Unpacking the disruptive potential of data driven policy making process and blockchain technology in enhancing good governance transparency and development among African countries in line with Agenda 2030

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Abstract

This paper on Unpacking the Disruptive Potential of Data Driven Policy making process and Blockchain Technology in enhancing Good Governance Transparency and Development among African Countries in line with Agenda 2030 analyses the various challenges policy makers in Africa's government institutions faces and how Big data and Blockchain technology are increasingly becoming the cornerstone on which policy-makers can be able to make effective decisions for public good. As public problems grow in complexity and increasingly require new forms of expertise and information, policymakers across Africa need to explore new ways to become more data driven. And Since Big Data and Blockchain technology are being, touted as a potentially transformational force for policy makers and their ability to increase the accessibility and inclusivity of institutional systems, the article examines their disruptive potential to government services (R Zambrano - 2017). And the importance of having better data for better policy (S. G. Verhulst 2017) this paper explores nature of the problem as well as the potential—and current limitations in public policy.

Introduction

We live in an increasingly quantified world, where data has become the cornerstone of decision-making. Therefore, many organizations and institutions, the governments included with no previous experience in big data and data science are struggling to understand emerging trends in big data and choose the right tools and technologies for a new project

Since Big Data has become the reality of doing business, it is slowly changing how decisions are being made in terms of the way information is collected, organized, processed and stored. These changes have presented some great opportunities for economic growth, productivity, innovation, and other aspects of government policy making. (Prompt Cloud 2018). Unlike before when policymakers would make decisions influenced by factors other than empirical evidence, including personal experience, reports, meetings outcomes, culture, observation or belief.

As public problems grow in complexity and increasingly require new forms of expertise and information, policymakers across Africa need to explore new ways to become more data driven. Data Driven Governance and Development has got potential of scaling Data

collaboration among policy makers and also African Countries in addressing various challenges facing the society, (S. Verhulst 2017)

Even though African policy makers are increasingly called on to use evidence-based research to inform development decisions. But this requires the rigorous collection of data as well as a coordinated system to disseminate it (D. Beguy 2018), they are facing various challenges which might make them not realized the potential of Data driven decision-making. They can be summarized as follows:

- The lack of access to good data limits African governments' ability to make the right policy and development decisions;
- There is lack of data infrastructure, institutional capacity and use of Data by African leaders and decision-makers and this has affected effective decision-making and use of natural resource;
- African Governments have not learnt the effective of collaboration and spreading the reach of data driven development to the poorest and most remote communities and improving outcomes for all.
- Much of the data that is potentially valuable to African governments resides in the private sector;
- To unlock the potential of data for African governments we need to accelerate the creation and use of "data collaborative" – a new form of collaboration - beyond the public-private partnership model in which participants share data to help solve public problems.

Governments in Africa require accurate, timely and accessible data to better respond and make informed decisions that are critical to their development needs and more specifically, in the sectors such as Health, Agriculture and entrepreneurship (GPSDD 2017) . Given the circumstances, access to data in Africa will be determined by personal connections rather than by any systematic or policy-driven initiative. As a result, enhancing skills and developing data scientists will be critical as well as developing systems that can enhance data collaborations among African countries in achieving SGD Goals.

How lack of access to good data limits African governments' ability to make the right policy and development decisions.

Like everyone else, African governments and their development partners need to become more evidence-based to inform development and policy decisions. Stakeholders across the continent are increasingly taking steps toward more evidence-based policymaking, but the supply of data available for problem-solving and decision-making lags behind the demand for it. *"To achieve the full potential of data-driven development, it will be necessary for all stakeholders – government, the private sector, development organizations, and the public – to work in coordination to bridge these gaps.*"– H.E. William Ruto. Deputy President, Republic of Kenya

Access to data not only essential for national governments and institutions to accurately plan, develop relevant policies, allocate resources but make effectively make the rightful decision that can have an impact in the society.

An analysis on what is Public Policy (Knoepful et.al 2011) give a clear framework on how policy problems can be addressed by policy makers based on contextualization based on content, having a clear policy process and capacity building for policy makers. As it stands, official data collection efforts in much of the continent lag behind the demand for evidence to improve government decision-making in the following areas

- To be of value, such data must be accurate, timely, disaggregated and widely available. This is not the case in most African countries;
- There is need to link various institutions and create convergence between the academia, the private sector, policy makers, media and research data analysis, through effective use of Data to make decisions and make it possible for a large portions of low-income people to be visible in areas such as; participation, engagement and decision-making especially in line with SDG's.
- And for timely, accurate information and data analytics on various sectors that affects the public such as climate change, Data and Innovation Centres is critical in supporting unique data innovation challenges within the public, private sector

The status of data collections in Government's institutions

Much of the data valuable for enabling African governments to make better decisions actually resides within the private sector—for example, in the form of click histories, online purchases, sensor data, and call data records.

Lack of access to data by many African countries can be traced to luck of right policy by decision-makers (D. Beguy 2018). Leveraging the potential of data- and evidence-based policy making in Africa to improve governance, development and, as a result, people's lives, cannot only bee based exclusively on data generated and held by governments and international organizations, but also by various stakeholders and citizens.

This calls for a new mechanism for matching demand, in the form of public problems, to the supply of data, held by entities across sectors that could be shared responsibly and leveraged for problem-solving (S. Verhulst 2017). Data, and especially data of good quality, are essential for national governments and institutions to accurately plan, fund and evaluate development activities.

How Blockchain technology can enhance data collaborative and unlock the potential of data for African governments in policymaking

As public problems grow in complexity and increasingly require new insights, decision-makers both inside and outside government have begun exploring ways to be more data-driven and collaborative (GovLab 2017).

When in come to Governance and Development, the government is gradually embracing big data, especially when it comes to healthcare delivery, education, security and other aspects of policy making. This has been based on the premise that it will yield big information. Therefore the investment has been focused in the belief that it will lead to great returns in the

form of information, which will in turn yield other great returns, be it in education, public health, economic development, weather patterns, or retail consumer patterns. (McNeely & Hahm, 2014). Therefore the use of "data collaboratives" – a new form of collaboration - beyond the public-private partnership model in which participants from different sectors (including private companies) share data to help solve public problems.

Even though blockchain is already disrupting the financial services industry Don Tapscott 2018), every business, institution, government, and individual can benefit in profound ways. With this global peer-to-peer platform for identity, reputation, and transactions, blockchain has got potential of re-engineering policy making structures of institutions for innovation and shared value creation. The following are some of the key attributes of Blockchain: privacy; pseudo-anonymity; integrity; distributed trust, governance; transparency; security; sustainability; and open source (R Zambrano - 2017).

Some of the key areas which policy makers can use Blockchain for public good and economic enhancement are: government public service services, especially in programmes related to e-government and smart government; land titles, healthcare services, identity services, including personal reputation management among others. As Katherine Purvis of The Guardian noted, "*Blockchain enthusiasts are hopeful it could be the next big development disruptor. In providing a transparent, instantaneous and indisputable record of transactions, its potential to remove corruption and provide transparency and accountability is one area of intrigue."*

Some of the key benefits that policy maker can achieve while using Blockchain technology are; (i) Traceability (ii) Transparency (iii) Auditability (iv) Security (v) Collaboration and (vi) Efficiency

As stated by -Don Tapscott, that blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value, it is becoming the key to future economy, so every institution has to embrace it. This is because it exists on the internet, it is "decentralized", meaning the blockchain ledger is shared among all computers around the world, not in one central location, it is decentralized, so it cannot be controlled by any single entity or authority. Has no single point of failure and can enhance good public services. The public can have access to it and most importantly it is secured.

Example how an organization or government can use Blockchain effectively:

- **Land Use** - Ownership and history of property currently requires the investigation of many different document sources such as Grantor-Grantee index, Land Records or Deed Records. The goal is to find any records related to property liens, easements, covenants, conditions and restrictions (CC&Rs), agreements, resolutions and ordinances. This a time consuming and laborious process in which it is easy to miss important information. Sweden is leveraging blockchain;
- **The World Food Programme (WFP**) launched a blockchain pilot programme last year in Jordan to manage the high number of Syrian refugees entering the country. Upon arrival in Jordan Syrian refugees receive vouchers for local grocery stores; the

WFP pilot project allows refugees to cash in their vouchers using a retina scanner. The scanner is part of a biometric authentication technology that utilized blockchain. The transactions are then recorded on a private Ethereum-based blockchain, called Building Blocks. Building Blocks aims to make WFP's growing cash-based transfer operations faster, cheaper, and more secure. Robert Opp, WFP's Director of Innovation and Change Management commented: "*Blockchain technology allows us to step up the fight against hunger. Through blockchain, we aim to cut payment costs, better protect beneficiary data, control financial risks, and respond more rapidly in the wake of emergencies. Using blockchain can be a qualitative leap – not only for WFP, but for the entire humanitarian community";*

Some early efforts with data collaboratives in Africa have shown great potential to leverage private data for public good. For instance, they have been used to improve situational awareness; knowledge creation and transfer; public service design; prediction and forecasting; and impact assessment. Consider the following examples:

- Data Center and Innovation Labs by Strathmore Business School to create catalytic actions and initiatives to ensure the development and uptake of innovations and implementation of data ecosystems that can improve government engagement/public service delivery and spur economy growth that benefits African Governments, its young entrepreneurs and industry. In collaboration with the Global Partnership on Sustainable Development, Government of Kenya, Sierra Leone, Ghana, Tanzania, Rwanda , South Sudan , academia, private sectors, the innovators, the Lab aims at strengthening the capabilities of public sectors in a manner that is responsive to citizens and ensures equitably deliver economic and democratic policies and standards, by leveraging on the innovative power of young women and men

Way forward

Since quality policy making entailed measurable results. Development decisions should be informed by data. But more importantly this data must be turned into information that is easy to understand and useful to end users and the public (D. Beguy 2018), the following can be used to strengthen the data driven policy making;

If data collaboratives are to achieve their societal, economic and developmental potential in Africa, there is a need to:

- *Professionalize the supply side* by developing and nurturing the concept of data stewards. Data stewards within government and public institutions can act as change agents responsible for determining what and when to share, how to protect, and how to act on available data;
- *Identify and strengthen the demand side* to become more data driven and connect data with their mission or problems they seek to solve. As it stands, there is little rigorous understanding of the specific needs for data among stakeholders in different sectors. Without a more granular understanding of demand and opportunity for leveraging

data to improve problem-solving, data collaboratives will be unable to evolve and scale in a systemic manner.

- *Build the evidence base of what works* and translate that into operational guidance and methodologies of how to go about it. Data collaboratives are becoming more and more prevalent, but we currently lack an evidence base to help determine what types of problems are best-suited for data collaborative approaches, to assess on-the-ground impacts to date, and to inform future data collaborative implementation based on what works in practice.
- *Build data responsibility frameworks.* Without any rigorous assessment of the risks involved in sharing data across sectors, the potential of the use of date to improve people's lives may be limited, at best. We need to expand on existing work to create frameworks for more responsible data use. This work is especially needed for Africa, which currently has a fragmented and still emerging policy environment regarding data privacy and information management concerns. Well-defined data responsibility frameworks can help mitigate risks presented by these policy gaps and bolster public trust in data usages.

Conclusion

The future of policy making lies in the use Big data and blockchain technology to create a culture of data-driven governance and enhancement of efficiency to the government, as a result, the policies implementation and l offer better success rates, acceptance and outcomes whenever applied. Currently in many cases the line between government policy making and Big data has already started becoming seamless. The application is occurring on a global scale and governments are understanding and incorporating the valuable methodologies of Big data. And that is what presents positive signs about the future of policy making. When it comes to policy implementation, it is important to understand those opportunities and act accordingly. Only then, can any government or public institution attain valuable benefits and enhance the success rate of their policies.

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