Title: The Science of statistics as a means of shaping the world through Science

Summary

- **Science is shaping the world, the entire world!**
- **Government policies though, are not common in all countries of the world, in some countries they are based on scientific data, in others not so much.**
- **In developing countries such as Nigeria, there is a gap between policy-making and scientific facts and this, needs to change!**

In Isaac Asimov's book: *"Chronology of science and discovery",* it is described beautifully how science through research has shaped the world, from the discovery of fire, until the scientific 'miracles' of the 20th century. How, most of the tools, technologies, and medicines we use today are the fruit -or even- the by-products of research: from pens to spaceships and from aspirins to vaccines and organ transplants.

On a planet with limited resources and the human population growing exponentially, we, as a species, can only grow through science. Because science brings technology and innovation. And with that, economic growth, job creation and technological advances. Science is indeed an engine for development.

But for this to happen we need policies that are based on Science. We need ministers, government officials, policy makers, to make evidence-based decisions so that countries will formulate science, technology, and innovation (STI) policies based on robust data, and not on their "gut-feelings" or other factors.

But how do we do this? One can not just go to the prime minister of Nigeria with Isaac Asimov's book and try to make a point. In order to formulate national innovation strategies, we need the help of another science, the science of statistics! We need numbers, data and robust analytics so that we monitor the counties' research and development (R&D) efforts. We need to formulate the so-called R&D "indicators". Imagine an indicator as a statistic, such as the GDP, or a combination of statistics, such as GDP per capita, which tells the public and the policy maker about the state of the economy and the society. Imagine the same, for science and growth. These indicators must be as accurate as possible to ensure reliability and therefore craft effective public policies.

In developed countries, organizations and bodies have been established with strong capacity for the collection, analysis and production of these indicators to support evidence-informed policy. On the other hand, Africa has been widely recognized as the poorest continent, meaning that it needs science and science policies more than anyone! However, in many developing countries, including Nigeria, there is a gap between policy and development priorities as most policies are not based on scientific data either because they are unavailable or, where they exist, unreliable. Nigeria, needs the science of statistics, in the form of scientific indicators because only these indicators can provide true scientific evidence for designing, formulating and implementing a national innovation policy.

Science is shaping the world. And we want no one to be left behind. Countries like Nigeria, and most countries in SSA need to integrate scientific evidence in governance, they need the science of statistics in the form of R&D indicators to guaranty evidence-based policy making, so that they can grow and prosper, so that we can all grow together.

As Isaac Asimov nicely put it: "The nations may be divided in everything else, but they all share a single body of science".

And that common body of science is what should be driving policy making across the entire world, developed, and developing.

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