

Business Survey Questionnaire Review and Testing at Statistics Canada

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1. Introduction

At Statistics Canada, there are presently more than 400 business questionnaires including ad hoc, monthly, quarterly and annual surveys. All these questionnaires exist to collect accurate information for the various programs that require inputs of financial and commodity based data. Many of the surveys are conducted to provide data to the System of National Accounts while others are mandated to collect industry specific and financial data for data users such as the provinces. At Statistics Canada there are also business surveys conducted on a cost recovery basis for external clients. Regardless of the underlying objective of the survey, the importance of evaluating the questionnaires should not be underestimated. As well as the review and testing of new and revised questionnaires, the periodic review of existing questionnaires should be part every survey program.

Questionnaire review and testing does not occur independently of other steps in the survey process. Many constraints may limit the breadth of the survey review, the most important one being cost. The resources that are available within the survey budget limit the volume and type of testing that can be conducted. Moreover, the cost to the respondent must be considered. For large firms there is often a real cost associated with completing questionnaires since there are staff dedicated to this task. In addition, for smaller firms the impact can be measured in terms of the time required to complete the questionnaires. Consequently, response burden is an integral consideration when reviewing and testing business questionnaires. Questionnaire design takes on further importance when considering the approach taken to encourage respondents to complete the questionnaires. Although the Statistics Act mandates that respondents must report, we take the approach of persuading the respondents to complete

questionnaires. Under this scenario, the questionnaire itself plays a very important role. Overall, the challenge that Statistics Canada faces is to find the balance between the review and testing of the questionnaire and our responsibilities to the respondent in terms of respondent burden.

The purpose of this paper is to describe the considerations and issues related to the review and testing of business survey questionnaires. All new and revised questionnaires are subjected to Statistics Canada's Policy on the Review and Testing of Questionnaires (Statistics Canada, 2002). The policy is implemented fully with the assistance of the centre of questionnaire design expertise called the Questionnaire Design Resource Centre. The paper continues with a section describing the Questionnaire Design Resource Centre (QDRC). The third section describes the policy followed by a section on the guidelines with particular reference to business surveys. Examples of the application of the policy to business survey questionnaires are presented in section five followed by some concluding remarks in section six.

2.0 The Questionnaire Design Resource Centre

The Questionnaire Design Resource Centre (QDRC) is a work unit at Statistics Canada staffed by questionnaire design experts who have extensive experience in the application of testing methods. They represent the centre of expertise on questionnaire design within Statistics Canada (Gower 1991). The work of the QDRC has evolved over the years. Questionnaire review and testing focused on social surveys in the early years. Much effort was placed on improving questionnaires with particular emphasis on respondent friendliness. Over time, the centre developed their expertise in qualitative research and questionnaire review. Questionnaire testing is equally important for business questionnaires and the experience of the QDRC suggests that the same methods prove to be effective for both business and social surveys (Gower and Nargundkar 1991; Gower 1993).

The QDRC offers a review and consulting service to all program areas. They are mandated to offer assistance and guidance in the development and testing of new and revised questionnaires. The services offered by the QDRC also include conducting various testing methods such as focus groups, in-depth interviews, cognitive interviews and informal testing methods. The

questionnaire design experts will also review questionnaires and provide documentation and training in the area of questionnaire design.

3.0 Policy on the Review and Testing of Questionnaires

Statistics Canada first implemented the policy on questionnaire design in 1994. The policy was revised in 2002 and applies to all new and existing questionnaires. It has been successful in assisting program areas to test questionnaires. The current policy outlines a structured approach to the development of questionnaires for both business and social surveys. This paper will focus on the application of the policy to business surveys but in general, the aspects are applied to either type.

The policy was implemented to ensure that questionnaires are collecting accurate information and it also endeavours to ensure that questionnaires are adequately tested, easy to administer, and easy to process as well as being respondent and interviewer friendly. It can be stated that all aspects of questionnaire design that may influence the data quality are covered by the policy.

"It is the policy of Statistics Canada that:

1. All new questionnaires and revisions to existing questionnaires shall undergo testing in both official languages before implementation.
2. Program areas shall consult with the Questionnaire Design Resource Centre regarding plans for testing new or revised questionnaires.
3. The Questionnaire Design Resource Centre shall review all new and revised questionnaires before testing takes place and again after revisions have been made as a result of testing.
4. All questionnaires used in on-going and longitudinal surveys should be reviewed periodically."

4.0 Guidelines for Questionnaire Testing

The policy includes guidelines for questionnaire review and testing that have been developed to assist the program areas. They cover the aspects of questionnaire design that should be addressed as well as the methods that

are available. In addition, the guidelines outline the recommended approach to be taken in review and testing of new and existing questionnaires and are presented in a way that examines the various components of questionnaire development.

There are many ways to approach the review and testing of a questionnaire. Overall, one must consider the impact on data quality as it is related to the aspects of questionnaire design. These include the examination of the survey objectives as well as the consistency of the concepts and definitions that are used to all issues related to the questionnaire layout. The specific characteristics of the respondent are also considered when designing a questionnaire, therefore their impact must also be addressed. In addition to testing the questionnaires, there are aspects of business surveys that must be addressed. The size, type and complexity of the businesses covered in the target population may influence the overall questionnaire design and should therefore be considered when testing the questionnaires.

For each questionnaire that is reviewed, the survey manager should plan for detailed testing. The policy states that all survey managers should consult with the QDRC to obtain guidance in determining which aspects are pertinent for their questionnaires. The service offered by QDRC includes the option of having the design experts test the questionnaire or co-ordinate the testing.

There is a wide range of methods available to test questionnaires. This paper is limited to consideration of qualitative methods. The qualitative methods include focus groups, in-depth interviews and cognitive methods but one can consider the informal methods that are used in reviewing and testing the questionnaire as components of qualitative testing. These methods can be applied during the development of questionnaires and be used to test the draft questionnaires.

Questionnaires are developed in a step by step process starting with the examination of the survey objectives and information needs as well as the definitions and concepts that are relevant for a particular survey.

The policy is meant to be all-inclusive. It can be applied to any survey program as well as individual ad hoc surveys. The qualitative methods that

are part of the evaluation and testing of questionnaires are applied at various stages of the survey process and are appropriate at more than one stage of the development process. The review and testing of questionnaires is not a one step process but rather a series of phases of testing. Techniques are applied at different points in the process of developing a questionnaire, even after the questions have been drafted.

5.0 Business Survey Examples

Several experiences with the application of the policy are illustrated in the following paragraphs. Two examples of surveys at Statistics Canada are described. The first is the Biotechnology Use and Development Survey and the second is a survey program, the Unified Enterprise Survey (UES).

The examples of the application of the Policy on the Review and Testing of Questionnaires cover a traditional approach to the testing of a draft questionnaire as well as the approach used for a much more complex survey program. Our policy is broad in scope in that it can be applied to either situation. Allowing review and testing to be applied independently to different phases of a questionnaire development and to be applied independently to the different components in the case of a complex survey program facilitates this. The basic approach is that each aspect of the questionnaire development is a phase of testing and the results or recommendations of the particular phase are implemented before the next phase begins.

5.1 Biotechnology Use and Development Survey

The Biotechnology Use and Development Survey is a survey of Canadian companies involved in the development or use of biotechnology. The main purpose of the survey is to collect information to support the Canadian Biotechnology Strategy. The type of data collected covers the characteristics and activities of companies that use or develop biotechnology as an important part of their activities. This survey for an industry that has not yet standardised the concepts presented special challenges to the questionnaire developers but provided an opportunity to fully address the survey objectives and play a key role in developing a standardised set of concepts. An earlier version of the questionnaire was

based on input from internal subject matter specialists as well as industry associations and international experts in the field of biotechnology. Testing of the questionnaire was undertaken by Statistics Canada's Questionnaire Design Resource Centre. They undertook to evaluate the questionnaire with respect to the respondent's reactions to the questions. This traditional approach to questionnaire testing was facilitated using in-depth interviews as well as the review of the draft questionnaire by the staff of the QDRC (Kelly and Levesque 2000). The results of the testing led to improvements in the questionnaire. Informal testing followed the in-depth interviews when selected respondents were contacted to comment on the proposed revisions.

5.2 Unified Enterprise Survey

The Unified Enterprise Survey is a multi-industry program that collects data to input to the System of National Accounts. It is cited here as an example of various aspects of the review and testing of business survey questionnaires in a complex case. This survey program includes more than 40 questionnaires covering diverse industries and as such, has varied survey objectives. However, the program itself has two underlying objectives. The first is to provide complete and consistent data for business surveys across all provinces and territories. The second is to harmonize concepts and definitions across the full set of business surveys (Vella and Laurent 2000). In this application of the policy, the questionnaire development was a difficult undertaking and involved many phases of testing. The approach taken was to examine individual industries or groups of industries independently.

In many cases, there were existing questionnaires with additional objectives that the program had to continue to meet. At the same time, the requirement for a harmonized approach had to be considered. The basic information is financial, and standard concepts and definitions are applied. Overall, the approach was to use modules that covered a specific type of data. The modules represented groupings of similar question content, such as revenue items. For each questionnaire of the UES, the module has the same format. It is possible to have variation on the detailed level of the definition or industry specific items within the module. This allowed for the development of different versions of the questionnaire for the different industries involved in the UES. Another component of all the questionnaires

is the commodities. For each industry questionnaire, there is a basic requirement to collect information regarding the commodities and activities of the businesses. These questionnaires were tested independently employing techniques such as focus groups and in-depth interviews as well as informal contacts with respondents (Statistics Canada 1997). The trade and industry associations played active roles in evaluating the questionnaires giving feedback on the availability of the type of information requested while keeping in mind their own data requirements.

6.0 Conclusions

Business survey questionnaires at Statistics Canada have benefited from the implementation of the Policy on the Review and Testing of Questionnaires. The aim of the policy is to ensure that we collect accurate information using questionnaires that are adequately tested, easy to administer, and easy to process as well as being respondent and interviewer friendly. The examples cited are just a couple of cases where the questionnaire development and testing was integrated into the overall survey process to address the aspects of questionnaire design that impact on data quality.

References

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