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Repositioning Users as key drivers for Statistical Quality Assurance in Africa

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Abstract

Quality Assurance and Users are fundamental to statistics development in Africa. The need to stay relevant in a dynamic global environment driven by increasing user requirements, innovation and technological change, while at the same time limiting the statistical burden on respondents, presents a major challenge for statistical producers in general. Only high quality statistics can provide support to evidence-based planning, policy, decision making and research in Africa. Increased convolution of the society and processes such as globalization have magnified the need for more evidence-based statistics of high quality that meet the needs of the users. Amidst recurring challenges of resource constraints and the low profile of statistics, during the last decade, both global organizations, National Statistical Offices and Institutes universally have focused on the developing effective quality assurance systems for statistics. A methodical approach to statistical quality assurance has been adopted in many statistical organizations, offices and institutes. This has been based on some basic and common principles of quality management, even if the use of formal quality systems varies. Similarly, at regional and national levels, quality assurance in statistics has gradually developed from measuring and reporting on output quality to a process-based approach following the statistical production cycle adapted from the statistics value chain. Subsequently, different Statistical Quality Assurance techniques have been employed in Africa, ranging from institutional environment assessments, user satisfaction surveys, self-assessments of products and processes, streamlined statistical quality audits for compliance with statistical standards to quality improvement initiatives. The role of users in statistical quality has been given increased focus.

Keywords: Statistical Quality Assurance, Users, Quality Statistics, Statistical Organizations, Quality Management.

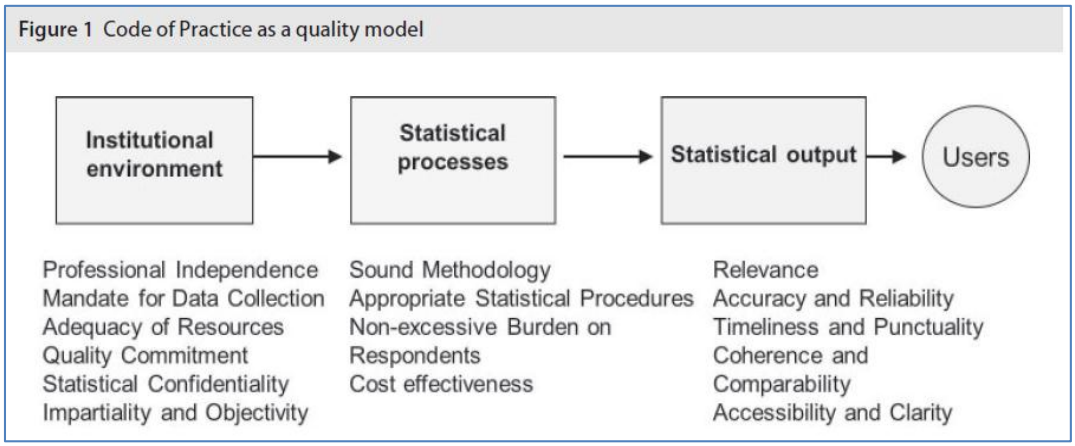
INTRODUCTION

For too long, provision of statistics has been seen as either something which was of little importance or else the concern of a small group of "experts." It is tempting to decry such notions by assertion. There is however, a danger that at a society such as this, the importance of statistics will be taken as self-evident. At an even broader level, information has been described as the currency of democracy. But in the harsh world which we are facing, the importance of statistics will not be taken as axiomatic. This is especially the case in view of the many competing claims for public expenditure (Blackwell, 1988). The current international debate on the quality of African Statistics leaves one relatively confused. The state of African statistics is seen as poor and misleading to some; it is tragic to others; and it is transitional to yet others. What needs to be done is to move African statistics to a position of trust and legitimacy by the users.

There are initiatives in or being put in place to improve the quality and stock of statistics produced. The African Charter on Statistics (provides an overarching framework for quality development), SHaSA (defines the African statistics programme), NSDS (provides for comprehensive planning for national statistics and quality assurance programmes), ICT programme (considers systemic improvements in national accounts), capacity building by Pan-African organisations, African Data Consensus (facilitates demand-driven and open data, harnessing data to impact on development decision-making and on building a culture of usage, to grant independence to NSOs), etc (African Union, 2015). The thrust of the debate on African statistics is about quality, which makes the development and implementation of a quality assurance an imperative for improvement of statistics of the African Statistics System (African Union, 2015). Hence, this paper discusses the linkage between users and statistical quality assurance and presents user classifications in view of their roles in statistical development. The paper also points out key user engagement practices that facilitate statistical quality assurance.

LINKAGE BETWEEN USERS AND STATISTICAL QUALITY ASSURANCE

In Europe and various Statistical Offices in Africa and around the world, the Code of Practice for Official Statistics provides a common statistical quality assurance framework (see figure 1 below). It follows a Total Quality Management (TQM) like model from user needs for products to underlying processes and the institutional environment which is specific for statistical organizations. The indicators linked to the output represent an agreed definition of the components of quality in statistical products (Sæbø, 2014).



The power of official statistics is recognized in its use which spans the design and implementation stages of country policy frameworks. Priority setting in this context has an important role to play, as it has to facilitate the adaptation of the existing or planned statistical programs to changes in users' needs. Official statistics belong to the public infrastructure of modern states and mirror the specific relationship between the state and its citizens. The interaction between users and producers with regard to the decision of how to prioritize statistical products or services needs to respect the accepted general principles (Vichi, Rosa, & Ruane, 2015) of transparency and public trust among others which are critical for maintaining effective statistical quality assurance systems in Africa.

LITERATURE AND RELATED WORKS

World over, greater emphasis is being placed on customer/user satisfaction and on broad quality concepts (Schoenberger, 1990; Keogh,1994). As a multi-dimensional concept at a global level, Statistical quality may be defined as the degree to which a set of inherent characteristics in statistical data fulfil a set of requirements (ISO, 2015). These requirements pertain to the Institutional Environment and the eight dimensions of Relevance, accuracy, timeliness, accessibility, interpretability, comparability and coherence, methodological soundness and integrity (Uganda Bureau of Statistics, 2012). Alternatively quality refers to the extent or degree to which materials, products, processes and services are fit for their purpose (African Union, 2015). It is important that data quality dimensions also cover users' actual perceptions of the quality of a statistical product. This explains why the internationally adopted definition of statistical quality, originating from Statistics Canada, is defined as "fitness for use" or its variant "fitness for purpose" as is the case with the Office for National Statistics (ONS) in the UK and the Australian Bureau of Statistics (ABS). The definition is from the point of view of the user. Thus in terms of statistical outputs quality refers to the degree to which the data meet user needs (African Union, 2015). ISO (2015) also defines Quality Assurance as the assembly of all planned and systematic actions necessary to provide adequate confidence that a

product, process, or service will satisfy given quality requirements. Similarly, Rao, Raghu-Nathan and Solis (1997) define quality assurance as the systematic approach used by organizations for maintaining and improving the quality of their products and services.

CLASSIFICATION OF STATISTICAL USERS

Radermacher (2014) provides the identification context for users' typology. The author stipulates that each class of users is likely to have a different and specific set of competences in terms of statistical literacy, interests and influence in society. In categorizing the users, it is paramount that their expectations regarding the priority of statistical quality criteria (relevance, accuracy, timeliness, comparability etc.) are addressed in relation to the statistics they utilize. Vichi (2015) classifies users under two major categories namely Institutional Users and Non-Institutional Users, with each set of users differentiated according to their interests. Institutional users mostly need data for governmental and administrative decision making. Their data needs are considerable and usually have priority in terms of demands that are met by data producers. Furthermore, data for Institutional Users typically need to allow for comparison over time and space in order to verify the impact of decisions. Non-Institutional users, for example journalists, have different needs, focused particularly on having statistics ready for communication and diffusion to wider audiences. For them it is important to be able to show new trends of interest and importance on developments in the everyday life of national citizens. It is clear that users may have several interests so they might actually belong to different classes. However, here they are assigned to classes with the criterion of the most frequent and/or prevalent interest. The Institutional users can include Regional and International organizations, such as the African Union, African Development Bank, UNECA, Committees at African regional level, Africa Statistical System Committees, and Small and medium-sized Enterprises at the regional level among others. As underlined by Lamel (2002) Article 1 of Regulation (EC) No 322/97 establishes a legislative framework for the systematic and programmed production of Community statistics. Hence the policies of the Community determine what European-level statistics should cover, and the EU Institutions that are the main users. Non-institutional users, individuals belonging or not to institutions, may include the following groups, according to their interest on statistics:

- Users with a general interest (e.g., economic growth) • Journalists and media • Citizens • Students (by level of education, or age) and Teachers (by level of teaching education)
- Users with a specific subject/domain interest (e.g., health) • Other decision makers • Policy analysts • Marketing analysts • Experts in a specific field
- Users with a research interest (e.g., innovation in enterprises) • Scientific community – academics and researchers at universities and research institutions • Consultants and researchers in Governmental Agencies and private sector

Another useful taxonomy disaggregated at individual level, identifies users according to their frequency of statistical usage and proficiency: These can include;

- Heavy users: researcher, specialist, politically or civically-engaged citizen, and others that use statistics on a daily basis. Typically this is the person who knows where to find data and how to interpret it. Within this category we can distinguish the Very heavy users: researchers who would be routinely engaged in using disaggregated and micro data (AMFs and RMFs) in their research and who could contribute to the improvement of data quality by engaging with data producers
- Light (occasional) users: user who from time to time checks some figures. He/she would know the National Official Statistics and Eurostat websites but would find some difficulty in getting the data he/she needs and would not be looking for metadata.
- Non-users who might be Potential-users: all people who do not go looking for data believing it is something hard to understand and not being aware of data's relevance and richness. Of course, as it is often the case, these typologies - institutional users /non institutional and heavy/light/non users - overlap: institutional users would be more of heavy users; non-users are potential users with a general interest.

The purpose of this classification system is to assist in designing effective engagement and communications methods within the quality assurance framework, to meet the needs of different users in an effective and efficient way (Vichi, Rosa, Ruane, 2015).

Quality is a precondition for credibility but a communication strategy towards the public needs also to be in place to create citizens trust and confidence on official statistics. Credibility is obtained not only through producing statistics in an adequate environment and with high quality standards. It also requires being successful in communicating results to different users. Each typology of users may need different communication strategies. While for informed users is important to communicate methods used and quality standards, for the general public it could be more appropriate to transmit a clean and clear message informing them that statistics are compiled in Compliance with the Code of Practice (Radermacher, 2014)

USERS AS KEY DRIVERS IN STATISTICAL QUALITY ASSURANCE

Statistical Quality Assurance (QA) involves identifying and applying recommended quality standards and guidelines across the nine stage of statistics production (see figure 2 below), routine assessment of process and product quality, evaluating user satisfaction with statistical products and implementing templates and tools to enable sustainable quality improvement. It provides the structure & framework for collection, recording, analysis and reporting of quality statistics within and across data producers and users in the NSS.

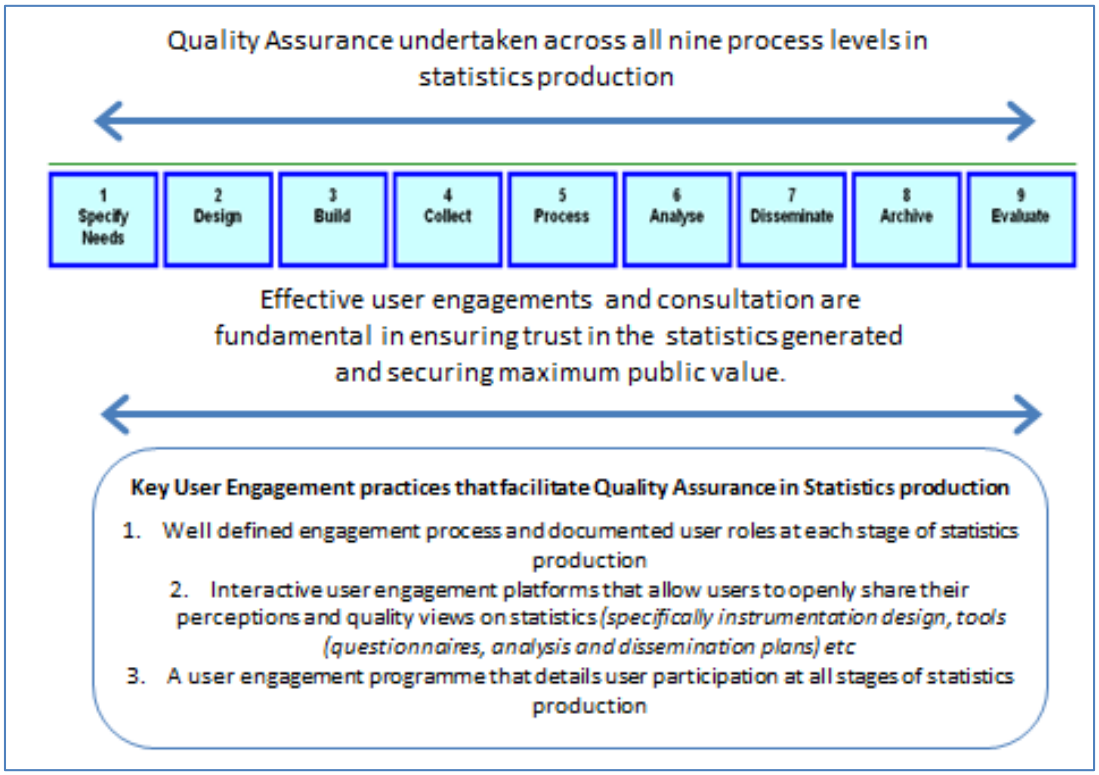


Figure 2 showing key user engagement practices that facilitate quality assurance

(Source: The nine stages of statistics production are adopted from the Generic Business Process Model, a common metadata framework designed by United Nations Economic Commission for Europe (UNECE))

Figure 2 above provides the nine stages of statistics production along which quality assurance should be undertaken. As a basic proponent for statistical quality assurance, engagement of users in the production process is critical for any organization to deliver high quality statistics. Therefore, user engagement at all stages of statistics production should be emphasized and effected. The figure highlights key best practices of user engagement that can facilitate quality assurance in statistics production across statistical organizations, National Statistics Offices and Institutes in Africa.

CONCLUSION

Quality should be assured and reinforced in all statistical phases with the aim of mitigating the risks of producing incorrect or misleading indicators. In these cases, a preventive approach is of utmost importance.

PRACTICAL IMPLICATIONS

As statistical organizations reengineer their quality assurance systems and double efforts to engage with statistical users, the credibility of the statistics they produce will increase as well as the public trust and confidence users have in the statistical organization as a whole. This goes a long way in ensuring production and dissemination of high quality statistics across Africa and the world that not only meet user needs but evidently inform development initiatives, policy and decision making efforts.

ORIGINALITY/ VALUE

The paper provides insight into how statistical users can be engaged to foster quality assurance in Africa's Statistical Organizations.

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