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How national statistical systems adhere to the core values of official statistics

Reflections on the need to update core values of national statistical offices

Prepared by Canada

Summary

This document presents Canada's initial contribution to the discussion and lays the foundation for continued discussions on this important topic.

This document is presented to the Conference of European Statisticians' session on "How national statistical organisations adhere to the core values of official statistics" for discussion.



I. Introduction

1. We have been living a significant period of information and data changes both in terms of society's move to a digital world and in terms of the global Covid-19 pandemic which has permanently altered ways of functioning that were previously taken for granted. These dynamic shifts in society reinforce the role of national statistical offices (NSOs) as lighthouses that produce credible information for a wide variety of decisions.
2. Society's need and demand for information has continued to increase with a significantly more acute focus on the timeliness and granularity of information because of desires to use data to develop targeted policies or precisely intervene through concrete health, managerial or political actions. In parallel to this demand, there has been a proliferation of data sources, tools and methods available to produce information. These new elements have drawn attention beyond NSOs and the statistics profession. There are now multiple actors both in public and private organisations that can and do produce various kinds of statistical information. Often the quality of this information is not known or not qualified. Thus, there is a real or apparent competition in the information space. In this context, NSOs need to be providing a clear added value.
3. The mandate of NSOs is to measure economic and societal phenomena and to inform and support evidence-based decision-making. Since society is changing rapidly NSOs must also evolve to stay relevant and credible. To maintain the trust of the citizens they serve, NSOs have built their operations and processes on core values. Given the changing context, are core values of NSOs still valid? Should they be updated? Modified?

II. The core values of national statistical offices

4. Trust and credibility are essential for NSOs to perform their work and respond to their mandate. To develop and maintain these, NSOs have been adhering to core values.
5. Over the years, there have been a number of papers and official documents that discuss the values and principles which anchor the work of NSOs. For example, the UN Fundamental Principles of Official Statistics (United Nations, 2014) present the ten guiding principles for NSOs that were endorsed by the UN General Assembly. Another example is the UN Handbook on Statistical Organizations (United Nations, 2003).
6. While there is not always a clear semantic distinction between principles and values, some papers are more specifically targeted at presenting core values. This is the case for example in former Chief Statistician of Canada Ivan Fellegi's papers on the *Characteristics of an effective statistical system* (Fellegi, 1996) and on *Pressures and Challenges* (Fellegi, 2004). These papers explicitly present the core values of NSOs and how they come into play in pressures and challenges lived by the NSOs. Other documents such as Eurostat's code of practice (Eurostat, 2017) are more prescriptive but are not very specific list of values. There are also documents and declarations about values that are targeted more at the behaviour of employees. This is the case for example with the ISI's *Declaration of professional ethics for statisticians* (ISI, 2010).
7. There is no clear final internationally agreed-upon list of core values, but there is a short list of the main ones which intersect the documents referred to above. They may be differently labelled but are generally referred to as:
 - (a) **Relevance:** NSOs are aiming at providing users with quality information that is fit for their purpose and consistent with their priorities.
 - (b) **Professional Independence:** Deciding, based on professional statistical expertise which methods and procedures are appropriate for carrying statistical programs.
 - (c) **Privacy and Confidentiality:** Safeguards are in place to: i) define and use the adequate levels of proportionality of the efforts needed to gather data to fulfil the NSO's mandate and ii) to prevent disclosure of the information under the stewardship of the NSO.
 - (d) **Using Sound Methods:** Development, implementation and maintenance of statistical and data methods are based on recognized expertise.

(e) Transparency: All aspects of the work of the NSO are public and the public and users should be pro-actively informed of these.

8. At the basis of official statistical activities is the legal framework. Whether the National Statistical System (NSS) of a given country is centralized or decentralized, it needs to have legislation underpinning it. Often (but not always) some of the values are explicitly referred to and/or part and parcel of the Act(s) that define the NSO/NSS. For example, in Canada the Statistics Act refers to professional independence and has clear and direct provisions for privacy and confidentiality. Given the general mandate of NSOs to inform society, there should ideally be a clear concordance between the mandate, the legal framework and the list of core values. To some extent, core values could even be used as guide posts for modifications to legal structures, not only those of NSOs but to a range of laws that increasingly govern today's digital societies.

9. The core values of NSOs, while perhaps not explicitly written, undoubtedly exist. However, they need to be easily understood and interpretable. While some of the values are likely solidly engrained into the culture of NSOs, others may lack specificity of language and conscious awareness by NSO staff, particularly as staff rotate in and out of the NSO. Efforts are needed to periodically renew both awareness and implementation of the values.

III. Are there new values?

10. With changes society is experiencing, the role of NSOs has been shifting. At the June 2020 Conference of European Statisticians, there was a discussion on the impacts that this shift may have on the role of NSOs and how this shift might impact values and traditions (UNECE, 2020b). The values were described as important and part of traditions but not clearly listed and defined. If core values are the fundamental beliefs of an organisation or guiding principles that dictate behaviours, they should also influence activities – they are intrinsically intertwined with the evolving role of NSOs in the new data ecosystem. In that light, questions related to core values' adequacy and sustainability were raised.

11. There are in fact numerous questions related to the core values of National Statistical Organisations:

- (a) Are the traditional core values still relevant to the new context?
- (b) Are there new values that have emerged with the digital revolution, the new demands, new data, new tools?
- (c) What are the values that compel NSOs to respond positively to demands of increased timeliness and granularity? Are these aspects relevance?
- (d) What are the differences between principles, values and codes of conduct?
- (e) Are the values still the same and the change is rather one of shifting their relative priorities?
- (f) Are there threats of some values being (unduly) reduced in importance, which could eventually affect the credibility of the NSOs?
- (g) Are we actually facing a more fundamental change in society with changes in society's values?
- (h) If so, since we are in the business of measuring society, then how to measure this change? And as we inform society about it, how can we use it ourselves to increase our adherence to the core values?
- (i) As NSOs attempt to anticipate needs to be more responsive, does this invoke other values and/or does it alter the traditional ones?
- (j) The need to keep up with change implies research involvement but it is not possible for NSOs to perform all the theoretical groundwork. As a result, would extended partnerships with academia or private organizations have an impact on the values?

Table 1
A possible broadened view of core values

Traditional values	Recent expansions of activities	Broader view of values
Relevance	Stewardship Data Services and Advice	User-Centricity
Professional Independence	Extensive Cross Collaboration in the Expanding Data Ecosystem	Informed Professional Independence
Privacy and Confidentiality of Respondent Data	Data Ethics reviews	Respect for Persons and their Data
Use of Sound Methods	Experimental Statistics Data Science	Scientific Expertise
Transparency	Data Literacy Training	Knowledge

12. An important question is whether there is an actual shift in core values, whether it might be an expansion of existing values, or a new interpretation in the context of recent expansions of activities. Figure 1 summarizes an attempt to present additional new activities of NSOs as an expansion of traditional values if they are considered from a broader perspective. For example, relevance has always been linked to users. As NSOs expand their data services from production of statistics to data stewardship (see for example UNECE/CES, 2020a) and provision of various types of data services that may not lead to official statistics, the “new” or expanded core value goes beyond relevance to encompass user-centricity. Similarly, privacy protection and confidentiality practices as core values stem from a need for adherence to a requirement – while moving to the expanded core value of respect expands this requirement role to encompass not only adherence to privacy and confidentiality of “respondents and the data they provide”, but to include greater respect for the “people and the information” provided to the NSOs. In the current expanding data ecosystem and new data sources being harnessed by NSOs, respect for people who provide information has expanded to data ethics whereby not only do NSOs respect the information provided, but also incorporates various dimensions of ethics such as respecting people’s autonomy and liberty, doing no harm, and avoiding social biases. These aspects existed in the past but have been increasingly been made much more explicit.

13. This discussion of the expansions of the core values underpins a larger discussion related to the nature and mandate of NSOs. This mandate expansion stems from increasing expectation of NSOs as data experts. In many cases, legislation has not caught up to these expectations and broadening roles. For instance, there are now acute needs for society to be provided with data services that may not be statistical. For example, NSOs are asked to produce data analyses (that may not lead to inference), to help other organizations manipulate and understand their data, to merge and manage data sets, etc. This has peripheral impacts on statistical information processes and methods but could lead to further changes in values noted above. For example, professional independence needs to be (re)affirmed when circumstances change, but professional independence cannot translate into organizational isolation of the of the NSO from the data community or from understanding policy makers’ information needs.

IV. Canadian examples of expansion of values

14. In Canada, there are several examples of the effect of modernization of activities undertaken by the NSO in response to changes in society that illustrate the recent expansion of activities which may shed a new light on the core values or a modern interpretation of their scope. Many of those examples occur in the context of the broader role as data stewards and the fundamental relevance of data in a crisis (Arora and Medhora, 2020).

15. The unprecedented situation brought upon society by the COVID pandemic altered not only the way NSOs needed to operate to provide the standard information expected from official statistics, such as employment statistics, Gross Domestic Product (GDP) and Consumer Price Index (CPI), but the pandemic also resulted in a change of the type and characteristics of statistical insights needed. It fuelled an extraordinary demand for real-time, highly disaggregated data on Canada's people, society and economy. In step with this demand, Statistics Canada responded to this relevance challenge by undertaking rapid data collection and dissemination insights on the impacts of COVID-19 on businesses and individuals. See Statistics Canada's COVID-19 – A data perspective web portal for examples of the information and tools made available. Beyond the data and insights, Statistics Canada also responded to the needs by providing data services to front line agencies dealing with the pandemic. For example, Statistics Canada used its expertise in modelling, artificial intelligence and data management to help Health Canada and the Public Health Agency of Canada work closely with the provinces and territories in order to better manage the supply and distribution of personal protective equipment. Other examples that may lie at the edge or beyond the typical mandate include mapping tool development for front-line agencies, a vaccine forecasting dashboard and rapid test analysis. Another unusual example relates to tracing COVID-19 case contacts. Statistics Canada leveraged the skills of its interviewers in Statistical Survey Operations as resource assets to help different jurisdictions across the country increase their contact tracing capacities of COVID-19 in communities. This work was done under strict rules of engagement and separate data infrastructure.

16. A user-centric approach, fully responsive and aligned around data as a service is one way of enhancing and expanding the NSO's response and interpretation of the relevance value, but it remains a reactive approach. How can NSOs anticipate needs? Or should NSOs try to anticipate data as a service need? Elements related to this question were addressed in a panel discussion in the 2019 plenary session of the OECD Committee of Statistics and Statistical Policies. The discussion revealed a "strong consensus that NSOs need to be forward-looking, seeking innovations made possible by new technology (big data; AI), and cognizant of the evolving needs of citizens and policy makers in order to be able to respond to them". Going beyond what is strictly mandated or what is budgeted for NSOs, may be justified by looking at core values with a modern and expansive lens. However, in order to take a proactive or anticipatory role, the NSO must also be aware of emerging issues which could translate into statistical information or data service needs. In that view, close and frequent contacts with policy makers and government departments are required. Thus, the value of independence must not come at a price of an NSO that is siloed or isolated. It requires sufficient latitude and manoeuvrability. Balancing the joint effort to anticipate, identify and address insights needed to inform decisions with autonomy of functions without pressure from political forces can be a challenge, but can enable nations to address issues in a timelier manner. In Canada, one example of anticipating data needs relates to a recent change in legislation related to Cannabis. In early 2017-2018, Statistics Canada began to prepare the statistical system for gauging the impact of the transition from illegal to legal cannabis use for non-medical purposes, and for shedding light on the social and economic activities related to the use of cannabis after the legislative change. This included a lot of innovative work such as the development of a cannabis framework for the national account, novel experimental collection strategy via crowdsourcing for cannabis prices and the use of new source of data via wastewater. The impact on Canadians' behaviours continues to be analysed.

17. The use of new data sources for the measurement of the impact of cannabis legislation as well as to address other data needs in the digital age raises a vast array of questions related to privacy and confidentiality. While data sources and information's needs are constantly

increasing and evolving, so too is society's view on what it wants to keep private and on what it is willing to accept to share in exchange for convenient services (including for the public good). Access and protection of data are often at the centre of both privacy legislation and statistical legislation. Beyond the legal obligations, a modern take on the underlying value related to privacy and confidentiality relates to ethics and moral obligations, which also interacts with social acceptability. In Canada, in an effort to mitigate response burden of Canadians and measure accurate spending for socio-demographically diverse households, the NSO was exploring the possibility of using banking data as a data source. This project was put on hold following an investigation from Canada's Privacy Commissioner. The investigation concluded that Statistics Canada had followed legislation in place but that the concerns of Canadians still had full merit, and that the need to access this sensitive data source should be better demonstrated. To jointly maximize the production of information and privacy protection when designing a data-gathering approach, a Necessity and Proportionality Framework was adopted in October 2019 by Statistics Canada. In its operationalisation, the framework includes consideration of the data sensitivity and of data ethics. Beyond the data gathering stage, ethical considerations in the use of modern algorithms are also part of the data life cycle at Statistics Canada. A Framework for Responsible Machine Learning Processes is in place and organised around respect for people, respect for data, sound application and sound methods. These exemplify changes in activities that better inform of statistical activities in a transparent manner while clearly demonstrating respect for people.

18. A key aspect in the development of the two frameworks mentioned above is the scientific approach. Statistics Canada has always used, developed and advocated for sound methods, including by editing and publishing the scientific peer-reviewed journal *Survey Methodology*. To further demonstrate this value, it explicitly adopted the scientific approach both in the projects themselves and in their management (Rancourt, 2019). To meet Canadians' need for timely and detailed insights, it further expanded its toolkit of methods (Loranger and Rancourt, 2021), embraced data science, and explored experimental statistics such as experimental estimates of family weekly income and experimental indexes of economic activities in the province and territories to name a few.

19. When presenting new methods or experimental statistics, communicating the advantages of the approach, as well as any caveats, is key. Full transparency is needed. However, simply providing data, indicators of quality and limitation notes do not suffice if the users are not able to fully understand the information being provided to them. To help in that regard, Statistics Canada developed initial training related to Data literacy and is expanding its catalogue. It also launched a Data Science Network for the Federal Public Service to showcase leadership and engage in dialogue with partners across government and expanded its overall public consultation and engagement strategy. This illustrates that transparency and communication go beyond simply informing to encouraging and participating in dialogue and full engagement, as a means to strengthen the trust relationship.

V. Discussion

20. Core values are lived by NSOs and must be communicated regularly both internally and externally. Internally, it is important that all employees be aware of core values, that they understand them and that they abide by them. This will contribute to strengthening and/or maintaining a solid value-based culture. Externally, citizens, respondents and data users need to understand these values in order to have trust in the information produced, the services provided and the relationships they maintain with the NSO.

21. The relationship between the core values and the trust is key. If the core values are the root beliefs from which the organisation operates, trust can be an outcome the NSO aims to achieve. As in Fellegi (1991), this can be part of a virtuous circle; the trust or public confidence is needed to win co-operation of the public either as direct respondents or via social acceptance of secondary / indirect use of their data. This data influx is transformed into valued insight and returned back as a public good, demonstrating the "basic usefulness of what we do". Simply said, quality feeds trust which in turn enables quality. In that context,

core values can also be seen as the foundation upon which trust supports the production of quality information.

22. NSOs core values can lead to trust if their values are aligned with the values of society. Values must be public, well communicated and more importantly well understood. As well, NSOs must fully engage and understand what society values in terms of quality (timeliness for example seems to be a high priorities), in terms of privacy (what is willing to share to whom under what context), in terms of accountability and financial responsibilities (is it willing to invest in evidence-based decision making), etc.

VI. Possible ways forward

23. Core values have played an important role for NSOs. The societal changes that we have witnessed in the last few years warrant a discussion about those core values. So perhaps the traditional values are still appropriate and need re-affirming. Perhaps they have evolved and need to be actualized. Do they encompass only the statistical process or are they also inclusive of human values such as tolerance and respect for diversity? In Canada, respect for indigenous culture is increasingly at the forefront of the data and insight discussions, both in terms of full inclusiveness and representativity in national results as well as data capacity and data autonomy for the community. Responsible integration and disaggregation of data, and data ethics on its own are also areas that may deserve their rightful place in core values discussion. In order to feed / seed a discussion, a number of topics and potential activities to further study the issues related to core values and to provide concrete means to activate and/or renew them are listed below.

- (a) Core values should be clearly identified, described and defined;
- (b) A process / medium to reaffirm the core values should be determined and a communication plan developed;
- (c) Further discussion and studies should be conducted to assess whether there is a need for additional values or whether they should be re-defined; In particular, (data) ethics and responsible use of data in today's digital society should be considered for more explicit incorporation in core values;
- (d) Core values of NSOs should periodically reviewed (every 5 or 10 years);
- (e) A compendium of best practices to implement activities to enhance adherence to core values should be developed;
- (f) Idem for communication;
- (g) The distinction between principles, values and professional codes should be clarified.

VII. References

Arora, A. and Medhora, R. P. (2020). *Now more than ever the world needs data stewards*. Centre for international Governance Innovation, Big Data, Innovation Economy. <https://www.cigionline.org/articles/now-more-ever-world-needs-data-stewards>.

Canada. (2018). *Statistics Act*. Minister of Justice, <http://laws-lois.justice.gc.ca>, Ottawa.

Eurostat. (2017). *European statistics Code of practice*. Available from: <https://ec.europa.eu/eurostat/web/products-catalogues/-/KS-02-18-142>.

Fellegi, I. P. (1991). Maintaining Public Confidence in Official Statistics. *Journal of the Royal Statistical Society*, A. 154, Part 1, pp. 1-22.

Fellegi, I. P. (1996). Characteristics of an effective statistical system. *International statistical review*. Vol. 64, No. 2. Pp. 165-187.

Fellegi, I. P. (2004). Official Statistics – Pressures and Challenges. ISI President's Invited Lecture, 2003. *International Statistical Review*, 72, I, pp. 139-155.

ISI. (2010). Declaration on Professional Ethics. International Statistical Institute. Available at <https://www.isi-web.org/images/about/Declaration-EN2010.pdf>.

Rancourt, E. (2019). The scientific approach as a transparency enabler throughout the data life-cycle. *Statistical journal of the IAOS* 35 (2019) 549-558. DOI 10.3233/SJI-190581. IOS Press.

Loranger, A. and Rancourt, E. (2021). *A Tradition of Statistical Excellence Evolves, Propelled by an Expanding Tool Kit*. Centre for international Governance Innovation, Big Data, Innovation Economy. <https://www.cigionline.org/articles/tradition-statistical-excellence-evolves-propelled-expanding-tool-kit/>

UNECE/CES. (2020a). *Data Stewardship: Proposals for Way Forward*. Economic Commission for Europe – Conference of European Statisticians. Note by the Secretariat in consultation with Estonia and Ireland. ECE/CES/BUR/2020/OCT/4.

UNECE/CES. (2020b). *Implementation of the New Role of National Statistical Offices at the Time of Expanded Possibilities*. Economic Commission for Europe – Conference of European Statisticians. Note by Estonia with contributions from Albania, Canada, Ireland, Italy, The Netherlands, New Zealand, Poland and the UNECE Secretariat. ECE/CES/2020/10.

United Nations. (2003). Handbook of Statistical Organizations, Third Edition. The Operation and Organization of a Statistical Agency. Series F. No. 88. Available at: https://unstats.un.org/unsd/publication/SeriesF/SeriesF_88E.pdf.

United Nations. (2014). *Fundamental Principles of Official Statistics*. Resolution (A/RES/68/261), General Assembly. <https://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>.
