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CENTRALISING DATA COLLECTION AT STATISTICS CANADA

Working Paper

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I. Introduction

1. In 2007, Statistics Canada underwent a review of all activities, processes and systems related to data collection and as a result in 2008 the Collection Business Architecture project (cBA) was launched with the expected outcomes to be realized by the end of the 2011/12 fiscal year. The cBA was a strategic streamline initiative lead by the Collection and Regional Services Branch (CRSB). This “business architecture” derived from the “Overview of the Strategic Vision for Statistics Canada Collection” tabled in 2007 lead to another initiative: the “Corporate Business Architecture”.
2. The objective of the project was to review business processes in search of improvements and savings related but not limited to the restructuring of collection activities. The project committed to finding savings for the department in the order of \$2 million dollars on an on-going basis. This was accomplished by eliminating redundant capacity, exploiting new technology to reduce information technology infrastructure, and integrating infrastructure from household, business and census surveys.
3. In order to achieve the goal of a more robust, timely and efficient collection service, a single point of accountability was established for the collection program, an integrated planning function, a single organizational entry point for clients seeking collection services and an integrated collection platform. Collection Business Architecture modernized systems and restructured business processes. It realigned some activities between collections (CRSB) and Operations & Integration Division (OID) and moved about 100 business surveys from head office to the regional offices.
4. Between April 1st, 2008 and April 1st, 2011, cBA fundamentally changed how collection is done at Statistics Canada, allowing a savings of \$2 million annually starting in 2011/12. Organizational efficiencies were maximized while maintaining or improving response rates and the timeliness wherever possible. This was achieved by:
 - Greater use of Statistics Act Employees (interviewers);
 - Reduction in the overall collection infrastructure through the integration of business and household survey work;

- Reduction in coordination and infrastructure costs such as the centralisation and reduction of servers supporting collection and reducing a number of redundant collection platforms;
- Replacement of terminals with network computers;
- Centralised testing and the reduction in development time for survey applications.

II. Environment

5. At the time the project was launched, external clients went to various divisions within the organization to get costing estimates, advice on collection modes, systems and processes to use for their surveys, etc. As well, data collection was not only conducted in the regional offices by interviewers, but also in subject matter areas by various employees within their respective divisions. In head office, there was also a unit responsible for collection activities that were staffed by clerical personnel involved mostly in the collection of business surveys though they also performed clerical duties such as data capture and mail outs to respondents.
6. At the start of the project, there was lack of buy-in from employees at all levels including senior managers in the subject matter areas as well as from the collections and operations branch. Concerns were raised over the proposed systems and infrastructure, the loss of control by not being able to physically “walk down the hall” and meet with collection managers, monitor collection activities on a daily basis through on site observation, and the perceived lack of capability of interviewers in the regions to conduct these complex surveys.

III. Governance

7. The project was guided by a steering committee chaired by the Assistant Chief Statistician responsible for the collection branch and with representatives from the various fields within the organization involved/impacted in the restructuring of the collection organization. The mandate of the steering committee was to facilitate the project objective by reviewing proposed initiatives and suggesting alternative or new approaches.
8. It also included a project charter, project schedule that was continuously updated, risk management, change control, issues and risks logs, adhoc reports and presentations, weekly team leader reports and meetings. As well all collection accountability in the organization was assigned to the Director General of the CRSB. Clear governance was one of the cBA objectives and it contributed greatly to the success of the project.

IV. Applied Process

9. Various working groups were set up to explore the project themes identified to plan the roll out of the project. These themes included office space, systems and hardware infrastructure, collection activities and processes, impact on employees, communication across the organization and change management, to name a few. Each working group was to look at the current situation, identify options, make recommendations, measure the impact of the change and identify risks and benefits.
10. The project examined the activities, process flows and skills associated with front-line collection to determine if the activities performed by the clerks in head office could be efficiently and appropriately assigned to regional interviewers.
11. Required changes were identified in our systems infrastructure allowing the regional offices access to these surveys and determine the technical requirements to accommodate this need.
12. An examination was completed of the technical feasibility of moving some or all of the business surveys from H.O. to the regional offices. Systems and technical impediments were identified along

with the investment required to enable regional offices to access these surveys. One of the challenges was that over time the surveys had been developed by various divisions, using their own tools to perform collection activities, whether it be programs ranging from the use of corporate collection applications to Excel spread sheets. The tools developed for collection were dependent on the sample size, complexity and length of the survey, etc. and very much left to individuals working in the subject matter areas and managers responsible for collection performed in H.O. Standardization of applications and processes were not consistent across the organization. Documentation was lacking and adding to the challenge, these surveys were also housed on various servers.

13. Several options were explored and the Virtual Desktop Infrastructure (VDI) offered the most advantages. VDI is a “thin client” solution that allows the regional offices to connect into centralised servers. This device contains no moving parts and no fan. It has no memory and does not store data locally and relies on a server to operate. The operating system and all files are located on a remote server so one can log into the “image” from any terminal and retain all installed software. This technology reduces the costs both for hardware and software support.
14. To meet the requirement of a single organizational entry point for clients requiring collection services, the Collection, Planning & Management Division (CPMD) created a Collection Front Door Service. Their role is to provide data collection consulting services, co-ordinate data collection services between the collection partner divisions during the initial collection feasibility assessment stage and prepare collection feasibility reports including preliminary cost estimates and capacity analysis. This unit saves survey managers time and ensures the same key assumptions are used between the collection partners.
15. At the initial phase of the project, two front doors were set up: one for the social surveys and one for the business surveys. It became clear that this was not as effective as originally planned and it quickly became apparent that separate door processes were not consistent with each other and this brought communication challenges. It was decided to merge both front doors. One of the lessons learned throughout the project is the ability to react quickly to new processes that are ineffective and quickly make modifications.
16. Pilot tests were initially implemented, using small non-complex business surveys to ensure early success; there was a desire to quickly demonstrate that “it could be done”. The pilot objectives included maintaining or improving response rates, reducing collection costs and reduction of the collection period where it was deemed as appropriate.
17. Before moving to the regions a complete review and analysis through a Transition Impact Assessment (TIA) tool was conducted that examined each survey from various perspectives including financial considerations, systems, constraints, impact on resources, feedback from the subject matter partners, to name a few.
18. Through extensive consultation, information was collected for each specific survey or service that was being considered by the cBA project. It addressed enabling characteristics and barriers associated with the transition. It measured risks, mitigation strategies, efficiencies and the potential impact with respect to data quality, human resources, regional capacity and systems.
19. The project team faced many constraints for which they had to manage. The role of the head office and regional office collection teams had changed and there was a learning curve for both. Training tools and documentation had to be developed and delivered, requiring a careful co-ordination of activities including knowledge transfer between both groups as they were performing activities for the first time.
20. Because of an extended period of considerable change, the team had to manage employee morale while downsizing in one area and increasing resources in another. Expectations from the subject matter areas had to be managed as they were uneasy with their surveys being collected in the regional offices. There was a definite trust issue as the process required the subject matter areas to share

detailed survey information in the TIA such as procedures, budgets and quality standards. The project team was expanded allowing more time on the transition phase where required.

21. Once success was achieved on a few small pilots, a road map was developed detailing the timelines of the roll out of the surveys over a 3 year period. There was a strategic review done of these surveys to determine from which regional office(s) the survey would be collected.
22. The objectives of CBA are to improve responsiveness in the delivery of statistical programs; become more robust by reducing the number of existing systems and processes and by producing efficiencies by reducing on-going costs within 5 years while continuing to provide high quality data. It includes the mandatory use of the corporate collection service for all survey data collection regardless of mode. There is also the mandate to expand the use of multi modal collection and Web based surveys (e-questionnaire). As well, building on the first phase of the collection business architecture, all business and agriculture surveys being conducted in subject matter divisions are to be returned to collection. To date more than 150 surveys have been transferred to the regional offices with 18 more unique and complex remaining to be transitioned over by the end of 2014.

V. Communication

23. As with any large transformational project, it is imperative to communicate to all stakeholders on an on-going basis as to the progress of the project. One of the lessons learned was that we could not communicate enough. Even after over one year into the project and wide spread communication, there were many areas of the organization claiming to not know or understand the purpose of the project. This resulted in the development of various communication vehicles to ensure all those concerned were informed: various presentations were delivered across the organization; regular updates were sent out via e-mail messaging; meetings held on a regular basis with stakeholders to discuss their concerns.
24. Using an external consultant, a stakeholder analysis was completed to measure the level of change readiness and identify the stakeholder motivation level and the potential impact on the project. As a result of this analysis, an offsite was organized to validate stakeholder concerns and to fully explore the efficiencies identified in the project charter, to explore other possible efficiencies and quality initiatives, and finally to frame the future direction of collection. Some of the themes explored were: organization of infrastructure, census collection, technology, capacity, and empowering collection staff. This was a good venue for our subject matter partners to gain a better understanding of the project and to provide feedback. As mentioned earlier, trust was an issue initially with various subject matter areas – these sessions helped strengthen a mutual trust environment.
25. A cBA web site was created on our intranet site to provide project updates on a regular basis for the entire organization. It included a list of project members, project overview, project activities, presentations, and timelines.
26. Regular meetings with employees directly impacted were held to inform, seek feedback and answer questions and concerns. Regular updates were provided to our principal stakeholders on generic training applications, procedures and concepts, on data collection progress, and quality assurance and quality control initiatives. Progress, challenges and successes were reported through the governance structure.
27. The corporate collection service held an open house and welcomed subject matter partners to gain a better understanding of the new integrated service for collection including the various collection services and the advantages of the Front Door as a one stop shop service. This new service provides subject matter areas with a single contact point for collection and operation information, contacts, feasibility assessments and cost estimates.

VI. End Result

28. Though there was uncertainty at the start of the project, through hard work and determination the project was a definite success. There were significant changes brought to some of our fundamental business processes related to collection and operations. The project delivering on the efficiency objectives set out at the start of the project. The transition of survey collection activities was successful without any negative impact on quality. This was achieved greatly through the strong working relationships within the organization and from motivated individuals who were committed to its success.

29. Listed below are key lessons learned:

- Communication to ensure buy-in from all stakeholders required more effort than planned; an on-going and repetitive communication strategy cannot be stressed enough;
- A constant review of business processes is key; one cannot emphasize enough how much effort must be expended on this activity;
- The project required constant senior management attention and support ensuring buy-in by all stakeholders; without it the project would not have been successful;
- Throughout the project, several other opportunities were presented and it is easy to become distracted and move in different directions at once; it is important to prioritize and remain focused;
- A vision for collection systems was defined bringing opportunities to streamline collection. A new supporting infrastructure was identified which required the ability to deviate from initial plans. Flexibility is critical if better alternatives are found along the way
- Harvesting of efficiencies and the financial mapping proved to be very challenging; do not underestimate the effort required for this activity;
- Regional interviewers are our true front line collection experts;
- Solid human resources management is key. When such significant change is introduced affecting a large number of staff by reducing activities in one area and increasing in another, one cannot devote enough effort to ensure morale is maintained.

VII. Future of Collection (What's Next?)

30. The long term goal is to have one single collection platform for all surveys: business, agriculture, social and census. There is recognition that business processes for surveys and census have commonalities. Statistics Canada is currently in the process of building one system for all surveys: the Integrated Collection and Operations System (ICOS). This is a multi-year project currently in development that must have components ready for the 2016 census. User specifications have been developed as well as identifying functionalities that will serve both the census and all other surveys.

31. Over the last 3 years, Web based surveys (electronic questionnaire) have also been developed to provide respondents with alternative options in participating into Statistics Canada's surveys as well as to bring efficiencies in the collection progress. The focus has primarily been on developing this collection mode for business surveys, though electronic questionnaires have started to be developed for some of the social surveys which are currently in the pilot phase.

32. The collection vision is a move to increased multimodal collection capability with the predominant collection mode being Web based.