

Are NSO and ISO top managers ready to lead the change process requested by the data revolution?

A Lunchtime Event held during the World Statistics Congress in Rio de Janeiro on Wednesday 29 July 2015.

Please find below a short report prepared by Stephen Penneck, Vice-President of the ISI. Written notes of Walter Radermacher and João Dias Loureiro are enclosed.

The panel consisted of:

Mr. Walter Radermacher, Director-General of Eurostat and Chief Statistician of the European Union;

Mr. João Dias Loureiro, Presidente, Instituto Nacional de Estatística, República de Moçambique.

Organiser and moderator: Irena Križman, ISI Vice-President; Former Director General of Slovenia National Statistics Office.

The Post-2015 Development Agenda and the Data Revolution raises many opportunities and challenges, such as the innovative use of modern technologies in data collection and data presentation and the use of new data sources, with the aim of producing good quality and timely statistical information. In particular, this revolution calls for innovative, accountable and forward-looking leaders in official statistics.

One of the conclusions of a recent governance workshop held in Tanzania by the ISI was that the role of leadership is crucial and that there is a strong need to provide appropriate training to top and middle NSO managers.

The workshop discussed the challenges for statistical offices and the role of leadership. There were around 60 people present.

Q: What are the main challenges for NSOs?

Walter - need to understand who we are and where we have come from. Statistics mirror and influence political systems. We are at the beginning of a new phase in official statistics with everything changing around us. Do we understand how to steer it? We have a democratic function, to enable citizens to participate, but there are limits to evidence-based decision making. Not everything can be measured through an indicator. Our increased relevance in policy making also give us a responsibility to clarify the limits of what statistics can measure. Ethics and governance play a bigger role the closer we get to the sun of policy making.

Three challenges: 1. The data revolution: rapidly changing behaviours; new data sources; new competitors. In the future we will lose control of our input data. 2. Globalisation. 3. Over-expectation raised by evidence based policy.

João - a leader does not stand alone. They are in a context, and it is for the leader to negotiate a way forward. With a diversity of stakeholders, communication is important. A further challenge is to use the power we have in legislation by setting an example. Also to use the knowledge we have to anticipate questions.

Walter - the challenge for leaders is to manage the change from old fashioned number crunching to high tech delivery. What skills? Leaders cannot just be managers, they need to understand the DNA of our industry. Not just an administrator, but an entrepreneur. To lead rather than react we need to be a community of visionary statistical leaders. Need to develop a feel for the value of information. What are the concrete plans? To develop three skills in heads of NSOs: independence, strength and innovation.

João - what can education offer? Set up a school to teach public administration. Teaches official statistics and are preparing a master's degree. Provide training for MPs and for

journalists. Show how data can be used to help decisions, from an early age. Have a mentoring system. Find people from inside. Have good people from outside, but how to advance them quickly? Tanzanian workshop was good because it put experienced DGs together with newcomers.

Group exercise

Participants then divided into groups. Each group gave responses to one of a number of questions.

Q1: The role of the ISI in building a good governance in NSOs and ISOs

Group A

1. Support for the applications of ethical guidelines, through: advocacy; exchange of experience; good practice and being a watchdog
2. Improve dialogue within the national context and the central role of the NSOs
3. Developing and regularly updating the statistical law and the central role of the NSOs in developing and updating the resulting regulations
4. User satisfaction survey

Group B

1. Leadership training – as in Tanzania
2. Authorised certification of leaders – set the criteria
3. Sharing best practice – meetings, web site
4. Case studies competition
5. Create prize/awards for best practice, innovation in governance
6. Facilitate twinnings, exchange of senior executives between offices
7. Training/workshop communication skills
8. WSC 2017 competition for innovative management.
9. Bringing academia and official statistics together – like in Big Data
10. Communicate with users – how to enhance independence and trust in statistics
11. Can ISI help to bridge the IT gap between developed and developing countries?

Group C

1. Assist the institution
2. Develop professional accreditation
3. Lack of good management (Africa)
4. Technical assistance for developing countries
5. Study/learn management
6. ISI has to have a strategy management study
7. Exchange experience/ share best practice
8. Advocate training centres
9. Statistics agenda in Africa is very well advanced

Q2: The role of the Heads of NSOs and ISOs in Data Revolution

Group D

1. We agree with everything the two speakers said
2. We need to create superman and superwoman statisticians
3. Roles
 - a. Be a facilitator
 - b. Ensure we have the right people in the right place
 - c. Be a visionary

- d. A communicator
- e. Develop new partnerships

Group E

1. Varies between countries – depends how developed the statistical system is
2. Concept of Data Revolution is unclear – evolution instead?
3. Need to guide how this develops to ensure it evolves with clear statistical framework – not just driven by computer scientists – set the vision, lead not be led
4. International collaboration and co-operation will be crucial
5. While undergoing transformation, keep managing the quality of traditional outputs
6. Differentiate our role and outputs from new competitors in the data space
7. Proper engagement between data producers, data users and data providers

Q3: The Heads of Statistical Organisation (profile, skills, recruitment and succession)

Group F

1. Entrepreneurship
 - a. Education
 - b. Selection and attraction
 - c. Mindset
 - d. Example
 - e. Mentoring
2. Career paths
 - a. Professional
 - b. Managerial
3. Recruitment must be broad, transparent, open competition
4. Competitive salary
5. Openness and interchange with private and academic sectors
6. Education opportunities
 - a. Focused graduate programmes
 - b. In house training
 - c. Interchange programmes
7. Political skills, negotiation, managing stakeholders, tact
8. Communication
9. Develop a pool of leaders
10. Open selection

Group G

1. Management of change
2. Building capacity and the competence of staff
3. Encouraging statisticians to change
4. Ability to build and use the potential of the organisation
5. Openness to change
6. Courage to take on risks
7. Consistent pursuit to earn quickly and benefit from good practice

Group H

1. Profile – depends on country and situation
2. Skills
 - a. Technical
 - b. Administrative
 - c. Educational
 - d. Experience

- e. Public relations
- f. Encouragement
- 3. Recruitment
 - a. Transparency
 - b. External
 - c. Fixed term
- 4. Succession
 - a. Mentoring
 - b. Collaboration
 - c. Provide opportunities to teams
 - d. Capacity building of staff through training
 - e. Relations between head and staff

Group I

1. Strength, assertive, strategic negotiation
2. Communication skills, public speaking, negotiation
3. Inside knowledge
4. Technical capacity/knowledge
5. Understanding politics/stakeholders/consensus building
6. Resilience
7. Management skills – manpower, delegation, team building
8. Innovative
9. Leadership and integrity
10. Engaged in global and national policies
11. Forward thinking and future oriented

Notes for introduction

NSOs and ISOs meeting on Wednesday, 29 July 2015 in Rio

Are NSOs and ISOs top managers ready to lead the change process requested by the data revolution?

1. What are the main challenges for effective leadership?

A leader is not just a leader standing alone. All leaders have someone above, if not the people of the country, it is someone else. This means that the role of the leader is to, in the best way possible, negotiate the way forward. Negotiate with all stakeholders involved, judging their relative power to influence the outcome of the business. This is a real challenge. And it includes communication, a lot of communication.

Another challenge is to actually use the leadership one has in a way that can be seen as an example for the whole organisation - seen as a good example. Yet another challenge is to be able to anticipate the future. It is not always easy to do. But helps a lot.

2. What are the changes in leadership roles and which skills are needed to lead the change?

Change is always happening and the leadership role is following the development of the society. If I take Mozambique as an example, the changes have been from colonial slavery, to socialistic centralised single party state, to a multiparty state, to a democracy and finally to the decentralised consumer based open society of today.

The leadership role must accompany these changes and the basic skill needed is an open mind based on some fixed principles (that often are difficult to find). In statistics we are lucky, because we have the United Nations Fundamental Principles of Official Statistics as this a basis for our work and in Africa we also have the African Charter of Statistics. These principles are really something stable to rely on as a base in a changing environment.

In this context the role of the leader is to monitor this process. The skills the leader needs in this context are related to his/her capability of vision, clarity and communication.

3. Which skills of top management are needed to engage with politicians, the media and the private sector?

One skill is the ability to convince the politicians that the United Nations Fundamental Principles of Official Statistics and the principles in the African Charter of Statistics really are "sacred". Which means that the National Statistical System stands relatively secure against eventual political pressure although its main objective is to serve the politicians with the statistics they need to be able to make evidence based decisions.

Regarding the media it is necessary to see it as an ally and not as an enemy. (This is of course valid also regarding politicians.) The media really reaches their consumers, and through an open and timely dissemination of our results to the media a kind of mutual symbiosis might develop.

Regarding the private sector it comprises of everything from really small to really big entities acting both as primary data providers and consumer of produced statistics. Talking about their first role we should disturb them as little as possible while it is the opposite when we are

disseminating results to them. The skill needed by us is to be able to distinguish between these two situations.

4. What are the activities and plans of NSOs and ISOs in developing the capacity and safeguarding the professional independence and integrity of their management?

Apart from the United Nations Fundamental Principles of Official Statistics and the principles in the African Charter of Statistics there is nothing very special with the management of National and International Statistical Organisations. Developing the capacity of their management has to follow the general trends within the framework of the national administration. Activities and plans should as much as possible follow this and when possible top up with ideas from the private sector, to not be left behind.

But in a way being a NSO is special. The United Nations Fundamental Principles of Official Statistics and the principles in the African Charter of Statistics do force us at the NSO to put in place a universal “accountability” system which allows society to measure and evaluate what we are doing, and how we are doing it. This is important to safeguard the credibility of the statistics we are producing.

5. What should be offered within the educational systems?

The National Statistical Institute of Mozambique has since 2012 its own National Statistical School giving both a 3-year middle level course in Official Statistics and several short term courses. Of which now and then a course on management slips in. As the short term courses are open for all producers (and users) of official statistics more emphasis on management subjects can be done if requested.

Statistics should be a user driven activity and set a special requirement on us as the number of users are so much higher than the producers. Of course we have to secure that our producers know what they are doing - how to do it – and why to do it. But to really make statistics an important factor in the progress of our country we have to assist the educational system to show how statistics can help the students to base their ideas on facts while looking upon the world.

Basic statistics, or rather fact finding activities, could be introduced already in primary school and integrated in various subjects like environment, geography, biology, mathematics and more. The important at that level is to not scare the students away by using equations and a complicated language. Later on the interested ones will have the chance to learn more. In a way the Mozambican National Educational System already have parts of this in place at primary and secondary school level. But it has to be simplified in terms of language and added with practical examples, without casting extra burdens on the students and teachers.

6. How to recruit, retain and develop leaders of the future (especially given the competition from the private sector)?

Up till now our leaders, the upper and middle management, have been recruited internally.

It is good as they have had experience and they have already shown their value and their ability of leadership has been monitored and deemed acceptable.

But now and then it feels that the organisation also needs new blood.

Sometimes it might be appropriate to promote a more recent employee to a management position even if there are “old ones” standing in the queue. Now it is difficult to do something

this as we are restricted by existing labour laws.

Retaining staff has not been a problem in Mozambique as the alternatives still are few. But again, new blood is needed. In Mozambique we have had the fortune to give our staff an extra topping up on the ordinary government salary at similar levels.

We feel that our NSO is considered an attractive institution to work in. This is also possible to see in our Staff Satisfaction Survey where the statement "I am proud to be part of the NSO" is the statement that has got the highest score during several years. The second highest is often "My professional relationship with colleagues is excellent" and the third "I have a clear idea of what the NSO is expecting of me". All three statements are rather different but apparently express factors that are important for retaining and developing the staff.

7. a) What can the ISI offer? b) How would you estimate the workshop in Tanzania?

a) ISI can continue offering the type of meetings held in Tanzania, platforms grouped according to language or with the proper translation, placing the translated reports of the discussions on the ISI website. ISI can probably also interact more with the UNSD, the United Nations Statistical Commission in New York and PARIS21.

All this in the context of official statistics, organization of National Statistical Systems, emphasising the organization and management of NSO, describing new techniques for collecting and treating data from surveys and administrative records, etc.

b) It was a good platform for interaction between the Heads of Statistics in service and out of service. Where the most advanced countries met with the developing countries that are facing other challenges. It was very helpful in that sense, because the NSOs of the developing countries could learn from experience from the most advanced ones.

Walter Radermacher, Eurostat

Notes for introduction

NSOs and ISOs meeting on Wednesday, 29 July 2015 in Rio

Are NSOs and ISOs top managers ready to lead the change process requested by the data revolution?

1. What are the main challenges for effective leadership?

In order for us to understand the current challenges, we need to deeply understand who we are, which function we have in our professional environment, before translating this to the changes in this environment.

1.1 Understanding institution and history

A two-way dynamic interaction between statistics and society.

- Statistics does not only observe, it creates society
- Society does not only use information, it sets the conditions for their measurement
- Knowledge is power, ownership of information reflects governance in a society (Foucault's *gouvernementalité*)
- Statistics mirrors political system and influences it (see historical phases 1.0 to 3.0).
- Independence / strength of official statistics depend on political systems, in planning/authoritarian strong and not independent, in modern democratic societies more independent and less strong
- We want to be policy relevant while not being politically driven

1.2 Vision

Democratic function, 'enlightenment', however please no new religion or ideology of pure rational decision making (refer to: we are currently in Brazil with 'order/progress' in the national flag) and of blind faith in measurability, 'evidence based decision making' has to be understood with all its strengths and all its downsides.

Ethics of official statistics becomes important.

1.3 Values

Excellence, Innovation, Trust

1.4 Challenges

1.4.1 Statistics 4.0: the data revolution demarcates not less than an entire new historical phase for official statistics

- Individual behaviour and expectations (refer to the rapidly changing habits related to 1/ internet and 2/ smartphones)
- New data sources with new opportunities
- New competitors (data science)
- Change of paradigms, loss of control, review of quality concepts,

- Institutional position in the data-knowledge sector
- Image, reputation, resources
- Privacy of data

1.4.2 Globalisation

From national statistics to multilayer

1.4.3 Evidence based decision making

Example: SDG, believe in target-setting: solution or problem?

1.4.4 So the challenge is, how to tackle these issues in a convincing way

2. What are the changes in leadership roles and which skills are needed to lead the change?

2.1 Traditional leadership roles

No revolution of management skills, rather an evolution!?! Let's discuss!!

2.2 Official statistics reloaded

We are trapped in the paradox situation that we cannot turn the growing hunger for information to our favour. On the contrary, while confronted with increased demands for information, our budgets are cut back dramatically. Leaders have to lead us out of this prison. We have to manage a metamorphosis from a Cinderella role in public administration to a high tech industry delivering high tech products for the society. For this to happen, our image has to be polished internally and externally, our resources have to be improved, our production methods have to be modernised and our product catalogue needs to be updated.

All of this is impossible to manage without an intensive cooperation amongst statisticians. Exchange of knowledge, standard tools and even exchange of data are absolutely crucial for our success and survival in the global in the globalised information societies.

Leaders of the statistical system in the future need to understand the DNA of our industry. Based on this knowledge they have to anticipate what users want to get in two, three or four years from now. Users will not be able to exactly describe the type of information they expect. It's like with the smart phone: it's up to us to create this new device that can satisfy user needs.

For this to happen, we have to be successful entrepreneurs of this high tech industry. We need a deep understanding of our market, transform this in strategic frames, recruit the young statistical engineers who can fill this frame with innovative solutions.

The data revolution needs visionary statistical leaders who understand, embrace and **anticipate** (over and above the horizon) the rapid and continuous changes to the data landscape and its impact on the business model of official statistics. We cannot 'lead' the change if we are unable to anticipate it and undertake timely actions. Up to now we have been '**reacting**' to change.....not '**leading**' the change!

Personality features necessary:

- Vision to be related to the personality, when no personality, vision alone will not work.

Personally and as leaders of statistics we have to stand with both feet sufficiently in society. Meaning not in an ivory tower but a statistician with engagement with the academic, political and society in general, of course independent. This engagement should also be reflected in being seen and respected by all relevant stakeholders.

- A second personality issue is authority not based on power or position but based on competences and achievements. A voice that is heard. In statistics this means authoritative.

We need to build an entire **community** of visionary statistical leaders. Let us remember, what Josef Schumpeter said about representative democracy: it can only function well under the condition that politicians are selected from the well-educated and motivated leaders of a society. In this sense, this meeting in Rio today gives us an opportunity to review where we are and whether we are doing enough.

Just having managers or **administrators is not sufficient**, neither career focussed governmental employees. There needs to be some high level of **enthusiasm** and some fairly developed feeling and **understanding for data needs** to be in the brain of the leader in data /information management.

In short, we have to be producers, facilitators and enablers of this new movie called 'Official Statistics 4.0', we have to ensure sufficient budgets, the marketing campaign, recruit the excellent crew and talented young actors. Most importantly, we need to convince the world that we have this compelling strategy, which combines traditional production with new methods, which organises a concert in form of a jam session, Carnegie hall, free jazz and techno music in one event!

The following is an **example** of what has happened with 'data science' and statistics:

Data science was first mentioned by a statistician [Chien-Fu Jeff Wu] in 1998; he argued (and explained) that statisticians should be renamed 'data scientists'. A few years later (2001), another statistician, William S. Cleveland, introduced 'data science' as an independent discipline. In his article 'Data science: an Action Plan for Expanding the Technical Areas in the Field of Statistics', Cleveland advocated that Universities should develop appropriate curricula for data science

(<http://onlinelibrary.wiley.com/doi/10.1111/j.17515823.2001.tb00477.x/epdf>)

Despite the fact that the origins of data science were in statistics, today, nearly 15 years later, the official statistics community is still arguing that we do not have appropriate and sufficient courses in data science.... Enrico Giovannini proposes to establish a '*high quality international training programme for chief statisticians and top statistical managers*'. See his article 'How data revolution and new policy demands create new requirements for capacity building and training official statisticians?'

http://unstats.un.org/unsd/statcom/statcom_2015/seminars/high_level_forum/docs/HLF1_Giovannini.pdf. Chief statisticians should be able to design (prototype) the NSO and ISO of the future. They should imagine how the society of 2030 will look like and design the statistical office accordingly. For example, VW, like many other car makers and other industry players, are already prototyping the car of tomorrow:

<https://www.youtube.com/watch?v=f6ums9UiZA8>

Of course, we do not expect chief statisticians themselves to design the NSO of the future but instead create the enabling innovative conditions and inspiring and creative environment for making it happen.

Many colleagues underline that the data revolution is already happening. However, I would argue that the data revolution of tomorrow has nothing to do with the data revolution of today. Can we imagine **'how official statistics will operate in a fully-fledged IoT – internet of things environment'**? Chief statisticians should lead this debate!

3. Which skills of top management are needed to engage with politicians, the media and the private sector?

Exactly the **same skills as the ones of top managers in politics, media and the private sector!** By using a TQM approach, develop a vision and strategy, with a compelling, forward looking narrative, a convincing business case and an accepted/settled place/name in the network of big players.

Respect and be respected, a very well developed feeling for the value of information.

Quite a variety of skills are required and above all the ability to have a well-functioning statistical system / office with a strong analytical capability. Top managers and chief statisticians should be able to make appropriate value propositions to all of the above stakeholders and establish win-win situations.

Moreover the **media** should be regularly trained in terms of statistical literacy [they are important story tellers].

Scientific analytic capability is needed in order to serve policy makers and politicians in a **proactive (not reactive) way**, as well as in order to attract private stakeholders (especially private data source owners). The bottom line is that the top management should promote the image of a **'trusted third party'** on which politicians, the media and private data owners can rely.

4. What are the activities and plans of NSOs and ISOs in developing the capacity and safeguarding the professional independence and integrity of their management?

I would like to broaden the question, since I believe that our objective must be three-dimensional: achieving independence, strength and innovation. Over the last decade, much was done in the first dimension, by safeguarding the independence of institutions and the integrity of statisticians. Meanwhile the political positioning of statistics in terms of budget, administrative rank or reputation has not improved, to put it mildly. In my view, many NSIs are more independent but less strong than 10 years ago. That's why I argue in favour of putting more focus on the dimension of strength without compromising the independence, of course.

In the EU, the most important achievement is the new, amended statistics law, EU-Regulation **223**. This legal act is a major breakthrough for NSIs, empowered with strong national coordination competences, the right to influence and use administrative data sources, and with legal provisions regarding the function, recruitment or dismissal of chief statisticians at national and EU level. The NSI is growing and will become the National Statistical **Authority**.

Independence and authority can be misleading, when understood in a static manner. In order for us to keep the same position also tomorrow, we have to continuously innovate and modernise. Learning from the statistical youngsters and integrating their new methods is a must.

As I said at the beginning: Excellence, trust and innovation are the leading values for us.

The European Statistical System has adopted a Vision2020, which is being implemented with an ambitious work programme and profound investments. This vision is not merely a plan for the modernisation of the statistical factory. It contains also the management components, such as quality, cooperation and communication, which will enable the change to happen in reality.

New elements in a modern governance of official statistics, related to quality, values and ethics, examples:

- ESGAB, governance boards;
- WORLDSTAT as a accountability panel for countries not in a situation with such a strong legal environment as the EU.