patriotism, of especially the government and the governed in Nigeria. (2014)

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