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Topic: Ethics and independence

# COMMUNICATING IS OUR ETHICAL DUTY, BUT LET'S GET IT RIGHT IN THE FIRST PLACE!

Submitted by Statistics Canada[1]

## I. INTRODUCTION

1. In his ISI President's Invited Lecture of 2003,[2] our Chief Statistician, Dr. Ivan Fellegi, presented the pressures and challenges faced by official statistics. He underlined the strategic issues of social trust in official statistics and public confidence in the quality of the data, stating that "confidence in the data is faith in the provider."

2. Declining trust in governments because of scandals, program overspending or leaders' perceived lack of integrity makes it crucial that agencies embrace their ethical duties to ensure that the information they provide is objective and of good quality, and that they be transparent with users and the public at large.

3. The Treasury Board of Canada Secretariat, in its *Values and Ethics Code for the Public Service,* reminds us to act ethically at all times so as to uphold the public trust, and that it is our official duty to make decisions in the public interest.

4. Therefore we must try to retain public trust by being transparent and communicating promptly when we make corrections to data we have released. We must also comply with the Agency's Policy on Informing Users of Data Quality and Methodology.

5. Hiding is close to impossible these days: our news media regularly request information under our *Access to Information Act,* reminding us of our ethical duty to be transparent.

6. Consequently, communicating to the wider world of users, stakeholders and the general public is even more important today. If we fail to do, so negative perceptions could compromise public trust in governments and agencies. Our reputation would be damaged: failure to communicate could be perceived as an act of bias and self-interest, hiding errors for the sake of self-preservation.

7. In the last two years, Statistics Canada has had to communicate about some minor and some substantial errors to our data users, stakeholders and the public at large, particularly an error found in our Consumer Price Index. These episodes have forced us to review completely our quality-control and communications processes. We are now working on several initiatives to better understand the situation and our vulnerabilities.

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2. "Official Statistics—Pressures and Challenges," ISI President's Invited Lecture, 2003.

8. We were forced to admit that getting it right in the first place was crucial. Excellent communication strategies are important, but to making data quality the central issue should help eliminate the need to communicate about errors in the first place.

9. In response, the Quality Secretariat was formed to promote and support the use of sound quality management practices across the Agency.

10. The following sections will review the activities and best practices we have implemented in the last two years to improve the quality of our data, lessen our need and duty to communicate corrections, and improve our communications strategies in the event of errors.

## II. QUALITY ASSURANCE PRACTICES

11. After several incidents of release of erroneous information (mainly the Consumer Price Index) prior to September 2006, we had to assess the situation. Of course, we implemented all corrective measures, including a communications plan—all in a climate of mild panic.

12. One thing was certain: we had to ensure that those errors were caught before release, and not only by the Communications Division editing team—quality control has to start earlier in the process. Our editors do catch errors, even those of data accuracy, but data discrepancies should be caught earlier in the process by subject matter reviewers or authors.

13. From September 2006 to February 2007, the Quality Secretariat conducted a Quality Assurance Practices Review, commissioned by the Agency's Policy Committee. The review started with nine statistical programs, chosen because they were deemed mission critical—they provide current indicators on economic conditions, and the quality of these indicators released is crucial to a wide range of users. The review assessed the quality control processes in place, and identified the best practices that could be promoted.

14. The review's approach was somewhat structured, comprising a questionnaire followed by interviews with the personnel on the statistical programs. In all, seven standard steps were reviewed: preparation for certification; data collection; editing and transformation of data; imputation and estimation; certification; release of data and post-release activities.

15. The findings and recommendations highlighted in the *Quality Assurance Review Summary Report, February 28, 2007* became the basis of several initiatives, such as: a training program on quality assurance (already implemented and mandatory); developing a formal 'quality incident response plan' to standardize the approach for all programs; and an ongoing quality assurance review that would be tied to each program's reporting cycle.

16. The steps just before and just after data releases are of greatest interest us because they affect Communications Division's day-to-day business.

17. During this review, it became clear that communicating data quality problems within the organization and deciding how and when to inform users needed revisiting, and standard protocols implemented and reaffirmed. Thus, several initiatives have been put in place since the release of the Quality Secretariat report.

18. Those initiatives—mainly the investigation into corrections of data releases, the review of the corrections process, the quality-assurance protocol for *The Daily* and the redesign of the Daily Builder application and its interface—will be the focus of the second part of this paper.

## III. INVESTIGATION INTO CORRECTIONS OF DATA RELEASES

19. This investigation started in December 2007, with the goal of analysing why corrections were made to *The Daily* after data were released. With the help of the Quality Secretariat, the Daily's communications team started a quality-assurance exercise, recording more systematically than before the 'pre-release' errors—those discovered before releases are published to the Agency website—and the 'post-release' errors. These pre-release and post-release errors were tabulated and analysed. The review also looked at factors affecting the accuracy of the data only, and not the other dimensions of quality (relevance, timeliness, coherence, interpretability and accessibility).

20. The analysis was organized by statistical program and organizational field, enabling efficient provision of feedback on the corrections made to all levels of management.

21. The type of errors, and where they occurred, was also tabulated: e.g., errors in data tables, text or charts, discrepancies between figures in the English and French versions of the release, and errors in the metadata. The magnitude of the pre-release or post-release corrections was examined to help assess and update our standard correction protocol.

22. The results showed that corrections were made more often before release than after, making for relatively fewer corrections after release.

23. Although the priority was to take an accurate picture of post-release errors, because they undermine our credibility, the review team decided to also pay attention to the pre-release errors. This promotes the notion that catching errors sooner lowers the possibility that content must be reloaded after release.

24. These investigations will next look at the *Daily* releases that have frequent pre- and post-release errors. This will be brought to the attention of the program managers with the goals of sharing best practices and putting in place a quality-control process, decreasing the instances of pre- and post-release errors.

25. Pre- and post-release errors will continue to be monitored, and the Quality Secretariat will report quarterly to senior management. Summary reports will also be produced at the division, branch and field level to help monitor the situation and help lower the error rates. The impact of this quality assurance exercise will be assessed at the end of December 2008, but already a decrease in errors is apparent. The real test is yet to come when the volume of releases peaks May, June and July.

## IV. QUALITY ASSURANCE PROTOCOL

26. Following the investigation made into pre- and post-release corrections, a quality-assurance protocol for *The Daily* was developed. It consists mainly of a checklist and outlines for error reports that author divisions can follow.

27. The quality assurance protocol covers activities to be followed when verifying *Daily* texts, tables, charts, data tables and related information such as accompanying analytical papers, survey numbers and links.

28. Interestingly, a large percentage of post-release errors are not of data accuracy but of related information errors or omissions, and are thus of low impact.

29. Also part of the quality assurance protocol is the outline for the error report to be provided to senior management (now mandatory). The error report must note the nature of the error, how it occurred, its significance and impact, the suggested course of action, the action taken and suggestions for avoiding the scenario in the future.

30. The protocol has proven useful to author divisions, and the error reports provide an important paper trail—very important given our human resources concerns.

## V. REVIEW OF THE CORRECTIONS PROCESS

31. In a perfect world and under perfect circumstances, we would not have to make corrections to our released data, but reality speaks for itself.

32. Releasing data on the Internet makes our data more accessible to our users but it also disconnects us from them, in that data published on our site can be accessed by anyone and an error can spread exponentially. Thus, we need a correction process to

- ensure that our external and internal users are made aware of important corrections to the data and analysis for the quality of fitness of use;
- ensure staff in our subject matter divisions and the service divisions take the onus for the errors made and bring data quality to the centre of the debate;

- ensure consistent treatment of corrections, and
- document and report on occurrences of corrections.

33. The high-level correction protocol was established: the steps to be taken are based on rapid action following confirmation of the incident. These steps are taken starting when the error or perceived error is reported: the scope of the error is determined, the error is removed and the release corrected, the corrections are approved and the web page is reloaded and, lastly, users are informed of the correction.

34. Communicating with our users and stakeholders is done jointly with the author divisions. They ensure that their clients and stakeholders are informed as promptly as possible; communication to the wider user communities, such as the general public and the media, is done by the Communications team.

35. The communications strategy to inform the users has three phases. It includes the notification for registered products, the 'My account' subscription and the expansion to other modules such as The Daily, CANSIM and the Census.

- The notification for the registered products was implemented in December 2007. Each product to be released is registered in our on-line catalogue. A notice is now put in the front page of the product, alerting users of changes or updates to the product. If the product is found through our search engine, the search engine directs users to the catalogue, where they see a message about changes or updates.
- The 'My account' functionality notifies a registered user if data of interest are available. (Users choose subjects based on taxonomy.) 'My account' was modified to permit subscription to correction notices. The use of 'My account' has been increasing: more than 1,000 new notices are requested by users each month. About 15,000 notices are sent out monthly, and 75% of subscribers are registered for 1 to 10 titles or products. To date, 'My account' covers more than 119 unique titles. The planning assumptions are to expand coverage to all 641 Statistics Canada titles by June 2008.
- *The Daily* has more than 15,000 subscribers, including journalists, provincial and territorial statistical offices, federal departments, researchers and the general public. Users can register with *The Daily* to receive a notification every time a product is released that relates to their subject of interest. To further help the communications process, before the end of 2008 a notification will also be sent to them when a correction is made to a product about which they were notified at release time.
- The Census has also added a correction area within its 2006 Census dissemination module, where notes of corrections to the data or to the metadata are published. Corrections are flagged in the text or the tables with a link to this 'corrections and updates' area.
- Finally, our database CANSIM notifies key users with a correction note via a 'data availability' link.

36. Our goal before the end of March 2009 will be to review all corrections notifications processes in order to implement a comprehensive and consistent approach, thus ensuring transparency and consistent use of all corrections mechanisms.

## VI. REDESIGN OF THE DAILY SYSTEM AND INTERFACE

37. A new initiative was launched last February to redesign our Daily system to better integrate it with the generalized systems developed by the Agency's IT team.

38. The present *Daily* is supported by a small team of very knowledgeable specialists: this arrangement carries risk, given our context of resource instability. The system redesign also offered a chance to review our requirements and make use of the latest technologies, as well as give the editing team and the author divisions an interactive tool to aid quality assurance. We call it the 'Smart Daily' project.

39. The Smart Daily will have the same features and performance level as the old system, but will also provide the author division interactive access to their *Daily* release in HTML format. Currently, author divisions make corrections on a PDF paper version; the Smart Daily will enable them to make corrections and editing alterations to their text online.

40. They will also be provided with the DAILY Text Comp tool (this tool was used by the *Daily* editing team to assist the text editing, proofreading and pre-publication quality control process, and to help identify discrepancies between the English text and the French text).

41. The tool was enhanced and was launched in April. This initiative will also provide author divisions with the means and the tools to ensure quality assurance is made prior to release. This will enable the Communications team to implement user-based strategies for getting out our data to a larger audience and to targeted audiences.

## VII. CONCLUSION

42. Our Policy on Informing Users of Data Quality and Methodology binds us to "inform users of the concepts and methodology used in collecting, processing and analysing data, of the accuracy of these data, and of any other features that affect their quality of fitness of use." All the initiatives discussed in this paper were launched to make the communications mechanism more efficient, and to improve quality control activities in order to prevent having to communicate errors.

43. Let's get it right in the first place; failing that, let's ensure that our communications strategies are solid and reach the greatest number of users.

44. It took an incident of major impact to make us realize that we should never let our guard down when quality is in stake.

45. It is better to be proactive than reactive: for statistical agencies, such incidents can damage our credibility and reputation. Without impartiality on our part and trust from our users, stakeholders and the public, it would be difficult to help make statistics a key component of decision-making in a democratic process.

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