



**NIGERIAN INSTITUTE OF
QUANTITY SURVEYORS**

The professional construction cost managers

**National Conference
and Annual General Meeting
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THEME:

**INFRASTRUCTURE
COST MANAGEMENT:
CONTEMPORARY ISSUES
AND EMERGING TRENDS**

An Overview on Infrastructure Cost Management

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An Overview on Infrastructure Cost Management

- **Why are Some Countries more advanced than the others?**

“I wish I can add - BIG Question”

- Indeed, we should ask, why are most of the Western countries more advanced than many other countries of the world?
- While some still sleep, some are widely awake.
- China, Japan, South Korea, Qatar, UAE, Malaysia etc are now also awake and have raced ahead of other countries over time?

- Or for that matter, why is Africa (I didn't say Nigeria) lagging behind these countries in terms of economic growth and poverty alleviation?
- There are many reasons and answers to these questions. But one of them which is very important is their **very good physical Infrastructure.**

- Indeed, the fact that they have better roads and highways, airports, Potable Water, Stable Energy/Electricity and other elements of infrastructure is one of the reasons why they have clocked faster economic growth.

Infrastructure; Of What Effect

- China Started serious investment in Infrastructure in 1953, the had economic boom in 1978 (25 years of waiting)
- Japan's real modern economic growth started after increased infrastructure spending. Between 1953 – 1970 their was a great transformation. (17years of real work)
- South Korea's logistic infrastructure started in 1960's. As at 2014the industry grossed \$84.4bn just because of the efficiency in transportation system
- Qatar, one of the world's poorest nation as at 1972. Found oil, sold oil, focused on infrastructure development. As at today, they boast they still spend \$500m weekly on infrastructure development. Where are we today? **Another BIG Question**
- UAE said their first cargo of crude oil export was in 1962. 10years later, they founded the ministry of Infrastructure. Today they are ranked 11th in the world in terms of availability of infrastructure.
- Nigeria is ranked 143 as at 2021 out of 195 countries.
This can change even if we decide to start now.

What Then is Infrastructure?

Infrastructure is the backbone of any economy having Transportation (Road, Railway, Waterway, Airways), Electricity, Potable Water, Manufacturing, Banking, Communication, Education, Health, Security etc. as the bedrock on which Commerce (international and domestic), Industry and Agriculture thrives.

- No nation develops without investing in infrastructure and indeed, this is the reason why in the aftermath of the Second World War, the Western countries massively invested in infrastructure.
- It is also the reason why Japan and South Korea and later China undertook a drastic improvement in their infrastructure so as to ensure that it “enables” faster economic growth and development.

- The infrastructure of a country has a direct impact on its economic and social growth.
- Due to the massive expansion of economic and social Infrastructure, many developed countries have made significant progress and this has greatly transformed their wealth capacity and standard of living.

For this reason, a lot more investment is now deployed into infrastructure spending including transition from contemporary trends to more sophisticated, sustainable and productive trends (The New Trends).

- Infrastructure spending may take years to yield economic results. However, improved infrastructure can increase productivity and earnings tremendously just by moving goods more efficiently, increasing the number of hours available for work by shortening commute times, by working shifts (day and night) and a healthy living environment. Consequently, accelerating national GDP growth.

- In a nation, Infrastructure development is important to ensure rapid economic growth and poverty alleviation.
- Infrastructure development projects could come in diverse ways. It could be in the form of government intervention programmes or schemes, It could be in the form of private development and/or intervention or it could even be a Public - Private Partnership (PPP) project.
- Irrespective of the source or the promoter, the requirements for a successful implementation are the same.

THE TANGIBILITY OF INFRASTRUCTURE

- Infrastructure can either be tangible or intangible especially in modern times.
- Telecommunications industry is comprised of both the Tangible and Intangible Infrastructure.
- The Nigeria Police Force, The Ports Authority, The Military, The Customs Services, The Nigeria Immigration Service, The Nigerian Institute of Quantity Surveyors etc. are all comprised of both tangible and intangible infrastructure.
- Whereas you have the Masts and other equipment for the Telecommunications industry, there are other setups that they have which releases signals that enables your calls to go through all over the world and at the same time screens unwanted intruders from hacking into their server above all, there are Human Resources (with intellectual Infrastructure).

Our focus however is on the Tangible Infrastructure and so, when we talk Infrastructure in the Construction industry we mean;

- Paved Roads, Railways, Waterways, Airways
- Bridges; Regular, Multilayers etc
- Bus Terminals for Mass Transiting, Airports, Rail stations, and Seaports
- Water Generation, Treatment, Reticulation Infrastructure
- Solid Waste Management and Waste Water Management
- Power Generation, Transmission and Distribution Infrastructure
- Telecommunications Infrastructure; Stations, Sub stations Masts etc
- Hazardous Waste Removal, Storage, recycling etc.
- Health Facilities – Hospitals and other Rehabilitation centres
- Education Facilities – Schools and other Training Centres
- Dams for Irrigation, Power generation etc
- Oil and Gas Industry Infrastructure
- Countless Others

Typical Examples of Tangible Infrastructure



Badagry Deep-Sea Port Project - Capable of handling up to 2.7 million TEUs (Twenty Equipment Unit) on an annual basis. (20ft Containers)

Capacity of some other Ports in Nigeria;

Apapa Ports – Circa 600,000TEUs, Tin Can Ports – 650,000 TEUs, Warri Ports – 330,000TEU



Lagos-Kano SGR project (is a 1,343 kilometers long standard gauge railway)



- **Dangote Refinery** (is a 650,000 barrels per day (bpd) integrated refinery and petrochemical project under construction in the Lekki Free Zone near Lagos, Nigeria)
- It is expected to generate 9,500 direct and 25,000 indirect jobs.



- **The Lagos Badagry Expressway** (Is a 60Km stretch comprising 10 Lanes Asphalt Road and two-way light Rail Mass Transit with other Support Infrastructure)



Abidjan-Lagos Corridor Highway Development

- (It is a six-lane supranational highway, with components to transform it into an economic development corridor to connect Côte d'Ivoire, Ghana, Togo, Benin, and Nigeria, thus facilitating cross-port links, free movement and the improvement of cross-border economic exchanges between the five [ECOWAS](#) Member States.
- It is said to be a key element of the Second Priority Action Plan of the Programme for Infrastructure Development in Africa and also a priority under the new ECOWAS Vision 2050



Shiroro Hydro Electric Power station reservoir. It has a power capacity of 600 megawatts. This power generator was established in 1990.



TYPICAL DAM. Many of these dams are used for the purposes of generating hydro-electric power and for agricultural purposes via irrigation to take care of shortages during the dry season.



PICTORIAL VIEW OF A TYPICAL TERTIARY INSTITUTION

The Importance of Physical / Tangible Infrastructure

- **Inclusive growth**
- **Industrial Development**
- **Agricultural development**
- **Migration and Improved Lifestyle and standards of living**
- **Trade Enhancement and Improvement**
- **Increased Investment**
- **National Defence**
- **Government Revenue**

Why Focus On Infrastructure Cost Management

- Infrastructure Cost Management facilitates Infrastructure effectiveness.
- It begins from the very day the infrastructure idea was conceived right through to completion and handing over. In some climes, Lifecycle cost of the infrastructure is also planned and managed. It thus requires utmost management.
- It helps to ensure comprehensive attention, Monitoring, successful Implementation of the objective (Infrastructure Development), Durable Infrastructure - Fit for the Purpose infrastructure and the Attainment of the nation's or State's developmental goal.
- It is the process of optimizing the project's performance

Why is Cost Management important in Infrastructure Development?

- Cost management **sets the baseline for Infrastructure Costs or any Project cost.**
- Effective Cost Management ensures that a project's budget is on track and will be completed according to its planned scope.
- Without cost control, value for money is lost and costs can go above limits leading to a possible abandonment.

- **Cost Management includes effective strategy implementation and is the central measure of accountability for business leadership.**
George Elliott | Nov 08, 2004,

While Cost Management overall is a very Technical process and a very critical knowledge area, we can break it down into four processes:

- Resource planning.
- Cost estimation.
- Cost budget.
- Cost control.





Conclusion:

- By and large, be it Contemporary or Emerging Infrastructure trends, their Cost Management requires techniques and skills. Therefore, as Construction Cost professionals, we must resource and position ourselves for this mega business opening.
- We are the Industry Leaders and that's why we are here to focus on this subject matter. We can not leave it at where we stop at this workshop, the Research, the Development/Improvement continues.

Only then can we say that we are the Industry's Cost Practitioners.

Closing Shot

There are no Shortcuts to Success

Which brings us to the final point and that is that, there are no substitutes for infrastructure development and there are no shortcuts to faster economic growth. It is only when the aspect of Infrastructure development is taken care of that nations develop.

Therefore, As Cost experts, unless we join the bus or train of acquiring the requisite knowledge and exposure in Cost Management of Infrastructure if possible in all elements of the Infrastructure components, we will remain left behind (miss the bus).

In the same vein, as a Nation, our development would be slow and retarded and by and large, lose out in the race for global economic competitiveness. This is the hard truth and the bitter reality which should hopefully spur us as a great Nation to invest more in our Infrastructure.

Thank you