

AN EXAMPLE OF THE CHALLENGES IN SPECIAL BUSINESS SURVEYS

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ABSTRACT

The Small Business and Special Surveys Division of Statistics Canada provides, on a cost-recovery basis, a variety of specialized data products to satisfy the needs of external clients. These products include integrated meta-data, micro-data linkages and special surveys. These projects are undertaken for clients interested in specific information that is not directly available from the standard products disseminated by the statistical agency. These projects are undertaken over relatively short time periods, with limited resources and require many participants. The primary goal of these projects is to satisfy the statistical needs of the clients. At the same time, they must adhere to the policies of the agency, which govern, among other things, the methodology used, the quality of the results, the confidentiality of the data, and the availability of information to the public.

Special business surveys face a number of challenges, including providing accurate cost estimates, finding qualified personnel and suppliers, and producing quality results in a timely and cost-efficient manner. These challenges are illustrated using an occupational wage and salary survey example. In recent years, the Small Business and Special Surveys Division has conducted a number of wage surveys. Because these surveys have been repeated, they provide an opportunity to compare different approaches to methodology and the subsequent results.

KEY WORDS: Wages; Occupation; Salary; Specialized Data Products; Special Surveys.

RÉSUMÉ

La Division des petites entreprises et des enquêtes spéciales de Statistique Canada produit, sur une base de recouvrement des coûts, une variété de données spécialisées afin de satisfaire les besoins des clients externes. Ces produits incluent des méta-données intégrées, des micro-données appariées et des projets spéciaux d'enquêtes. Ces projets sont menés pour les clients intéressés à obtenir de l'information spécifique qui n'est pas disponible directement parmi la gamme de produits habituellement diffusés par l'agence statistique. Ces projets sont réalisés sur une période de temps relativement courte, avec des ressources limitées et nécessitent plusieurs intervenants. Le but premier de ces projets est de satisfaire les besoins statistiques de nos clients. Cependant, les clients doivent se conformer aux politiques de l'agence qui régissent, entre autres, l'utilisation de la méthodologie, la qualité des résultats, la confidentialité des données et l'accessibilité de l'information au public.

Les enquêtes spéciales d'entreprises font face à de nombreux défis, incluant la production d'estimations de coûts adéquats, la recherche de personnel et des fournisseurs qualifiés ainsi que la production de résultats de qualité d'une manière efficiente en termes de coûts et d'échéancier. Ces défis sont illustrés en utilisant un exemple d'enquête sur les salaires et traitements par profession. Au cours des dernières années, la Division des petites entreprises et des enquêtes spéciales a réalisé plusieurs enquêtes sur les salaires. Étant donné que des enquêtes de ce type ont été effectuées à plusieurs reprises, elles fournissent une opportunité de comparer différentes approches méthodologiques en relation avec les résultats obtenus.

MOTS-CLÉS: Traitement; rémunération; occupation; salaire; produits spécialisés; enquêtes spéciales.

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1. SPECIALIZED BUSINESS DATA PRODUCTS

The Small Business and Special Surveys Division of Statistics Canada provides, on a cost-recovery basis, a variety of specialized data products to satisfy the needs of external clients. These products include integrated meta-data, micro-data linkages and special surveys. These projects are undertaken for clients interested in specific information that is not directly available from the standard products disseminated by the statistical agency. These projects are undertaken over relatively short time periods, with limited resources and require many participants.

2. CORPORATE CONTEXT

Statistics Canada has strict guidelines and policies for the production and dissemination of statistical information. The Small Business and Special Surveys Division must adhere to these policies when providing a product or service to an external client. These policies govern, among other things, the methodology used, the quality of the results, the confidentiality of the data, and the availability of information to the public (Statistics Canada, 1998). As well, Statistics Canada's products and services must be offered in both official languages and they must be consistent with the current statistical program. The corporate philosophy dictates that the results of statistical programs be based on facts, not on opinions.

Working within a large corporate context has many advantages, one of which is the availability of a large number of experienced service providers. For each project, all of the service providers are brought together to form a project team. These teams effectively draw on the experience and expertise of each member to bring a project to completion. As well, many other experts, including subject-matter experts and classification specialists, are available for advice and consultation, if necessary.

3. CHALLENGES

The Small Business and Special Surveys Division aims to satisfy the needs and expectations of the clients by producing acceptable results in a timely and cost-effective manner. One challenge is to provide accurate cost estimates for a new survey. Since most of the surveys conducted by the Division are one-time surveys, it is often difficult to estimate the amount of time and resources that will be required. As well, since these surveys are conducted at the request of outside clients, on short notice, it is sometimes difficult to find qualified personnel and suppliers, and

to ensure adequate continuity from one project to the next. A final challenge is to remain competitive with other statistical organizations, while operating within the corporate context.

These challenges can be illustrated using an occupational wage and salary survey example. In recent years, a number of wage surveys have been conducted. Because they have been repeated, these surveys provide an opportunity to compare different approaches to methodology and the subsequent results.

4. SURVEYS ON WAGES BY OCCUPATION

4.1 Description

In recent years, the Small Business and Special Surveys Division has conducted a number of occupational wage and salary surveys in different provinces. These surveys collect data on wages and job accessibility for a wide range of occupations. Data is collected at the establishment level, but is converted to the occupation level for processing and estimation. The results provide estimates of wages and other client-defined occupational information for a variety of subgroups, including various geographical regions, part-time/full-time work, and union/non-union work, among others. Clients often use these estimates to create occupational profiles for policy and program purposes.

4.2 Approaches and Results

Approach 1

The first wage surveys used a stratified random sample of establishments. They were conducted using a mail-out/mail-back questionnaire with a telephone follow-up, and the data were captured using an optical character reader. Occupations were manually coded to the 4-digit level of the National Occupational Classification (Human Resources Development Canada, 1993) and estimates were produced using customized estimation programs.

The results obtained using this approach were very useful to the clients, however a number of problems were encountered. It was difficult to obtain a sufficient number of observations to produce reliable estimates for some occupations. The data capture method was not reliable and a large number of imputations were needed. As well, occupation descriptions provided by respondents were often vague or ambiguous, which lead to a number of coding errors. The quality of the results was acceptable, however, there were some delays and

elevated costs. For more information about this approach, see the Alberta Wage Survey, 1996 - Methodology Report (Statistics Canada, 1996). In an attempt to reduce or eliminate these problems, a second approach was adopted in 1997.

Approach 2

The second approach used a stratified random sample that targeted potential occupations in various industries. This was accomplished using customized census tabulations that showed the number of employees in each occupation for each industry. Using these tables, it was possible to target those occupations for which there was a high likelihood of obtaining a sufficient number of observations. The survey was conducted using computer-assisted telephone interviewing (CATI), and establishments were asked to report on pre-selected occupations. The CATI application allowed for on-line editing and verification with the respondent. As well, after collection, the data were edited, missing wage information was imputed and the data were checked for outliers. Estimates were then produced using the Generalized Estimation System (GES) (DeBlois, 1998), (Statistics Canada, 1996).

This approach resulted in better response rates and more homogeneous responses, which, in turn, resulted in higher quality data, better consistency, and an increased number of reliable estimates. The coverage of the occupations was much better and was accomplished with a limited sample.

The cost estimates were more reliable and there was a better adherence to the schedule and budget, which was largely due to previous experience. As well, there was a better co-ordination of efforts by the project team to address the clients' needs and expectations. For more information about this approach, see the Prince Edward Island Wage and Salary Survey, 1998 - Methodology Report (Statistics Canada, 1998).

Approach 3

A third approach is proposed for future wage surveys. The survey will be similar to Approach 2, but it will adopt a more flexible CATI system that will include job title examples for each occupation. It is anticipated that a minimum response rate could be guaranteed. An attempt will be made to improve response rates by introducing the survey to respondents, prior to the interview, using advertisements and a mail-out campaign.

5. CONCLUSION

Wage surveys are not immune to the challenges facing special business surveys in Statistics Canada. Small Business and Special Surveys Division seeks to satisfy the needs and expectations of clients by producing acceptable results in a timely and cost-efficient manner. Accurately estimating the cost of a wage survey is challenging, however guidelines are being established based on previous experience. In an attempt to reduce cost, a more efficient method of sampling has been developed which effectively decreases the sample size needed.

It is apparent that repeating a survey provides an opportunity for improvement based on previous experience. However, most special surveys are conducted only once, and do not have the 'hind-sight' advantage of wage surveys. They involve a great deal of development work, which includes defining the conceptual framework. Because each survey is unique, it is the context of the survey that largely determines its framework. Wage surveys do, however, face the same challenges in terms of finding qualified personnel and suppliers on short notice, and attempting to remain competitive with other statistical organizations, while adhering to Statistics Canada's corporate guidelines and policies. Despite these challenges, special surveys remain an important part of Statistics Canada's activities because they produce reliable information on new topics that are outside the domain of the regular statistical program.

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