



## **A Challenging Future: National Statistical Offices in Latin America**

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### **Abstract**

National Statistical Offices (NSOs) face today ever-increasing demands to provide society with more quality, timely and internationally comparable statistical information, whose production –due to the highly sensitive subjects it may cover– is also expected to be transparent and free of political interference. To respond to these demands is, however, not an easy task, as the nature of much of the phenomena which NSOs seek to address and the environment in which they perform their job poses significant –methodological, technical, budgetary and even political– challenges. This paper analyses some of the main challenges that Latin-American NSOs currently face. While some of them are common to statistical agencies worldwide (e.g. development of new statistical tools, improvement of sampling techniques, use of big data), others while not necessarily exclusive tend to be distinctive to the region and, in a sense, reflect the status of this field in Latin America (e.g. overall enhancement of the independence and credibility of NSOs, capacity building, coordination with stakeholders, budgetary constraints, etc.). In particular, the paper highlights the need for Latin-American NSOs to become relevant for decision-makers, and especially for the people involved in public-policy-making processes. In practical terms, this means that NSOs have to be able to provide statistics with value for their users, as this will translate in credibility for the NSOs and support for the development of their activities. The paper draws from the experience of the Mexican National Institute of Statistics and Geography (INEGI) in its endeavour to respond to the pressures imposed by the demanding and changing environment of official statistics. Its experience allows to reflect on the challenges faced by other Latin American countries also striving to enhance the role of their NSOs and their production of statistical information.

**Keywords:** Statistics; challenges; statistical agencies; Mexico.

### **1. Introduction**

National Statistical Offices (NSOs)' main remit is to produce relevant and quality statistical data which enable people to better understand the myriad social and economic phenomena of their countries, and – most importantly– serve public and private decision-makers in the shaping of their policies. Quality of the statistical information produced translates directly into credibility, and its extended usability thus into relevance for the NSOs' work. Therefore, quality and usability of the data provided by NSOs are crucial for the standing of these agencies in society in general, which in itself would be an invaluable instrument in the public budgetary processes of their countries, as the ultimate relevance of a public entity must be reflected in the budget it is allocated every year.

For it is only with enough resources that an NSO would be able to undertake new projects that may require expensive technology, the cost of field work, and the recruitment of talented people, it is then imperative for NSOs to establish themselves as relevant agencies in their countries. To achieve this is however not an easy task, as NSOs face several pressures and challenges in the performance of their job.



## **2. Unrelenting demands, complex conditions and transformative developments affecting official statistics**

All over the world, NSOs have made important advancements in the provision of official statistics to society. Just to cite an example, via the survey sampling model (today a well-established scientific method) NSOs have been able to produce with confidence statistical data in a varied array of subjects (ranging, for example, from agriculture and the environment to crime and public security), to compare them with other sources of information (such as administrative records) and to integrate time series. Alongside, the use of official statistics in private and public-policy decision matters has also progressively increased.

Notwithstanding these advancements, NSOs face today huge demands to produce more and better statistical information, while working in an environment of constrained resources. They are also challenged with the task of being able to respond to emerging needs of statistics worldwide (i.e., the post-2015 development agenda) and integrate external sources of information (such as Big Data) into their production of official statistics.

Without the aim of being exhaustive, some of these challenges are explained below.

### *2.1 The continuous pressure of “Fitness for use”*

In recent years, there has been an increased demand by users for more focused (small area) statistics, as well as for data which allow to respond to analytic rather than descriptive purposes, and be integrated with other information sources in order to present comprehensive and coherent statistical pictures of phenomena (Holt, 2007). At the international level, globalization and the increasing intertwining of societies have also heightened the need for statistics to be comparable across countries, and to address –besides regularly measured phenomena– new and/or more complex subjects, such as global value chains, governance, rule of law, etc.

For statistical data to be considered relevant and useful, they must meet the information needs of their public and private sector users, and specially be produced with opportunity. Official statistics are often viewed as too costly and not timely particularly by government officials, who –according to their political timetables– consider that it takes statisticians too much time to provide information to address public policy questions.

Hence, NSOs are challenged to respond to these pressures for timelier, higher quality and more comprehensive and disaggregated statistics, as well as to work in partnership with users in order to effectively provide them with statistical information fitted to their necessities (Habermann, 2014).

### *2.2 Methodological and financial constraints*

While the demands for more and better statistics are rising, some aspects of the environment in which NSOs perform their work are however continuously becoming more complex. To give a few examples: response rates are falling; to carry out surveys and population censuses is now increasingly problematic as there is each time less public acceptance to respond to questionnaires. Moreover, people are currently more mobile (both nationally and internationally), and hence the relation between the individual speaker and a single space of residence is becoming more tenuous. This population’s geographic mobility has important implications on the use of the sampling method and thus to the representativeness of many statistical products, as households are usually employed as the main way of sampling people (Holt, 2007). On the whole, these changes make more difficult and costly for NSOs to compile quality statistics.



In addition, budgets allocated to the production of official statistics are constantly under severe attack, shrinking in many countries. As in order to be able to undertake ambitious statistical projects, NSOs need to have the necessary technical capacity and recruit expert staff, the procurement of sufficient financial resources is crucial to assure the development of their activities. Besides, let us not forget that budget procurement implies competition for resources among different institutions, and thus requires NSOs to have the capacity and ability to compete for them.

### *2.3 Emerging needs for statistical information*

At the international level, NSOs will face soon the challenge of providing data to monitor the progress of the goals of the United Nations' Post-2015 Development Agenda. NSOs will have to collect statistical information on a more complex and multidimensional array of subjects, such as social capital, inclusive growth, sustainable development, climate change, gender equality, etc.

Acknowledging that the current traditional sources of official statistics are not sufficient to produce all the data to track the progress of the Post-2015 Development Agenda, the United Nations has called for a “data revolution”, i.e. for a series of sound, sustained, and transformative actions in the production and dissemination of statistics that will allow to respond to the information demands of the development agenda (ECOSOC, 2014a). In practical terms, among many other aspects, the “Data Revolution” implies the development in each country of the statistical capacity to enable national statistical systems (NSSs) to move from statistics older than 2 years to near real time data, from printed information to open (easily accessible) data; from only governmental sources of information to multiple sources, and from traditional sampling statistical products to the use of big data (Suryamin, 2014).

### *2.4 Integration of external sources of information*

Regarding the last element mentioned above, NSOs should examine the potential benefits and suitability of integrating in their production of statistics external sources of information that have until now either been underutilized –for example, administrative records– or not been used at all –such as big data– (ECOSOC, 2014c).

Collecting information through traditional statistical instruments –e.g. censuses and surveys– is costly, takes a considerable amount of time and, as it was previously referred, has become increasingly difficult because public response rates are falling. The use of external sources of information could complement, reduce or even replace these instruments of data collection, and on the whole enrich NSOs' provision of statistics. Nonetheless, the use of administrative records and big data for statistical purposes will require NSOs to sort out diverse methodological, technical and financial challenges.

Concerning big data –the massive amount of digital information generated by information and telecommunications technologies (ICT)–, in order to be able to use them, NSOs need to develop new tools and methods for analysing, selecting and processing efficiently an enormous volume of information. They also have to address complex issues concerning how to get access to corporations for this source of information, obtain financial resources to invest in the development of technological capacity, protect privacy and ensure quality (ECOSOC, 2014b)

To approach these issues, some countries and international organizations have already started to carry out pilot projects using big data as a source for official statistics. Mobile phone and social media data have been used to explore –*inter alia*– seasonal changes in migration patterns, real-time food prices, daily mobility within cities and population displacements after natural disasters. For example, INEGI has been working with data from Twitter in order to produce statistics on subjective well-being, tourism and border mobility. (UN Global Pulse, 2015 and ECOSOC, 2014b)



On the whole, the nature of the emerging needs for statistical data, the increased requests for more sound official statistics, and the fast advancement of ICT, all pose significant challenges to NSOs in the performance of their job. As direct producers of official statistics and, in many cases, coordinators of the NSSs of their countries, NSOs cannot ignore these challenges and should respond to them. How to meet them and how to secure the procurement of sufficient resources to do it are, therefore, central questions.

In the next section, the particular context of Latin-American NSOs is analysed, using the lessons learned by the National Institute of Statistics and Geography of Mexico (INEGI) on this endeavour.

### **3. Challenges for Latin-American NSOs**

To address the current challenges on statistical information necessarily requires the development of the statistical capacity of the countries, a task for which not all NSOs are equally prepared and which certainly goes beyond traditional projects.

In the case of Latin-America, many of the nations are currently facing the challenge of properly measuring complex phenomena (e.g. those related with the post-2015 development agenda) or making use of massive sources of information (such as big data) without sufficient resources, and sometimes also without having developed yet the capacity to address more traditional needs for statistical information.

Before developing ambitious statistical projects, Latin-American NSOs have to solve some basic questions related to their status in their own countries, namely the securing of a sufficient budget and the recruitment of talented people. Both indispensable elements before trying to attempt higher or more sophisticated projects. For this purpose, Latin-American NSOs should focus on establishing their relevance providing statistical data with value to the public and private users of information within their countries. In particular, they should try to meet the necessities of information of public policy makers, as the possibility of accessing more resources in the national public budget increases if the statistics produced by NSOs are considered useful not only for general purposes, but most importantly to address complex public policy problems.

How to make yourself relevant to public-budget decision makers is then the gist of this situation. First and obviously, the starting condition would be the production of quality statistics. But there are also some practical measures that need to complement it. Two of them deserve to be mentioned: 1) by being as autonomous as possible and free of political interference in the production of statistics, as this gives credibility to NSOs' work. If the autonomy of the statistical agency is guaranteed by law, the better, however this is not always possible as it requires a lengthy political/legal process. In any case, it is indispensable that professional independence is guaranteed in some legal form and defended by all NSOs. 2) By institutionalizing national statistical systems coordinated by the NSOs where all main producers and users of information can participate in the development of statistical projects that reflect their information needs.

The National Institute of Statistics and Geography of Mexico (INEGI) is by law an autonomous agency charged with the responsibility of both producing official statistics and coordinating the efforts of all other governmental producers of data that integrate the NSS of the country. In its role of coordinator, INEGI has striven to become a guarantor of the quality and usability of the information produced by the institutions that integrate the NSS, and has gotten involved in their data production – through providing technical support to governmental agencies, jointly developing statistical indicators, promoting the use of quality standards, etc.

In order to achieve a better coordination, INEGI has created Specialized Technical Committees (STCs) on a wide array of economic, social, geographic and environmental subjects (more than 35 at this time). These STCs are comprised by representatives from diverse government agencies from the



federal, state and municipal levels (as Mexico is a Federal State), academics, non-governmental organizations (NGOs) and other interested entities. Every STC is chaired by the government institution considered the main producer or user of the information concerning the committee, and INEGI functions as technical secretary and coordinator of each of them. Examples include the Head of the Budget Unit of the Ministry of Finance who chairs the STC on Government Information, and the Deputy Attorney General for International and Legal Affairs who chairs the STC on Prosecution Information.

In these committees all emerging needs of information, new proposals of statistical instruments, improvement to previous ones, methodologies and indicators are discussed and analysed. This coordination has proved very useful for the development of INEGI's projects. On the one hand, it has allowed the Institute to better address the needs of users (particularly of those involved in public-policy-making processes) by integrating them directly in the discussion of INEGI's statistical projects. And, on the other, it has helped it to disseminate among public sector users the importance of producing quality official statistics, and hence of allocating budgetary resources to foster their development.

Overall, INEGI's experience in this process of coordination and collaboration with national stakeholders has provided the Institute with two important lessons:

### *3.1 NSOs can play a crucial role in capacity-building for their countries*

As the agencies responsible of producing official statistics and coordinating the activities of the NSS of their countries, NSOs are in a position to envision the development of the national production of statistics, take the initiative to measure new relevant issues and convoke all public stakeholders producing data into this endeavour. The coordination among the NSO and these stakeholders is undoubtedly one of the main elements for building the capacity to produce quality information on new issues. It requires the NSO to establish effective means of collaboration, promote the use of international standards and quality criteria, mechanisms of transmission of data, etc.

In this sense, the capacity of a country to address the current challenges of official statistics, although clearly determined by diverse circumstances, can be considerably influenced by the ability of the NSO to coordinate and promote this endeavour; i.e. on its skill to convince state agencies –with different priorities and frames of reference– about the relevance of working together in the production of high quality statistics and, most importantly, of investing in the development of this activity.

### *3.2 NSOs' multiple roles*

Besides their functions as producers of information, coordinators of statistical activities and promoters of quality and technical standards, NSOs should also perform the key role of “marketing” among public sector users the importance and value of official statistics. NSOs and their chief statisticians should get close to public officials –particularly those involved in public policy decision matters– to know what their necessities of information are, and consequently produce statistical data that meet their needs. They should invest time and resources in explaining the benefits of this information and teaching public officials how to use it, since –as it was mentioned at the beginning of this paper– the extended use of statistics translates directly into relevance for the NSOs' work.

As the amount of budgetary resources to which many public institutions pretend to access is limited, and the development of statistical activities strongly depends on the resources that are allocated to them each year, to provide statistics with value for users and to “market” their importance are not trivial functions of NSOs and their directors. The latter's main role in the end is to make their agency indispensable to the people making public policy decisions. This is the best approximation to a sure-fire access to budgetary resources.



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