

Data Relevance: Keeping Pace With User Needs

Gordon J. Brackstone¹

Abstract: Government statistical agencies face the contradictory challenges of increasing information needs and decreasing real budgets. This places great pressure on statistical programs to adapt or quickly lose their relevance and usefulness to data users. This paper concentrates on just one of these challenges: the challenge of ensuring that the

content of the statistical program remains relevant to the evolving policy agenda of the nation. Mechanisms and prerequisites for maintaining relevance are suggested based on recent experience at Statistics Canada.

Key words: Statistical agencies; data gaps; user consultation.

1. Introduction

Government statistical agencies face many challenges in these times of major social and economic restructuring, burgeoning information needs, rapid technological change, and declining real budgets. Statistical programs have to evolve, adapt and innovate just to keep pace with the demands of the users they serve. Programs that do not adapt will quickly become irrelevant. Adaptation and change present a particular dilemma for statistical programs whose value lies not only in current measurement but also in the comparability of data over time.

The implications of these challenges appear throughout the statistical system. For example: standard classifications may no longer reflect new economic structures;

questions on family composition have to take account of new living arrangements; frameworks such as the System of National Accounts have to adapt to handle new types of transaction; interviewers should be able to take advantage of portable computers; many businesses are now accustomed to sending and receiving information electronically; new sources of trade data have to be found as customs barriers are dismantled; clearer justifications have to be given for survey questions as privacy becomes a more prominent issue; record linkage needs to be carefully controlled for similar reasons; manual operations have to be automated, re-structured, or otherwise made more efficient to meet budget constraints; and so on.

We will concentrate on just one of the challenges that arise from these changes: the challenge of ensuring that the content of the statistical program remains relevant to the evolving policy agenda of the nation. How can we ensure that the crucial information needed to guide policy decisions in critical areas is available when it is needed? How can a statistical agency preserve the relevance

¹ Statistics Canada, 26th Floor, Section J, R.H. Coats Building, Ottawa, Ontario, K1A 0T6 Canada.

Acknowledgments: The developments described in this paper were spearheaded by Ivan Fellegi, Chief Statistician of Canada. While drawing extensively on material prepared by Dr. Fellegi and others at Statistics Canada, the author alone takes responsibility for the way these developments are described.

of its programs over time? We will describe some recent experiences at Statistics Canada in addressing this challenge. But program relevance alone is not enough. The information from these programs has to be easily available to its potential users. Therefore, a related challenge, which we will not address here but which is a high priority in many agencies including Statistics Canada, is to harness technology to improve the delivery of both pre-planned and customized information products to users.

After a period of some fifteen years of declining real resources, Statistics Canada has just come through a lengthy process that has resulted in a significant infusion of funding to meet some important gaps in its data outputs. This is an unusual event in the climate of tight budgets and restraint within government that has existed in Canada, and in many other countries, in recent years. While each country has its own unique statistical system, its own machinery of government, and its own economic circumstances, it may nevertheless be instructive to identify the general conditions and prerequisites that have led to a relatively successful outcome in this case. We say “relatively” successful because only part of what was sought was approved, and the agency itself had to absorb a portion of the cost of these new initiatives.

Three key elements appear to be necessary to ensuring that the content of a statistical program remains relevant. Firstly, there have to be mechanisms whereby the statistical agency can maintain an awareness of the future needs of its users – preferably even before the users are fully aware of them! This requires close attention to emerging policy issues, and analytic assessment of the information needed to shed light on these issues. Some mechanisms that have been found useful in Canada are described in Section 2.

Secondly, the agency has to maintain a solid infrastructure for statistical data collection, processing, analysis and research. Without such infrastructure, the agency will be unable to react promptly to any recognized requirement for new data collection or analytic activities. Section 3 expands on the infrastructure needs of an agency and the importance of investment in it.

Thirdly, the agency has to generate a constituency of support among its influential users and those responsible for funding its programs. Without a sense of confidence in the statistical outputs of the agency and a belief that current resources are used efficiently, there will be a reluctance to invest in new programs. Statistics must be seen to be a good investment. Some possible measures for building this support are described in Section 4.

In Section 5 we outline the process followed by Statistics Canada to fill important data gaps and describe the particular new program initiatives that resulted.

2. Maintaining Awareness

A statistical agency typically services a wide array of users. Keeping abreast of the needs of all of them is a formidable task. Here we are primarily concerned with discerning broad areas of new information needs resulting from important policy issues, rather than specific needs for new questions in existing areas. The flexibility of the statistical system should be able to accommodate the latter without difficulty, but the former may require a substantial reallocation or influx of resources to build up the required capacity.

Statistics Canada uses a wide array of mechanisms to maintain an anticipatory awareness of users’ needs. These include both direct consultation or liaison with particular user groups, and measures of a more general or analytic nature.

In the first category, bilateral committees with major federal government departments are a prime means of keeping abreast of policy and program initiatives within the federal government. These committees, which are at a senior level, review statistical needs, the statistical implications of new policy initiatives, possible short term means of meeting these needs (e.g., cost recovered work), and, in some cases, the supply and adaptation of administrative data.

Also in the first category, and reflecting the division of powers within Canada, we can include our network of Federal-Provincial committees. In areas such as health, education and justice where the provinces have constitutional authority, we have joint federal-provincial committees at various levels to provide direction and guidance to the corresponding statistical program carried out by Statistics Canada. These committees report ultimately to a committee consisting of the provincial and federal deputy ministers for the area concerned and the Chief Statistician of Canada. For other areas, working level committees of the provincial statistical offices and Statistics Canada for each major subject area meet annually and report to the Federal-Provincial Consultative Council on Statistical Policy. The latter is composed of the official statistical appointees of the provinces and is chaired by the Chief Statistician of Canada. It reviews the work of the committees and debates cross-cutting issues affecting federal-provincial relations within the national statistical system.

Other user groups, such as trade associations, Chambers of Commerce and professional associations, are consulted through a mixture of ad hoc bilateral meetings, workshops, and the attendance of agency staff at the conferences of these organizations.

Among the more general measures, one of the most important is the monitoring of

policy initiatives being taken by the federal government. Given the lead time necessary to put new statistical programs in place, the statistical agency's ability to meet demands will always lag behind these demands if it is only reactive. It has to foresee the data requirements that may be associated with policy issues. Within the federal government, access to the policy agenda of the government is essential if the statistical agency is to be prepared to meet emerging data needs at an early enough stage, and, on occasion to influence plans and policies that could affect the activities of the statistical agency. Close liaison with policy departments, access to and review of Cabinet documents, and participation of the Chief Statistician in the briefings of Deputy Ministers are among the measures used to ensure this objective.

User enquiries, especially those that cannot be satisfied, provide very direct information on user needs and data gaps. Equally, sales figures on publications and other products that have been priced to cover production costs, constitute another direct source of information on what users actually value and what they can willingly forego.

Analytic use of statistical data is another important source of information on data weaknesses and gaps, and therefore of potential future data needs. An internal analytic capacity that can explore the limits and limitations of the agency's data is essential if the agency is to be constantly alert to new information needs and opportunities. Of course, this capacity at the same time provides valuable interpretative output to users. It also serves as a linkage to the much larger pool of analytic users outside the agency. These external analysts represent a most important user group when it comes to the identification of future data needs.

Finally, advisory committees play a key role in keeping the agency in tune with external thinking and developments. Fifteen

advisory committees exist to advise the Chief Statistician in program areas such as demography, international trade, agriculture, etc., and on cross-cutting issues such as statistical methodology and research and analysis. Members are chosen for their expertise in the various areas and represent a valuable external source of advice on how well current programs are serving user needs. A National Statistics Council appointed by the Government, provides overall advice to the Chief Statistician on policy and major program issues. Members are drawn from private business, academia, the news media, provincial governments, research institutes, and foreign statistical offices so as to achieve a balance of both subject and regional interests. Each advisory committee is represented on Council. These committees provide a wealth of knowledge and intelligence relevant to the statistical system, and often become a source of support for new initiatives by the agency.

These are some of the measures used by Statistics Canada to keep tuned in to the emerging information needs of the country. A more complete list can be found in Statistics Canada 1991. These measures are the antennae of the statistical agency; they provide intelligence about the external world. They do not prescribe how the agency should respond to this information. We return to that question later.

3. Preserving Infrastructure

In infrastructure we include, for example, a capacity for data collection and processing that can respond promptly and flexibly to additional workload from new activities, research programs aimed to keep the agency abreast of the most efficient techniques and tools available, analytic programs aimed at understanding and challenging existing data

and identifying weaknesses and gaps, conceptual standards, systems and registers that provide the frameworks within which existing and new data can be slotted, and training and human resource development activities. It represents the intellectual and physical capital of the agency.

In any organization when resources are tight there is an understandable tendency to forego that which is not necessary for immediate output – research, capital investment, new initiatives. Yet it is precisely these activities that are crucial to the future responsiveness and relevance of the organization. Statistical agencies are no exception.

Since the early 1980s Statistics Canada has experienced steadily declining resource levels. Throughout this period it has been an explicit objective to maintain necessary infrastructure. Research and analysis funding was not disproportionately targeted. In order to keep a spirit of innovation alive, and to meet new pressing data needs, funding for some new initiatives was scratched together by curtailing programs, increasing efficiency, and increasing revenues. Indeed, during this period of declining budgetary allocations, significant investments were made in some important components of infrastructure: the business register, generalized systems, human resource development and training.

The overall result of this strategy was that the agency remained well-placed to respond to new data demands from paying customers during this period, and to undertake some new programs that were approved and funded to start in 1992.

4. Gaining Support

With antennae well-tuned to recognize important data gaps, and with an infrastructure ready to provide the basis for filling these gaps, what further is needed to secure

the agreement and funding necessary to exploit this situation? Three requirements might be identified.

Firstly, there has to be a belief in the value of statistics to policy-making. Here the agency must play an ongoing missionary role to highlight and publicize existing statistics relevant to policy issues and, by implication, to identify relevant statistics that do not exist. Statistics Canada has implemented several initiatives with this objective. Letters of brief analysis are sent by the Chief Statistician to key government officials on the occasion of important data releases of which they should be aware. Presentations of statistical trends in particular policy areas have been given to the community of Deputy Ministers. These presentations, which typically bring together rather basic data in a series of graphic displays, are often greeted with enthusiasm by officials not fully aware of the rich use that can be made of existing information sources. They also serve to highlight areas of information paucity and the implications of these gaps. Careful watch is also kept on new policy and program initiatives in an effort to ensure that the corresponding statistical needs are properly reflected.

Secondly, there has to be a belief that the agency is well-managed with its existing resources efficiently used. This might be demonstrated both statistically, in terms of performance measures and productivity indicators, and anecdotally, in terms of particular management initiatives that have been successfully implemented. In either case, it is essential to ensure that these achievements are well-known among the central agencies of government.

Thirdly, the agency's technical reputation has to be strong. For this there are no easy recipes. It requires a sustained record of timely, relevant and reliable output over time. Such performance has to be supported

by a communications effort to ensure that the image of the agency reflects this performance, and to respond constructively to criticisms of the agency and misrepresentations of its outputs. Suitable internal review procedures are necessary to ensure that the outputs of the agency meet its technical standards and are appropriate for a statistical agency, e.g., that analytic studies maintain relevance while not straying into the domain of policy prescription. A reputation that has taken years to build up can be lost very quickly by one or a few mistakes. It is a fact of life that the image of the agency is as important as the reality. Relevant and accurate statistics are not useful if they are not trusted.

5. Bringing It All Together

To summarize the ingredients necessary to maintaining relevance, the statistical agency must know what information is needed, be capable of producing it, and be trusted to produce it well. With these three conditions met, there is the potential for support and funding for new initiatives. But these conditions still have to be exploited in specific situations. We will end with a brief review of the exercise recently concluded by Statistics Canada.

Statistics Canada's program was basically framed in the sixties to respond to sixties issues. Its primary focus is therefore on macro-economic indicators, such as the Gross Domestic Product, the Balance of Trade, the Consumer Price Index and on the expenditures of social programs such as income support, health and education. These issues remain very important, and it is essential that information on them remain complete and reliable. But other policy concerns have emerged that also require critical information. They include the competitiveness of Canadian industries and the factors that

affect it; the nature of interprovincial trade and its effect on constitutional arrangements; the effect on individuals of current social, health and education programs; and the structure and performance of services industries.

Statistics Canada, however, has been hard put to maintain the quality of its existing programs, let alone address these new issues. Since the late seventies, its authorized strength has been reduced by 22%, and its share of the government's operating expenditures has declined while its mandate has become more demanding because of the increasing complexity of Canada's economy and society. Through a variety of managerial initiatives, the agency has greatly improved its efficiency and reallocated 16% of its budget over the last five years. But these reallocations were applied mostly against budget reductions (which used 3/4 of them) and against initiatives, such as an overhaul of existing business surveys, which were essential to maintain the reliability of key statistical series. In addition, a vigorous program of planning and consultation eliminated lower priority programs with a good proportion of the resulting savings also being applied to the budget cuts. However, some of these savings were applied to a variety of smaller initiatives whose combined objective was to maintain a spirit of innovation. The net result has been that existing programs were weakened and new priority concerns could not be addressed.

In 1989 we began to draw attention to key policy issues that could not be properly understood without insightful statistical information. With presentations that demonstrated the policy questions for which the supporting statistical information was unavailable, we tried to stress that these were not simply Statistics Canada's data gaps, they were gaps in the information base of the government and society in key areas of

policy attention. We managed to convince six of the most senior Deputy Ministers of the urgent need to strengthen the statistical system. This group included those responsible for health, employment, industry and economic policy. Support of the Minister responsible for Statistics Canada (who also has responsibility for Industry, Science and Technology) was crucial. With this support, and with some creative funding strategies from the Treasury staff who were also supportive, the proposals were endorsed by the two Cabinet Committees through which they passed. Part of the funding strategy was direct contributions from the existing budgets of four key policy departments – a real measure of their support.

As a result of the funding secured, new programs are being introduced in five key areas:

- i. A new longitudinal survey of households is being introduced to provide information needed to assess the effect of social programs (which total \$60 billion annually – Canadian dollars, American billion!) on different population groups. At the present time, the available statistical information cannot distinguish the “transient poor” from those trapped in poverty. The evaluation of policy options requires information to analyze relationships and causality over time among the following factors: job characteristics; income and wealth from all sources, including pension plans; the desire for employment, and spells, durations and relationships of unemployment and low income; personal characteristics, including changes in family circumstances, e.g., marriage, divorce, deaths, adult children moving out; and geographical mobility.

- ii. Annual expenditures for health total \$50 billion. While existing information systems can describe in broad terms the financial and operational dimensions of health

institutions, they can describe neither the effectiveness nor the efficiency of those institutions in improving health. To assess the cost-benefits of alternative strategies, information is required on the part that nutrition, life-style, environmental and occupational risks, socio-economic status, and the use of health care services all play. A National Health Information System, encompassing a periodic survey in the health of Canadians and its contributing factors and the integration of survey records with provincial health records to correlate morbidity and treatment with economic, social and demographic circumstances, is required. It will be developed in close cooperation with provincial governments, reflecting the federal government's commitment to a national statistical system serving all levels of government.

iii. Annual expenditures for education total \$40 billion. Existing information programs provide a relatively full picture of the administration of the education system – financing, enrollment, employment of teachers and administrators – but only very scanty information on the outputs of the system. There is, for example, very little empirical information with which to determine whether the system is producing the right skills for the labour market, the extent and causes of “dropping out” among students, the effects of class size and teacher training on outcomes, and the relationship of education and training to socio-demographic and economic status. Statistics Canada proposes to develop such information, working closely with the Council of Ministers of Education. Again this would be a sign of federal-provincial cooperation in a sensitive jurisdictional domain and would contribute to the establishment of national reporting standards on education.

iv. Service industries now represent 65% of the economy and include such key sectors

as information and computing, tourism, energy exploration services and the many services to manufacturing provided by small businesses across the country. Major industrial shifts have taken place, affecting the labour skills needed, the location of businesses, and their dependence upon the goods and services of other industries. Canada's statistical system, however, has not adequately monitored structural changes, nor the production of the service industries and their contribution to overall productivity. A selection of monthly output indicators is also required to track the evolution of this sector and to permit early detection of trend changes that can significantly affect the National Accounts, and therefore our understanding of, for example, whether and at what rate we are recovering from the latest recession.

v. There is a critical information gap concerning the functioning of the Canadian economic union. The last time we measured trade among provinces, a key indicator of the strength of economic links, was in 1984! Funding has been received for one year only to carry out a survey and a full analysis of interprovincial trade. We will be seeking extensions of this funding because Canada certainly will need to monitor the effect over time of the removal of barriers to interprovincial trade.

vi. The environment is close to the top of the national agenda. While some modest contributions to information development in this area had been made through reallocation, new funding will allow us to address a range of questions relating to natural resources, waste and pollution, and their economic effects. We hope to develop estimates of the economic value and depreciation of two of our key natural resources: petroleum and gas, and forestry. We will broaden the analysis of National Accounts to show the interaction between production

activities and the depletion of natural resources. We will develop estimates of wastes and pollutants, their management and destruction, including recycling. Finally, estimates of the expenditure involved in the protection, rehabilitation and clean-up of the environment will be developed.

6. Conclusion

The recognition of the importance of strong and comprehensive statistics to policy discussion is an important achievement. The tangible result of this recognition by new funding is welcome. However, the challenge has only just begun in two senses. Clearly, we now have to deliver the new data and improvements that have been promised, and much of this is in areas where new concepts and approaches will be necessary. Furthermore, the infusion of new resources does not render us immune to further budget encroachment. We will inevitably have to

handle further budget reductions while still trying to deliver our programs, ongoing and new. And finally, we have to continue our attention to user needs, infrastructure, and reputation so that we are well-placed for the next occasion when such an initiative becomes necessary.

In parallel, attention to data dissemination systems is essential if the data, in the collection of which so much has been invested, are to be fully and efficiently utilized. To maintain satisfied users, the statistical agency must not only gather relevant information, it must also be able to make it available in a timely and useable form.

7. References

Statistics Canada (1991). *Shaping Statistical Services to Satisfy User Needs*. Conference of European Statisticians, Budapest, Hungary, March 1991.

Received March 1992