



Chapter 2

Methodology

What questions did the “How’s Work Going” employee survey ask?

A custom-designed survey instrument, developed by the Public Service Commission,² measured employee opinions, perceptions, and beliefs about the work environment. The survey consisted of 50 questions, divided in the following 10 categories:

- teamwork
- employee involvement
- communications
- quality of work life
- compensation and recognition
- leadership
- personal growth
- diversity
- safety and security
- recruitment and retention

(See Appendix B for detailed survey questions.)

Each question was followed by two Likert-type scales. The first scale measured level of agreement with the survey question, on a five-point scale (1-strongly disagree, 2-somewhat disagree, 3-neither agree nor disagree, 4-somewhat agree, 5-strongly agree). The second scale measured level of importance of the survey item, on a five-point scale (1-not important, 2-somewhat important, 3-important, 4-very important, 5-critical).

Survey respondents were asked to identify the following demographic information: their department, age, years of employment experience, gender, diversity status, job level, and pay plan.

² A comprehensive literature review, review of measurement tools, and review of private and public sector surveys were conducted to assist development of the survey instrument.

Who did we survey?

All permanent civil servants and NSGEU Local 480 (Department of Justice, Adult Corrections) and CUPE Local 1867 (Department of Transportation and Public Works, Highway Workers) employees were included in the scope of this project, representing 8,162 eligible participants as of December 1, 2003.³

A census population approach was utilized to establish a comprehensive baseline of information to be used for future comparisons. All 8,162 eligible participants were sent survey packages to complete.

Of the survey population, 49% were female and 51% were male. The average years of service for the population was 11.3 years, and the average age was 47 years old. Employees were located in various locations across the Province of Nova Scotia.⁴

How was the survey administered?

The survey was launched on February 16 with a return deadline of February 27, 2004. Pre-survey employee communications, in the form of posters and e-mail memos from Deputy Ministers, encouraged employees to participate.

The survey was administered in both website and paper format. Each employee received a survey package via interdepartmental mail, which included a paper copy of the survey, an instructions handout, and a stamped, addressed return envelope.

The web survey was hosted on the external Government of Nova Scotia website, as not all government employees had access to the government intranet. To ensure the integrity of the survey data, access to the web survey required password protection. A survey code printed on each survey served as the password for the web and ensured that multiple surveys were not submitted by the same employee. To ensure that employees' responses were anonymous and confidential, survey codes were randomly assigned, printed on the paper surveys, and sealed in envelopes before being sent to the government mailroom for distribution to employees. This process ensured that it would be impossible to track a survey code to an individual employee.

³ Eligible as of December 1, 2003.

⁴ This information was accurate as of December 1, 2003.

How did we collect and analyse the survey data?

Sierra Systems Group was selected as our statistical analysis partner. In the Government Standing Offer, Sierra Systems had identified a local employee who was an expert on data and statistical analysis. The Sierra Systems consultant reviewed the survey instrument, received all completed surveys, prepared the data for analysis, and conducted statistical analysis with the Evaluation and Audit division of the PSC.

The following types of analysis were conducted with the survey results: calculation of the frequency of responses, calculation of the frequency of responses according to demographic information, comparisons and tests among survey categories, and reliability assessments.

Frequencies: For each question, we calculated the number of times that a particular response was provided. In presenting the data results for this report, we simplified the reporting by rounding the data tables to the nearest number and collapsing the groupings in the following manner:

Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Favourable Score		Neutral Score	Unfavourable Score	

We used the following scale to interpret the results and identify areas as strengths, areas for improvements, or areas that required immediate attention. We believe this will be a useful scale when prioritizing action plans.

Interpretation	Score
Strength	Favourable Scores >60%
Area for Improvement	Favourable Scores between 40-50%
Area Requires Immediate Attention	Favourable Scores <40%

The scoring framework outlined in the table above was developed to assist interpretation of the results. As this is the first government-wide survey, we felt it was important to highlight areas as strengths when more than 60% of respondents reported favourably. We also felt it was important to highlight areas that required improvements. Favourable scores of less than 50% and greater than 40%, identified opportunities for improvements. Areas that require immediate attention were identified by favourable scores below 40%. As we progress with future employee surveys, we will refine our criteria as appropriate.⁵

Comparisons: The overall results were compared to other surveys and relevant research. However, since we are comparing the employee survey results to similar questions but not “identical” questions, our comparisons are rough benchmarks. The influence of wording, timing, and survey methodologies limits our ability to compare to other jurisdictions with absolute assurance.

Testing among dimensions for statistical significance: Our focus was on identifying “substantive” relationships among categories in the survey, where the correlation coefficient was at a 0.6 level or above. The 0.6 level was chosen, as it signifies a strong, positive relationship between questions.⁶

The overall results are reported in Volume I of this report. Detailed survey results, presented by department/organization, are available in Volume II of this report.

Reliability Assessment: The reliability of the survey instrument was tested using Cronbach's Alpha measure. A reliable survey tool should obtain an alpha score of 0.70 and above.⁷ The alpha reliability score for our employee survey tool was 0.93.

Who responded to our survey?

Our target overall response rate was 40%, which we surpassed with an overall response rate of 53%. Specifically, of the 8,135 eligible respondents⁸, we received 4,334 returned surveys. Response rates in each department surpassed our target of 30%, with some rates higher than 60%. The following table outlines the response rate by department/organization.

5 The interpretation scale is similar to one used in the Government of Saskatchewan 2003 Employee Survey.

6 The Pearson correlation coefficient ranges from -1.0 to +1.0, the closer the value is to +1.0, the relationship is interpreted as a strong, positive relationship. In other words, as the number of agreement responses in one question area increases, the number of agreement responses in the other related question area will also increase.

7 Charter and Feldt (2003). “Estimating the Reliability of a Test Split into Two Parts of Equal or Unequal Length.” *Psychological Methods* 8, no. 1, 102-109.

8 Of the 8,162 surveys that were sent out, 27 were returned and deemed undeliverable (due to individuals leaving government, as an example), leaving a total population of 8,135. Of these 8,135 surveys, 4,334 were returned.

Department	Number of Respondents	Eligible Employees ⁹	Response Rate
Agriculture and Fisheries	256	419	61.1%
Communications Nova Scotia	47	94	50.0%
Community Services	527	969	54.4%
Education	152	292	52.1%
Environment and Labour	284	414	68.6%
Finance	96	189	50.8%
Health	297	571	52.0%
Justice	577	1,151	50.1%
Natural Resources	407	586	69.5%
Public Prosecution Service	44	128	34.4%
Service Nova Scotia and Municipal Relations	387	796	48.6%
Tourism, Culture and Heritage	106	191	55.5%
Transportation and Public Works	855	1938	44.1%
Other	247	424	58.3%
Employees who did not indicate their department	52		
Returned surveys-deemed undeliverable		-27	
Total Responses	4,334	8,135	53.3%

As highlighted in the above table, Transportation and Public Works employees, who made up the largest portion of the population group, also made up the largest respondent group with 855 respondents, or 20% of our total survey responses. The Department of Justice, which made up the second-largest portion of the population group, is also the second-largest group of respondents, with 577 respondents, approximately 13% of our total survey responses. The Department of Community Services, which made up the third-largest portion of the population group, is the third-largest respondent group, making up 12% of our responses, with 527 respondents.

Demographic characteristics of the respondent group were similar to those found in our overall survey population. Further details are included in Appendix C.

⁹ Eligible as of December 1, 2003.