ALTERNATIVE INFRASTRUCTURE FINANCING - INNOVATIVE INVESTMENT SOLUTIONS

By

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on

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1. **INTRODUCTION**

Infrastructure is the foundation of modern economies and societies in our world today. Infrastructure may be defined as the basic physical system required for the effective operation of a nation. The lack of infrastructure development is one of the biggest challenges of our country as Nigeria is plagued with poor and inadequate infrastructure. Infrastructure development calls for huge and significant investments in key sectors such as construction, manufacturing, power, mining, education and so on. In addition, Nigeria is faced with a surging population of over 186 million people according to the UN \(^1\) and a fast paced rate of urbanization resulting in more people living in cities than rural areas. These factors are exerting tremendous pressure on the existing spatial infrastructure, increasing the urgency for infrastructural development. However, financing of infrastructure projects remains problematic in Nigeria because the demand for infrastructure financing outweighs the supply of infrastructure financiers. It is my hope that at the end of this presentation, I can get the audience thinking of innovative non-traditional modes of financing to scale up infrastructure projects in our country.

1.1. **THE NEED FOR NATIONAL INFRASTRUCTURE DEVELOPMENT**

The prolonged low levels of infrastructure investment have positioned Nigeria in a state of gripping infrastructure deficiency. According to the World Economic Forum’s 2015 survey, Nigeria was ranked 134\(^{th}\) out of 144 countries\(^2\) for infrastructure development. Investing in infrastructure stimulates economic growth, drives foreign direct investment, acts as a catalyst to job creation, increases the lifespan of the general populace and promotes advancements across a myriad of sectors in any country. The failure to invest in infrastructure means failure to grow and develop the very fabric of the social and economic wellbeing of our country - indeed a lot is at stake for national development.

1.2. **CURRENT PROGRESS ON INFRASTRUCTURE INVESTMENT IN NIGERIA**

The present Nigerian government has shown significant commitment to infrastructure investment with record budget appropriations\(^3\) by allocating ₦1.830 trillion (30%) of the 2016 budget of ₦6.06 trillion to capital expenditures. In comparison, the 2015 budget only allocated ₦557 million (14%) of the ₦3.7 trillion budget to capital expenditure. The 2017 budget of ₦7.44 trillion with capital expenditure allocation of ₦2.77 trillion (30%) is a further testimony of the present government’s commitment to this course. Furthermore, the government has set up robust initiatives to fix the infrastructure deficient by establishing the $25 billion Infrastructure Development Fund under the National Integrated Infrastructure Master Plan (NIIMP) to address the country’s infrastructure deficiency. Whilst these developments are laudable, according the 2014 McKinsey Global Institute report, a total investment of $1.5 trillion by 2030\(^4\) (equivalent to an annual average of $50 billion in infrastructure investment) is still required to get Nigeria on track towards the targeted infrastructure stock of at least 70% of GDP. The current level of infrastructure investment is still a long way to go towards achieving this target.

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Comparative studies show that the US federal government will need to spend at least $2.2 trillion to upgrade its most critical infrastructure over the next five years but is faced with limited resources. The United Kingdom has similar infrastructure needs and has admitted that the HM Treasury do not have the resources to complete their infrastructure plans. It is clear that the required level of infrastructure investment will need to come from private investments to complement the government’s public sector spending even in the most developed countries.

Consequently, as the government commences the process of amending its economic model from a consumption-driven base to an investment-driven one in a bid to recover from its 1st recession in nearly 25 years, sustainable growth will only be attained when the right infrastructures are in place to create an enabling business environment. Therefore, I believe that the topic of my presentation is indeed a suitable and timely one.

2. INFRASTRUCTURE FINANCING FROM INVESTMENTS

Infrastructure investments open up attractive investment opportunities as well as presents new alternative styles for the built environment to embrace. To attract the required level of investments to transform Nigeria’s existing infrastructure, not only must the government properly execute its target infrastructure plans, it must lay the groundwork for private investments to thrive, through a regulatory framework that promotes private sector financing and protects private investments. However, financing infrastructure projects remains challenging because of the huge financial requirement, long term nature of project delivery and capital repayment, and often the complex nature and procedures of infrastructure projects.

2.1 TRADITIONAL MODES OF INFRASTRUCTURE FINANCING

Funding public infrastructure has traditionally been the preserve of the government where public funds are raised through fiscal measures such as tax revenues. However, governments around the world are increasingly looking to the private sector and exploiting a variety of innovative mechanisms to finance infrastructure ventures. At this junction, it is important to highlight mainstream traditional financing sources from private sector participations before proceeding to exploit some emerging innovative alternative infrastructure financing sources. Traditional infrastructure financing sources include:

✓ Various models of Public-Private Partnership frameworks
✓ Divestment through privatization of infrastructure assets
✓ Grants and donations from multilateral and bilateral financial institutions such as the World Bank, International Financial Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and the Overseas Private Investment Corporation (OPIC)
✓ Direct loans and credit enhancements insurance/guarantees from development finance institutions (DFI) such as the African Development Bank (AFDB) and Africa Finance Corporation (AFC)
✓ Infrastructure bonds backed by sovereign government, states or local municipalities
✓ Development & corporate loans from commercial banks.
✓ Project financing through Special Purpose Vehicles (SPV)
✓ Private equity financing in listed infrastructure securities
✓ Chinese government backed financing (This source has gained significant grounds as a mainstream source of investment especially natural resources related sectors such as oil and gas that benefit export to China)
✓ Philanthropic organisations and non-profit foundations
3. ALTERNATIVE INFRASTRUCTURE FINANCING

Alternative infrastructure financing from investments may be characterised as an umbrella concept of investments that supplement traditional infrastructure funding and financing sources often involving innovative methods that embrace a financial arrangement for the provision of infrastructure.

Before the alternative approaches are discussed, we will examine infrastructure as an asset class as one way to target dedicated investors.

3.1. INFRASTRUCTURE AS AN ASSET CLASS

Infrastructure as a distinct asset class covers a broad array of assets ranging from roads, housing, hospitals, schools, airports, railways, waste plants, power plants to telecommunications, and investments in these assets should deliver a steady stream of returns/yield and capital appreciation over a long term life cycle.

In the investable universe, there are 5 traditional mainstream asset classes and these are:

✓ Equities
✓ Fixed Income/Bonds
✓ Cash/Money Markets
✓ Derivatives
✓ Commodities

Other alternative asset classes include:

✓ Private Equity
✓ Private Debts
✓ Hedge Funds
✓ Real Estate
✓ Infrastructure
✓ Others such as Intellectual Property, Royalties, Antiques and so on

Of all the above-mentioned alternative asset classes, infrastructure is one of the youngest asset classes. It is also gaining popularity within the investment community as the need for greater risk management and diversification within a portfolio grows as well as the quest for better strategies to enhance returns in a low-yield investable environment; post global credit market financial crisis in 2008/9 and more recently the oil price plunge.

3.2. TYPES OF INFRASTRUCTURES

Infrastructure can be divided into two categories as an investment vehicle (Inderst, 2010) as follows:

a) Economic Infrastructure refers to the basic physical facilities and services which directly benefit the process of production and distribution of an economy adding to its economic development and prosperity. Economic infrastructure is typically characterised as ‘user-pays’ or demand-based revenue streams for examples toll fees on toll roads or landing fees at an airport.
b) **Social Infrastructure** refers to the basic physical facilities and services which directly benefit the process of production and distribution of an economy that **accommodates social services** within a nation. It is worth noting that social infrastructure does not typically extend to the provision of social services thus not fashioning revenue streams, for example the provision of schools and class rooms as a social infrastructure does not include hiring of teachers and other ancillary staff.

Classifying the types of infrastructure is particularly intuitive for investors or built environments professionals when examining the bankability of a proposed infrastructure project primarily as user charges play a significant role in measuring the return on investment.

Infrastructure projects that are not readily bankable do not present investors with an attractive return on investment making them less attractive to finance. Such projects provide economic benefits to the general public but often their services are not chargeable. This can be seen in areas such as regular road without tolls where drivers are accustomed to paying little or nothing for driving on the roads. By contrast, there are bankable infrastructure projects in sectors such as telecommunications or toll roads which are easier to attract investors because they offer clear returns on investment and predictable cash flows where user charges recoup any capital costs incurred. As such, in identifying infrastructure as an asset class; infrastructure projects that exhibit clear economic benefits can easily reap much of the private sector investments benefits.
3.3. DIFFERENT TYPES OF INFRASTRUCTURE ASSET CLASSES

Infrastructure as an asset class may be classed into different categories, thus making it easier to identify opportunities of an infrastructure project or infrastructure-related underlying security. They are as follows:\(^5\):

i. Greenfield vs. Brownfield
ii. Construction vs. Operational Phase
iii. Availability vs. Demand-based
iv. Corporate Entities vs. Concession Structures
v. Debt vs. Equity Investment

3.4. CHARACTERISTICS OF INFRASTRUCTURE ASSET CLASS

The unique characteristics of infrastructure make it an attractive asset class, therefore it is important to highlight the risk-return profiles of this asset class for the purpose of optimising its features within an investment portfolio.

1. The benefits arising from investing in economic infrastructure is highlighted below as follows:
   a) The ability to generate stable, predictable returns and recurring cash flows underpinned by the infrastructure’s essential services arising from
      ✓ heavy market regulation
      ✓ monopolistic nature
      ✓ high barriers to entry because of high costs and stick regulatory requirements
      ✓ economies of scale
      ✓ high operating margins
      ✓ long-term contracts as most large scale projects have long tenures and involves multiple partners
   b) Low default rates as often they receive government backing especially in the case social infrastructure for their social services to the general community
   c) Acts as a hedge for managing long-term liabilities
   d) Ability to act as a hedge against inflation as economic infrastructure is often indexed to inflation. For example, toll road concessions rates and regulated electrical units often fluctuate with the rate of inflation

2. The risk profile of investing in infrastructure is normally lower than equities (but higher than fixed income) for the following reasons:
   a) Heterogeneity nature as every infrastructure asset is different and every infrastructure project often possess different contractual structures at different stages of their life cycle.
   b) Limited cyclical with the broader economy’s troughs and peaks as the services generated from infrastructure assets remain fairly defensive towards an economic boom and recession.
   c) Low liquidity as infrastructure assets are not readily tradable.
   d) Low correlations with other traditional asset classes where it is more prominent with unlisted infrastructure securities.
   e) Difficulty in commodity pricing.

\(^5\) Infrastructure Investments – An attractive option to help deliver a prosperous & sustainable economy – Ernst & Young
Other adverse risk elements to consider include the project risk itself arising from issues construction, regulatory, environmental, political, social and taxation issues.

The return-risk profile of infrastructure as an asset class, positions it as a **Defensive** asset class thereby bringing to bare the benefits of diversification within a well-diversified portfolio.

### 3.5. WHY INVEST IN INFRASTRUCTURE AS AN ASSET CLASS

- The economic features of infrastructure are particularly beneficial and attractive for investors with long-term liabilities on their balance sheets seeking to match them with long-term returns.
- It produces higher returns, making them more attractive than the low yields produced from fixed income instruments and cash/marketable securities.
- Diversification gains for investment portfolios with only traditional asset allocation.

### 4. INNOVATIVE INVESTMENT SOLUTIONS

Innovative investment solutions to infrastructure financing in the private sector will now be examined in this section. These investment vehicles include:

- Infrastructure Investment Funds (IIF)
- Crowdsourcing and Crowdfunding
- Direct Institutional Investment in Infrastructure Projects

#### 4.1. INFRASTRUCTURE INVESTMENT FUNDS

Infrastructure Investment Fund (IIF) was first developed by Australian Investment Banks in the mid-90s and they began to expand rapidly to other continents throughout the 2000s⁶. The expansion of this type of investment fund was driven by the quest to meet infrastructure financing needs from the private sector as well as by investors looking for a new alternative asset allocation following the dotcom crisis of the late 1990s.

An Investment Fund is an investment vehicle made up of a pool of money gathered from individual and institutional investors used to collectively invest in a portfolio of assets and any income (dividends or coupons) earned and capital gains is either distributed to investors or reinvested. Investment funds are professionally managed by a fund manager for a fee and the investment policies of the fund are based upon the fund’s mandate where it is either actively or passively managed. An investment fund may be listed and trade on an exchange or be unlisted and raise funds from private investors.

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4.1.1. Types of Investment Funds

- **Mutual Funds (Open-end Funds)** - Mutual funds issue and redeem shares daily based on the fund’s underlying value (the value of the fund is based on the fund’s net asset value (NAV)) and they do not trade on an exchange. The term open-ended comes from the logic that the cash flow window into and out of the fund is always open and the fund manager continues to invest or liquidate the net cash flow for investors.

- **Closed-end Funds (CEF)** - CEF trade like a stock on an exchange, whereby the fund’s value is driven by supply and demand for their shares which are traded at either a discount or premium to the NAV. When capital funds are raised in an initial public offering in the primary market, no more new shares are raised (at this point new cash flow is closed), the fund manager invests the fixed funds raised into a project or company. In return, shares of the funds are offered to the investors and these shares are traded in the secondary market on the stock exchange throughout the trading day.

- **Exchange Traded Funds (ETF)** - Similar to CEF, an ETF trades like a stock on an exchange, however they are designed to closely track a particular index, stock or group, thereby passively managed by the fund manager. Consequently, their market prices are more closely matched to the fund’s NAV than a CEF.

- **Umbrella Fund / Fund of Funds (FOF)** - is an investment strategy of holding a portfolio of other investment funds rather than investing directly in the stocks, bonds or other securities. The FOF market is still a niche sector yet to take prominence within the African fund management marketplace.

Infrastructure Investment fund (IIF) is a fund that provides a group of investors the opportunity to invest in essential public infrastructure assets only. Infrastructure funds are often classified as “thematic funds” where at least 90% of the underlying assets are infrastructure themed led projects and companies across a wide range of sectors.

IIF are structured to provide bankable projects with long-term capital by functioning as a synthetic capital market and helping to facilitate project execution and/or delivery. Some of the main advantages of obtaining financing from an infrastructure fund is that project owners can leverage on the expertise and track record of the fund manager to improve deal implementation, speeding time to financial close and overcoming procedural barriers.

The number of private sector infrastructure funds in Nigeria currently remains dismal, however it is anticipated that more infrastructure funds should come onto the scene in the wake of the government’s efforts to increase budgetary allocation to infrastructure development and a conducive regulatory framework which has already been put in place by the SEC’s reform on admitting infrastructure funds in 2007.

4.1.2. Notable Africa Infrastructure Investment Funds with footprints in Nigeria

The below table shows the top prominent Infrastructure Funds in the private sector with track records of financing major infrastructure projects in Nigeria as well as infrastructure funds in the pipeline to be established in the near future.

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7 https://sec.gov.ng/
Table 4.1.2 (a)  

Well Established Infrastructure Funds

<table>
<thead>
<tr>
<th>Fund Managers</th>
<th>Infrastructure Fund (IIF)</th>
<th>Equity / Debt</th>
<th>Fund Type</th>
<th>Fund Size</th>
<th>Listed vs. Unlisted</th>
<th>Investment Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARM-Harith</td>
<td>ARM-Harith Infrastructure Equity Fund</td>
<td>Equity</td>
<td>Closed-end</td>
<td>$250 Million</td>
<td>Unlisted</td>
<td>West Africa</td>
</tr>
<tr>
<td>Chapel Hill Denham Management Limited</td>
<td>Nigeria Infrastructure Debt Fund (NIDF)</td>
<td>Debt</td>
<td>Closed-end</td>
<td>N/A</td>
<td>Listed</td>
<td>West Africa</td>
</tr>
<tr>
<td>African Infrastructure Investment Managers (AIIM)</td>
<td>African Infrastructure Investment Fund 2 (AIIM have five other infrastructure funds with a Southern African focus),</td>
<td>Equity</td>
<td>Closed-end</td>
<td>$1.9 Billion</td>
<td>Unlisted</td>
<td>African Continent</td>
</tr>
</tbody>
</table>

Note - unlisted infrastructure funds such as ARM-Harith Infrastructure Equity Fund works like a private equity fund because the SEC restricts them from soliciting funds from the public and are not permitted to be listed on any exchange.

Table 4.1.2 (b)  

Infrastructure Funds currently in the Pipeline

<table>
<thead>
<tr>
<th>Fund Managers</th>
<th>Infrastructure Fund (IIF)</th>
<th>Equity / Debt</th>
<th>Fund Size (Asset Under Management)</th>
<th>Investment Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa50</td>
<td>Infrastructure Fund for Africa</td>
<td>Equity</td>
<td>$3 Trillion</td>
<td>African Continent</td>
</tr>
<tr>
<td>Pecora Capital &amp; Nigerian Infrastructure Fund</td>
<td>Nigerian Infrastructure Fund Segregated Portfolio (SP)</td>
<td>Equity</td>
<td>$2 Billion</td>
<td>West Africa</td>
</tr>
</tbody>
</table>

4.1.3. Case Study - Part equity financing of the Azura-Edo 450MW Independent Power Plant (IPP) Project by Infrastructure Funds

The Azura-Edo 450MW Independent Power Plant (IPP) is an Open Cycle Gas Turbine (OCGT) Power Plant near Benin City, Edo State. This is a green-field $876 million project-financed currently being developed, as part of a 3-phase 1500MW power plant station which is capable of powering nearly 12 million households when completed. The Azura-Edo IPP is said to be Nigeria’s first fully privately financed IPP involving a combination of $190 million in equity and $686 million in debt from a consortium of local and international financiers. This project is said to be built by a joint venture between Julius Berger and Siemens and completion is expected in 2018. The Azura-Edo IPP project is said to also have closed a 20-year power purchase agreement with the Nigeria Bulk Electricity Trading (NBET) as its offtaker where it will buy and distribute power from Azura-Edo IPP to other parts of the country.

Both AIIM and ARM-Harith fund managers have invested in the Azura-Edo IPP project; where AIIM holds a 30% equity stake in the project funded from its African Infrastructure Investment Fund 2 and ARM-Harith holds a 6% equity stake in the project funded from its ARM-Harith Infrastructure Equity Fund.

8 https://azuraedo.com/
The successful financing of this project is testament to the financing capable of Infrastructure funds to bankable infrastructure projects in Nigeria. Amaya Capital; the principal sponsors and developers of the Azura-Edo IPP project have stated that the project reached financial close in early 2016 and the 1st phase of the project comprising of a 450MW OCGT power plant is expected to come on-stream in 2018.

4.2. CROWDFUNDING AND CROWDSOURCING

Crowdsourcing and crowdfunding are innovative concepts which are emerging forms of alternative financing. The idea of crowdsourcing was first coined as a portmanteau of crowd and outsourcing (2006, Jeff Howe) founded on the new age “sharing economy” phenomenon often driven by the narrative of social consciousness and harvested by the splendid of technology as exhibited with global brands such as Uber, AirRnB, OpenSource learning, ebay, wikipedia and so on.

Crowdfunding is the practice of funding or financing a project or venture by raising capital in the form of numerous small monetary contributions (by way of donation, loan or equity) from a large of people or investors (the crowd) over the internet.

Crowdsourcing refers to the act of soliciting a collective interest in the forms of small sums of money from a large pool of individuals or investors (the crowd); typically carried out by an open call over the internet or an intermediary online platform, in a quest to find solutions to problems or outsourcing of work.

No outsourcing of work is involved with crowdfunding as it is done with crowdsourcing. Crowdfunding is a form of crowdsourcing and both crowdfunding and crowdsourcing business models can be used to raise capital for infrastructure projects. Both business models use a crowdfunding platform on internet - A crowdfunding platform is a website which works as an online marketplace where those interested in crowdfunding can pitch their project to a crowd of potential funders.

This section of our discussion will commence with exploiting the crowdfunding tool and then later incorporate the aspect of outsourcing as financing solutions to infrastructure gaps using the case study of Access Power’s ACF crowdsourcing platform in Africa.

As the banking sector increasingly becomes risk averse and traditional financing dwindles, small to medium sized companies are turning to crowdfunding platforms as funding sources. The last decade has seen the global rise of well-established crowdfunding platforms such as Kickstarter, Indiegogo, Gofundme, Crowdcube, Patreon and so on, to cater to a broad range of projects across nearly every sector in society whilst niche crowdfunding platforms such as Citizinvestor, Spacehive, Neighbour.ly and GrowVC cater mainly to raising funds for projects for public services and civic projects. Furthermore, as the concept of crowdfunding continues to gain global momentum, Africa has not been left behind. Notable crowdfunding start-ups platforms such as Thundafund, Realty Africa, Ushahida, Access Co-Development Facility (ACF) and so on, are increasing their footprint across the African continent in response to solving lack of access to finance problem faced by many.

10 The Rise of Crowdsourcing, The Wire, Jeff Howe, June 2016
11 The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism by Arun Sundaranarajan
4.2.1. **The Crowdfunding Process and How it Works**

In the simplest form, the crowdfunding process is outlined below:

✓ **The Pitch** - Typically, individuals or businesses (the fundraiser) start off by creating a campaign on a crowdfunding platform. Fundraisers and originators use the platform to pitch their projects to the crowd by outlining the objectives of the project, the timescales involved for seeking finance, how much money is needed and what backers/investors get in return.

✓ **Screening** - The crowdfunding platforms are operated by 3rd parties that manage these transactions and they screen and vet the projects ensuring the projects meet their criteria before presenting them to the general public.

✓ **The Campaign** - It is the fundraiser’s main responsibility to drive and attract potential investors to their campaign when the pitch goes live, even though such online campaigns gain a multiplier marketing effect from its online presence. Interested individuals (the crowd) pledge any amount of money towards the campaign within the time lines of when the campaign commences and ends. Each crowdfunding platform operates different sets of rules; where some allow the fundraiser to keep all the money raised while others will only disburse the money if project is fully funded i.e. funding pledges meets the target.

✓ **Project Execution** - Fundraisers use the money raised to complete the project and when the project is complete, the fundraiser then returns the promised rewards to their backers where required.

4.2.1 (a). **A Typical Crowdfunding Process**

![Crowdfunding Process Diagram]

*Source: Crowdfunding Good Causes – Opportunities & Challenges for Charities, Community Group & Entrepreneurs, June 2016.*
4.2.2. *Types of Crowdfunding Business Models*

Crowdfunding business models vary widely from philanthropic source of capital at one end of the spectrum to more sophisticated sources of capital including equity and debt financing models at the other end. A diverse array of funding and financing techniques has been employed by different platforms; however the crowdfunding market generally is divided by the following business segments:

i. **Donation crowdfunding** is when donor crowds are motivated to make monetary donations for social, moral and personal reasons without expecting to receive anything in return. Donation crowdfunding are mostly common with patronage donation, charities and NGOs.

ii. **Reward-based crowdfunding** comes in the form of intangible or tangible special rewards not necessarily reflecting the economic benefit of the funding made by the crowd. Rewards may include pre-sales perks, free gifts, discounted tickets, vouchers, recognition awards and other forms of rewards.

iii. **Debt crowdfunding** bypasses traditional banks and allows for lending of money to project originators in return for their money back with interest. This form of crowdfunding includes peer-to-peer (P2P) lending, peer-to-business (P2B) lending and social lending. Social lending is done without interest paid but for social benefits.

iv. **Equity crowdfunding** is when a crowd invests in exchange for an equity stake in the project. They include seeding funding, mezzanine funding, business angels etc.

Note, donation and reward-based crowdfunding models are often used for small or social welfare projects.

4.2.3. **Benefits of Crowdfunding**

There are clear social and economic benefits to raising capital using crowdfunding and the keys benefits are highlighted below:

- Eliminates the banking middleman and strict requirements; thereby creating a fast paced enabling environment for all participants.
- Cheaper option to raising capital than going to the capital market or financial institutions.
- Social motivation to participate for many potential backers increasing the level of crowd participation.
- Running a funding campaign creates a followership, which paves the way for easier market entry or penetration of the product or service.
- Offers an investment opportunity to a broad base of retail and small institutional investors
- A global crowd audience enabled by the easy accessibility of the internet, thereby increasing the success rate of finding investors or donors.
- Reduces business risk as unsuccessful campaigns or under-funded projects inform the business originators that their idea or pitch may not be a bankable project because of the lack of market interest to fund it.
- Provides an efficient platform to test the market thereby reducing market research costs.
4.2.4. Growth of Crowdfunding

According to the US-based Massolution crowdfunding research & consultancy firm, $34.4 billion was raised globally across all crowdfunding platforms from over 100,000 campaigns and it is expected that the capital raised in 2016 will nearly double the record set in 2015 when the figures are released. In the United States, there is overwhelming evidence that civic crowdsourcing initiatives has been a strategic financing option for infrastructure projects with a record of more than 1200 civic crowdfunding campaigns addressing infrastructure gaps since 2010 raising more than $10.5 million and 63% of these campaigns were successful in meeting their financing target. There is also overwhelming evidence that this is the case in other European countries, where municipalities and local governments have funded critical small scale infrastructure projects by raising capital from crowdfunding platforms. A few examples of such crowdfunding projects include $12 million raised on the municipal Denver city website to fund a mini Infrastructure fund called “General Infrastructure Fund”, in Colorado, USA, £44k raised on Spacehive to fund the Liverpool Flyover Urban Park in Liverpool, England, $155k was raised on kickstarter to transform an abandoned underground trolley terminal to a solar-powered community space in New York, USA. Recently, the UK’s largest transport network Transport for London (TFL) and one of the best global transport systems opened up discussions to turn to crowdfunding to finance tranches of its planned business expansion.

With the abovementioned capital raised globally, there is no reason why bankable infrastructure projects in our country should not grab a slice of this innovative financing pie changing the landscape of capital access.

4.2.5. Crowdfunding in Nigeria So Far

The ecosystem of crowdfunding in Nigeria is still at its infant stage. A recent report titled Crowdfunding Potential for Nigeria 2017 published by CrowdfundingHub revealed that out of the $83.3 million raised by the African crowdfunding market in 2015, only $7.8 million was accounted for by Nigeria projects with the Nigerian fundraisers coming primarily from the tech community.

In 2016, the Nigeria Securities and Exchange Commission (SEC) put a ban on equity crowdfunding; stating the lack of market regulation to govern equity crowdfunding as the main concern. This action by the SEC resulted in a dampening of crowdfunding activities and growth within the country. However, the growth of donation based crowdfunding within Nigeria remains on the uprise and very much active with platforms such as donate-ng, Imeela, Naifajfund, Malaik, and Naturad. Notwithstanding, the slow pace of crowdfunding growth within Nigeria, there is no reason why Nigerian infrastructure projects should not tap into the global crowdfunding sources especially the crowdsourcing platform with a focus on economic development on the African continent.

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12 Page 6, Funding Municipal Infrastructure: Integrating Project Finance and Crowdfunding by Kate Gasparrro, Stanford University
13 Page 11, Funding Municipal Infrastructure: Integrating Project Finance and Crowdfunding by Kate Gasparrro, Stanford University
14 Page 15, Funding Municipal Infrastructure: Integrating Project Finance and Crowdfunding by Kate Gasparrro, Stanford University
15 https://www.kickstarter.com/projects/855802805/lowline-an-underground-park-on-nycs-lower-east-sid
16 Crowdfunding Transport – Using New Technology to Fund Public Transport Upgrades
4.2.6. *Case Study of a Successful African Power Crowdsourcing Platform* \(^{17}\)

At the beginning of this section, a clear distinction was made to differentiate crowdfunding and crowdsourcing; where the latter provides additional outsourcing support after providing required capital. We will now examine a successful crowdsourcing project on the African continent for infrastructure financing and technical support canvassed by a team of energy experts.

Access Power, a private Pan-African utility developer, originator and operator identified the legitimate shortage of power on the continent and came up with a solution to conceptualize the infrastructure gap of electrification of the African continent by turning to the private sector (the crowd) to finance bankable energy projects using this very innovative financing concept. Access Power’s mission is to provide African project developers with the technical experience, expertise and funding required by converting energy solution ideas and concepts into execution.

Access Power designed a crowdsourcing platform called the **Access Co-Development Facility (ACF)** which was launched in 2015. ACF is the first private sector-driven crowdsourcing origination platform for renewable power projects in Africa with a focus on both debt and equity crowdfunding as its business models as well as the provision of technical and legal support as part of its outsourcing formula. ACF has accomplished three rounds of capital financing across Africa so far, highlighted below:

- **1\(^{st}\) Round of crowdsourcing in 2015** issued $5 million in prize win to finance bankable renewable projects, where they were 55 project pitches from 18 African countries. Two renewable start-ups projects were successfully screened and selected at this round. The prize winners:
  - **Nigeria, Kaduna**
    - Quaint Solar Energy Limited’s ABIBA 50MW greenfield solar power plant in Nigeria with the capacity to provide clean electricity, enough to power more than 600,000 homes daytime requirement in Kaduna. The Quaint Solar Energy project has been viewed by many as a great success story as this start-up company has now obtained requisite license and permits and is proceeding to execute a Power Purchase Agreement (PPA) with the local offtaker. Access Power has committed $1.65 million to this project and it is expected to reach financial deal closure by the end of 2017.
  - **Cameroon, Maroua**
    - Flatbush Solar’s 20MW solar plant

- **2\(^{nd}\) Round of crowdsourcing in 2016** raised $7 million and the following notable renewable projects were selected:
  - **Nigeria, Lagos**
    - Mentach Energy Limited’s 50MW wind project
  - **Sierra Leone, Bo**
    - Age’s Plc’s 25MW solar power plants
  - **Madagascar, Talaviana**
    - Stucky Limited’s 25MW hydro & solar hybrid power plants

- **3\(^{rd}\) Round of crowdsourcing recently just took place in June 2017** with winners yet to be announced.

\(^{17}\) [http://www.access-power.com/access-co-development-facility](http://www.access-power.com/access-co-development-facility)
Access Power works closely with other international partners such as InfraCo Africa, AFDB, FMO, IFC and Proparco. Access Power and its partners collectively participate in the shortlisting and selection process of the winning bankable projects, where the winners not only get financial support but technical support also.

4.3. DIRECT INSTITUTIONAL INVESTMENT IN INFRASTRUCTURE PROJECTS

This section briefly looks at direct institutional investment in infrastructure projects and both listed and unlisted companies as a means to accessing financing, albeit this option is not a new concept, it is however a trend that is gradually picking up momentum as a viable investment option to accessing finance. Institutional investors such as pension institutions, insurance companies and sovereign wealth funds (SWF) have exhibited strong appetites for long-term return on their investment because of their long-term future liabilities; this makes infrastructure investments attractive to this type of investors.

These institutional investors have traditionally invested in infrastructure by holding equities in listed infrastructure companies and buying fixed income instruments. Albeit, institutional investment in infrastructure is still relatively low, it is safe to note that as listed companies tend to move in tandem with the general performance of stock markets; investing in unlisted infrastructure companies and projects provides investors with diversification benefits as unlisted infrastructure companies have lower correlations with the broader stock market trends. Another benefit to directly investing in unlisted infrastructure projects or companies is the mitigation of fund management fees that would have otherwise been paid to a fund manager. In addition, direct institutional investment in unlisted infrastructure gives the investor control over their assets.

There is little evidence to suggest that Nigeria’s indigenous large institutional companies participate in directly investing in local infrastructure projects because of the high historical records of incomplete or abandoned infrastructure projects and other related infrastructure risks. Also, the Pension Act severely limits the ability of pension fund managers to invest directly in infrastructure asset\(^\text{18}\) (however, it is worth noting that PenCom allows pension funds’ investment in infrastructure funds that meets their minimum criteria)\(^\text{19}\). In comparison, other African countries like Botswana, Namibia and South Africa are seeing thriving infrastructure investment activities from their pension pools and they are further encouraged and aided by government incentives such as tax-breaks or tax rebates. Such steps taken by these countries have induced a greater participation by such large institutions to invest in their domestic infrastructure.

On the contrary, direct institutional investment in Nigeria has seen a huge boost from foreign multinationals. A good example is GE’s investment in Nigeria’s infrastructure\(^\text{20}\). Since 2009 when GE signed a number of “Country to Company” MOUs to invest in sectors including Power, Oil and Gas, Healthcare and transportation, billions of dollars have been directly invested in Nigeria. The recent heavyweight infrastructure investment by GE and its partners in Nigeria is the $2.2 Billion deal to rehabilitate and construct a 3500km concession railway network between Lagos-Kano and Port Harcourt-Maiduguri.

\(^{18}\) www.cbn.gov.ng/out/2015/mpf/leveraging%20pension%20fund%20to%20finance%20infrastructure%202015.pdf
\(^{19}\) https://www.pencom.gov.ng/docs/1492535703_Amended_Investment_Regulation_April%202017.pdf
\(^{20}\) http://www.ge.com/africa/company/nigeria
CONCLUSION

The private sector has a huge role to play in bridging the infrastructure needs of Nigeria and it is encouraging to see that there are emerging innovative financing mechanisms that infrastructure projects can exploit to increase their access to finance.

Innovative financing concept such as crowdfunding and crowdsourcing are rapidly changing the face of accessing finance. Although, there is still a long way for these buzz to hit the Nigerian finance access market, the prospects of leveraging on the benefits of crowdfunding are enormous. However, they are no impediments to tapping unto other regional platforms willing to fund bankable infrastructure projects within Nigeria.

Capital access from infrastructure funds are also picking up steam as citied in the case of the Azura-Edo IPP project earlier, with anticipated new funds expected to enter the market and strong evidence shows that direct institutional investment has gained the country access to foreign capital. More needs to be done by the indigenous large institutions in Nigeria to invest in domestic infrastructure projects given the right regulatory climate.

I hope you all have found the highlights of my paper interesting and useful by giving you a fresh outlook on the benefits of crowdsourcing and crowdfunding and re-enforced the roles that infrastructure funds and direct institutional investments can play in financing infrastructure bankable projects.
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