Issues related to major redesigns in National Statistical Offices

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Abstract

The challenges and opportunities facing governments and National Statistical Offices (NSO's) have never been greater. NSO's are faced with pressures that go beyond the historical requirements of providing timely and accurate information. The rapidly changing social, economic, environmental and technological concerns that require rapid understanding and solutions are exceedingly complex and often intertwined. Adding to the mix is the impact of recent global events and their inevitable domino effects into domestic economies and institutions and to no one's surprise, NSO's have not been spared. Faced with shrinking budgets, an ever growing and educated information society, NSO's will have to adapt to the opportunities brought through technology and to the challenges of delivering new information needs in a rapidly changing world. For Statistics Canada, the road ahead involves a significant modernization effort that will touch all facets of our business lines - from the development of new collection methodologies, to common software and tools, to broader access to micro data and self-serve dissemination.

As a result of the recommendations of a senior management task force in 2009, the Corporate Business Architecture (CBA) initiative was launched. It is a comprehensive review of the way Statistics Canada conducts its business, including the processes used, computer systems, planning systems and organizational structure. The CBA involves implementing measures designed to reduce operating costs, enhance quality assurance and improve responsiveness in the delivery of new statistical programs, and is mainly carried out through a number of internal projects designed to foster an environment of integration and efficiency.

This presentation will describe the objectives and key principles of Statistics Canada's Corporate Business Architecture initiative and how it is being implemented. Given the major culture shift for the organization, critical success factors such as the governance structure, regular senior management support, and the communications strategy will be outlined. The processes for monitoring and managing risks, as well as sharing lessons learned will also be covered.

 Key words: Redesign, CBA, Governance, Risks

1.   Introduction

Statistics Canada is recognized as a world-leading national statistical office that provides a unique, high quality service to Canadians. To maintain this position Statistics Canada must deliver three things to Canadians:
- information that is relevant to the current, highest priority information needs;
- information that is of a quality that is sufficient for the uses to which it will be put; and
- information that is produced at the lowest possible cost.

Statistics Canada has also been asked by the government to deliver its program with significantly fewer resources. Combined with the challenges of improving relevance while maintaining quality, this requirement has forced Statistics Canada to achieve a much greater efficiency than at any time past.

2.   Corporate Business Architecture objectives and key principles

This initiative, launched in the fall of 2009, responds in part to the challenges facing Statistics Canada by addressing significant aspects of the quality and the cost dimensions. It is a comprehensive review of the way Statistics Canada conducts its business, including the processes used, computer systems, planning systems, training and organizational structure. The elements of the original vision of the CBA will be fully implemented by 2015-16, but in its ongoing pursuit of efficiency the Agency has instituted a permanent review of its business architecture.

The continuing goal of the CBA initiative is to advance three objectives:
- A savings of 5% in ongoing operating costs that can be reinvested to maintain the quality of statistical and analytical programs;
- Enhance quality assurance through implementation of a reduced, unduplicated set of more robust systems and processes that are properly maintained and documented; and
- Improved responsiveness in the delivery of new statistical programs through streamlining of Statistics Canada's core business processes.

The following principles promote a more efficient, robust and responsive business architecture for Statistics Canada moving forward:
- A shift in culture and governance to emphasize corporately (rather than locally) optimal decision making
- Creating metadata at the beginning of every process and using them throughout the project life cycle through corporate systems
- Optimizing the use of corporate services such as informatics, methodology support and frame infrastructure, collection, data capture and imaging, statistical processing, public inquiries and dissemination
- Maximizing re-use by utilizing the smallest possible number of distinct business processes and computer systems
- Minimizing the number of software programs and tools used to support business processes, and creating more generalized systems
- Providing and encouraging widespread training on corporate business applications and tools
- Creating a strong statistical information management framework to manage statistical information holdings in a more systematic way
- Eliminating duplication of effort by examining and redefining business processes
- Focusing on Statistics Canada's core business (developing, producing and disseminating statistical information and analysis)
- Teams responsible for the development, or for the substantial redesign, of statistical programs are separated from those responsible for ongoing operations

- Expanding the use of multimodal data collection and e-Questionnaires, with a view to making electronic data reporting the initial mode of collection, as the first step of contact in a sequential multi-mode environment
- The organizational structure is in the process of being aligned to promote efficient operations

3.   How it is being implemented

The CBA is carried out through a number of internal projects designed to foster an environment of integration and efficiency.   In order to receive funding from the organization to advance these projects, managers were asked to identify the multi-year funding requirements as well as specify exactly where the monetary savings (efficiencies) would be generated. Once approved the various areas throughout the organization receive the required funding, but are also accountable to provide the monetary savings back to the corporation. A number of projects have been launched each year since 2010, for a total of thirty-three projects to date, with the cumulative efficiencies representing 3% in ongoing operating efficiencies so far. An important incentive for managers in bringing forward these types of projects is that all of the efficiencies generated through this initiative are being re-invested back into the organization to maintain the continuity and quality of our ongoing programs. Investments in CBA projects are financed as the first priority in our annual multi-year strategic planning process.

All of the projects sponsored under the CBA portfolio have defined goals and objectives that advance the implementation of the CBA architectural principles. The Generic Statistical Business Process Model (GSBPM), developed jointly by the United Nations Economic Commission for Europe, Eurostat and the Organization for Economic Cooperation and Development, was used to guide the implementation of the CBA initiative. Examples of the types of projects underway include:

- the development of an Integrated Business Statistics Program by significantly optimizing the processes involved in the production of the business statistical output, and the creation of a common processing environment for social surveys
- the integration of the Farm Register to the Business Register, and the creation of one frame service for all household surveys and the census by increasing the use of the Address Register and by complementing its dwelling information with person-level information
- the development of an integrated collection and operation environment that will replace 8 different collection environments by a single multi-mode, multi-site, generic environment
- the integration of data collection activities being conducted in various subject-matter areas into the corporate data collection service
- a comprehensive review and streamlining for all administrative processes (Human Resources, Finance, Administration, etc.) including an information technology-enabled analysis of automated business solutions aligned
- Statistics Canada is strengthening its rules and processes for enforcing reuse of concepts, methods, business processes and systems, and achieving consistent use of classification systems

All new projects must undergo a review to ensure they are in compliance with the Corporate Business Architecture principles and aligned with corporate priorities. Statistical methods used must be reviewed and approved by the methodology service which also plays a leadership role in promoting common methodologies. The systems Architecture Review Board is moving towards minimizing the number of

systems and applications being maintained. The use of generalized systems is being prescribed. No program is allowed to develop functionality already available through a generalized system unless approved by the systems Architecture Review Board.

4. Critical success factors

From the outset, the Corporate Business Architecture initiative was clearly endorsed and supported by the Chief Statistician and Statistics Canada's highest governing body, the Policy Committee. A high level of commitment and determination to succeed was conveyed, and staff were strongly encouraged to embrace the initiative and work to move the agenda forward. A key to success was extensive communication within the organization and the provision of the 5-year corporate vision to all staff from the beginning.

A senior management committee, reporting to the Policy Committee, was created with a mandate to drive the initiative forward, develop the general plan, review and approve specific initiatives, monitor progress, and assess and capture efficiencies. A secretariat was also created to support the initiative and the ongoing work of the management committee. The CBA Management Committee is comprised of senior managers from all sectors within the organization, is co-chaired by two Assistant Chief Statisticians and meets bi-weekly. The committee has direct access to the Chief Statistician and Policy Committee which ensures that barriers impeding progress are quickly discussed and acted upon. The CBA committee monitors the implementation of the portfolio of projects monthly and must approve any adjustments or revisions to the scope, timelines, budget or efficiencies generated.

To enable a successful transition to generic tools and corporate services, as part of the launch of the CBA initiative, all Informatics Technology staff were centralized under the responsibility of the Informatics Branch, as compared to previously being dispersed locally within subject matter divisions. Informatics Branch assumed the responsibility for hiring, training, evaluating, and deploying all IT staff. A corporate project management centre of expertise was created to strengthen project management skills of Agency managers and to provide technical advice and support to project leaders.

Subject matter divisions maintained the responsibility for conducting the certification and initial analysis of data from its statistical programs, up to and including official release. Subject-matter staff working collaboratively with the survey processing divisions during data certification is essential to quality control and quality assurance.

5. Conclusion

The impact of the implementation of an initiative of this scale, that touches all segments of the organization, cannot be underestimated. At Statistics Canada, the most significant aspect was the initial culture shift from making decisions at a local level to accept less specialized solutions that are optimal at the corporate level. Communication about the reasons behind the change, how it may impact individuals or units, and how it can improve activities in the future, must be continual.

Since most of the major projects were launched at the same time, with multi-year project plans, the use of common project management tools for the monthly monitoring and reporting of changes, issues, and risks is key. Currently the highest project risks are related to interdependencies between some of the largest CBA projects.

For this type of change at across the organization, Statistics Canada relied on the flexibility and mobility of staff within the organization. Employees needed to be willing to adapt to new tools and participate in training. Is it very important throughout all stages of such a major transformation to encourage innovation in all aspects of the work, involve staff at all levels of the organization as much as possible and listen to the concerns raised by staff. At Statistics Canada, more and more employees are contributing actively to the successful implementation of the CBA initiative. Employees are working together, finding ways to share tools, systems and programs. Different teams are sharing information and innovating to devise common work platforms. Many of those employees are benefiting from the changes brought about by the CBA and the resulting new opportunities. A number of employees have been able to act on these opportunities to learn new tasks and acquire new skills, and position themselves well for the future.