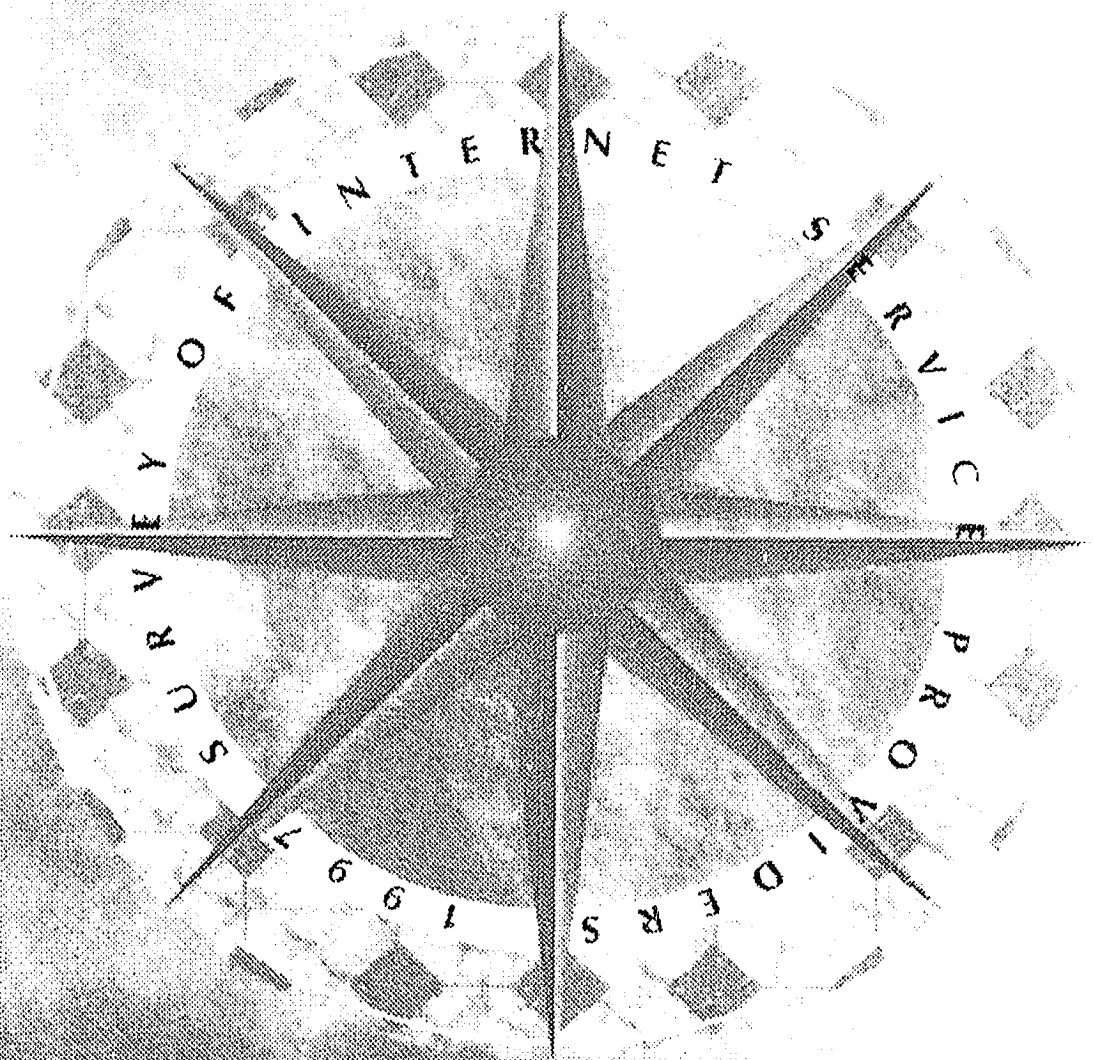
PULSE OF A NASCENT INDUSTRY

Theme I of the 1997 Survey of Internet Service Providers
Industry Structure, Composition, and Performance



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This document is also available at: http://strategis.ic.gc.ca/internet

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Executive Summary

The 1997 Survey of Internet Service Providers (ISPs) was conducted by Statistics Canada on behalf of Industry Canada in th Spring and Summer of 1998. The questionnaire captured respondents fiscal 1997 data. The survey was sent to 675 ISPs, defined as organizations that provide Internet access to the public. A remarkable 389 firms responded, for a response rate of close to 60% -- a level unmatched in the history of Canadian ISP surveys. These results provide significant evidence that Canada s ISP industry is much larger, in terms of numbers of establishments, than estimates have previously suggested.

This report represents the first major analysis of the survey results, and focuses on the structure, composition, and financia performance of the industry. Due to the comprehensive nature of the survey, and the relative lack of similar Canadian studies data are reported in several ways: by geography, by total operating revenue, by ISP revenue, by the proportion of total operatin revenue derived from ISP activities, and by business and residential customer base.

Report Highlights

- The Canadian ISP industry is characterized by hundreds of small and micro businesses generating relatively little revenue (with many earning less than $50,000 annually), and a handful of very large firms generating most of the industry s revenue.

- Revenue derived from the ISP-based activities for all survey respondents ($259 million) accounts for only 13 per cent of their total operating revenue ($1.95 billion). On average, smaller firms derive a greater proportion of their total operating revenue from the provision of Internet services than do larger firms.

- The industry is dominated by the largest players:

  - Large firms (defined as those respondents with $1 million or more in total operating revenue) account for 80% of the ISP revenue generated by survey respondents;
  - Large respondents derive an average of 11% of their revenue from ISP activities;
  - The ten largest survey respondents (as measured by operating revenue) derive an average of only 5.5% of their corporate operating revenues from the provision of Internet services.

- Respondents report serving, collectively, over 1.2 million customers (both residential and non-residential).

- Of those ISPs that serve the residential market, 88% report having fewer than 5000 residential customers.

- Residential subscriptions account for 60% of respondents ISP revenue, while business subscriptions account for 34%.

- Respondents employ a combined total of fewer than 10,000 workers in all of their business units (which include non-ISP business units).

- Respondents spent an average of $36,000 per employee on wages, salaries, and benefits.

- On average, respondents that derive all of their revenue from ISP activities spent more on marketing than respondents with multiple lines of business.

- Collectively, respondents are realizing positive profits on their operations (which include non-ISP operations); however, respondents that derive three-quarters or more of their revenue from the provision of Internet services are, on average, losing money.

- Those respondents that have adopted a strategy of capturing residential market share are, as a group, losing money on their operations. It is unclear, however, whether they are incurring a loss on their ISP operations.

- When their balance sheets are summed together, respondents report having negative net working capital, raising questions about their short-term liquidity.

Conclusions and Future Work

The Canadian ISP industry is a dynamic part of the information economy. This report shows that, although the industry is characterized by a high degree of market power by several dominant players, it is also one that is characterized by many hundreds of diverse, often niche-players, entering and exiting the market at a torrid pace. Overall, the industry is fragmented an is rapidly moving toward a phase of shakeout and consolidation.

In addition to the data described in this report, the 1997 ISP Survey produced rich results on a wide range of topics, which will b the targets of future analysis, including:

- the variety of electronic commerce and value-added services ISPs offer to their clients;
- the technologies ISPs utilize;
- the challenges ISPs face in surviving and in growing their businesses in today s marketplace;
- the ways in which ISPs are addressing the challenges of offensive and illegal content and conduct;
- ISPs views as to what is important to their customers; and
- the methods by which concerns over privacy and security are being dealt with by ISPs.

Acknowledgements

It took an enormous effort on the part of countless individuals to make this report a reality. The following people deserve specia recognition for their contributions:

Paul Pierlot for playing such an integral role in all facets of this project. Congratulations for managing the most successful ISP survey ever. Thank you for the confidence that you've shown in me and for giving me the opportunity to be part of something special.

Norah Hillary for inspiring those of us who had the extraordinary opportunity to work with you. I am eternally grateful for your encouragement, your support, and most of all for your friendship.

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Gilles Beaudry upon whom we all relied so heavily and who always came through, especially when it counted the most. At times, yours must have seemed like a thankless job thank you.

Louise Théoret and her collection team. We would never have achieved a record response had it not been for your phenomenal efforts. Congratulations to all of you.

Colin Fidler for being a voice of reason. I greatly appreciate your insight and your unwavering support. You were instrumental in making this report a reality.

Stuart Hoover for playing such a strong supportive role in the completion of Theme I, and for being a key part of the editing and publishing processes. To you from failing hands I throw the torch . . .

Keri Tremblay and Anik Boileau for helping to contact the ISPs and build the mailing list. Your painstaking efforts went neither unnoticed nor unappreciated. Who would have imagined that we would be part of something so grand?

Alison Pye for your amazing work in posting the preliminary survey results in the face of relentless pressure.

Barry Bell for your work with graph translation and desktop publication of the report in its final stages.

The editing team, who took the time to read and offer feedback on this report: Paul Pierlot, Stuart Hoover, Colin Fidler, Cimeron McDonald, Sylvain de Tonnancour, Daniele Chatelois, Gilles Claveau and Safia Morsly.

The Canadian Association of Internet Providers (CAIP) and the British Columbia Internet Association (BCIA) for promoting the 1997 ISP Survey to their members.

Special thanks go out to the survey respondents for taking the time to complete a comprehensive questionnaire. All of us who were involved with this project extend our sincere gratitude for your participation and your overwhelming response.

Finally, thank you to everyone at Industry Canada and Statistics Canada who was involved with this project behind the scenes.

I am greatly indebted to you all.

Kris Khanna
March 1999

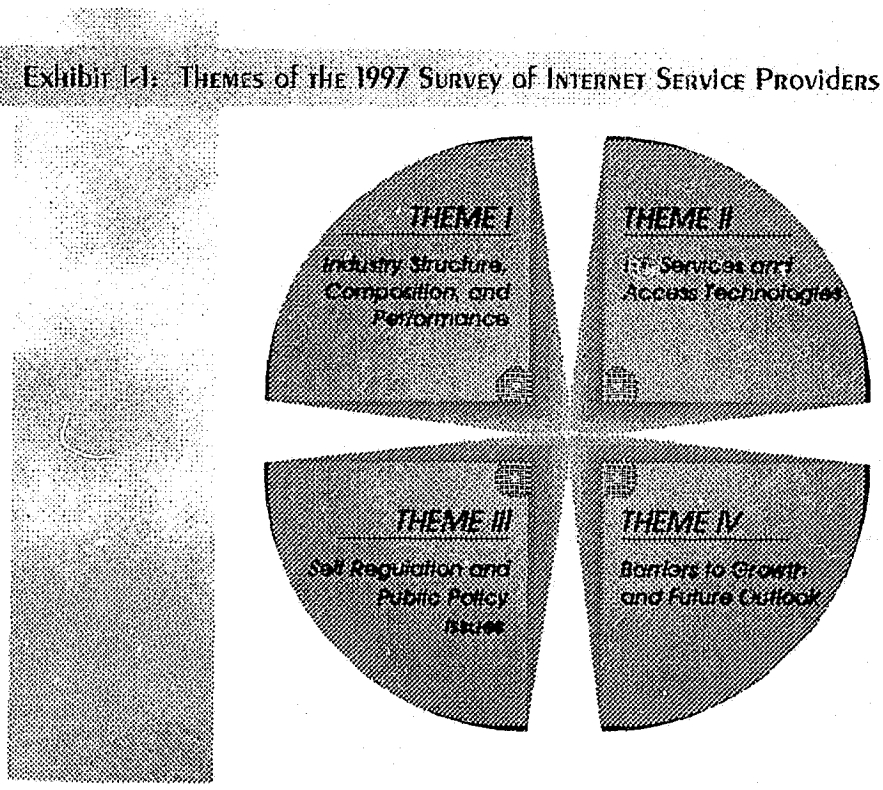
1.0 Pulse of a Nascent Industry

Internet Service Providers (ISPs) are fast rising to a place of prominence in Canada s information economy. Their services enable Canadians to participate and compete more effectively in the digital marketplace by connecting them to the Internet the heart of the knowledge-based economy. But while they play an increasingly important role in connecting Canadians, relatively little is known about the nation s ISPs.

This survey theme is the first in a series that aims to shed some light on this rapidly emerging industry. It offers insight into market structure and composition, and provides a penetrating look at the financial performance of respondents. Further, it takes a multi-faceted approach to reporting firms responses an approach designed to give corporate leaders, policy makers, analysts, and educators a clearer picture of the ISP industry and its future course.

The diagram below illustrates the interrelationship between this theme and the remainder in the series. Collectively, these works will form the most comprehensive study to date on Internet Service Providers in Canada. In short, they are designed to take the pulse of a nascent industry.

Exhibit I-1: Themes of the 1997 Survey of Internet Service Providers



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2.0 Methodology

This study reports the findings of the 1997 Survey of Internet Service Providers conducted by Statistics Canada on behalf of Industry Canada. The survey was carried out in the Spring and Summer of 1998, and reflects respondents fiscal 1997 data. It follows up on a similar project that was carried out by Industry Canada in 1995 and 1996.

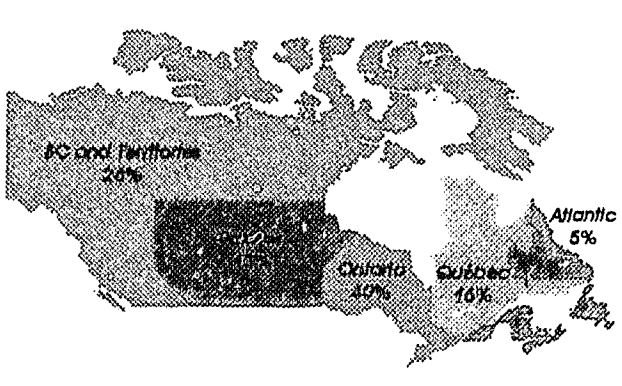
Historically, it has been common for statistics to be collected and reported at the industry level. Only firms that derive 50% or more of their revenue from activities related to an industry are classified as part of that industry. With respect to Internet Service Providers, the major drawback of this approach is that a large component of total ISP activity in Canada is carried out by firms that derive less than 50% of their revenue from ISP activities. The provision of Internet services may be a secondary activity for these firms, but, collectively, these secondary ISPs have a huge impact on the market. To address this issue, this report closely examines both industry-based and activity-based data. The survey results are reported according to the proportion of total revenue that firms derive from ISP-related activities, allowing the reader to assess the importance of secondary ISPs to the Canadian industry.

1997 industry estimates suggested that there were approximately 400 Internet Service Providers in Canada. The original strategy was to compile a list of all of these organizations for inclusion in the survey mailout. The database used for an earlier Industry Canada ISP Survey consisted of approximately 360 firms and provided a basis for amassing a master list of ISPs. Various on-line sources were used to augment this list and to ensure that as many Canadian ISPs as possible were captured.

As the on-line sources were mined for ISP names and contact information, it became clear that there were far more than 400 ISPs in Canada. In fact, by the time a master list was compiled, over 1,100 potential survey participants had been identified. Had time constraints not prevented all of the known on-line sources from being examined, it is conceivable that this master list could have grown considerably.

Every effort was made to contact each of the firms on the master list by telephone or e-mail in order to verify their contact information and to assess whether they met the criteria for survey participation. At minimum, a firm had to offer access to the Internet to the public in order to be included in the survey mailout. In total, 625 ISPs that met this basic criterion were contacted. Another 50 firms were believed to offer Internet access but could not be reached by telephone. Complete address information was available for these firms, so they were added to the list. The result was a final mailing list consisting of 675 ISPs across Canada. The distribution of that mailing list is presented in Exhibit 2-1.

Exhibit 2-1: Mailing List Distribution



It is worth noting that many of the ISPs that could not be contacted had either gone out of business or had been bought out by other firms preliminary evidence that the high level of shakeout and consolidation identified in the 1995 survey was continuing.

In June 1998, Statistics Canada sent surveys to all 675 firms on the mailing list. Telephone interviewers were employed to follow-up with each firm and to assist ISPs with the completion of the questionnaire. The Canadian Association of Internet Providers (CAIP) and the British Columbia Internet Association (BCIA) sent e-mail messages to their members, encouraging them to complete the survey. Finally, Industry Canada sent an e-mail notice to all of the firms that had received surveys to thank them for their participation and to remind them of the final deadline for returning questionnaires. This extensive communication strategy appears to have enriched overall survey response.

In total, an astounding 389 surveys were returned for a response rate of nearly 60% almost twice the response rate to an earlier Industry Canada survey, and the highest known return rate to any Canadian ISP survey. While the actual number of firms competing in Canada s ISP industry is still not known with certainty, it is safe to say that the number is far greater than the 400 that had previously been estimated.

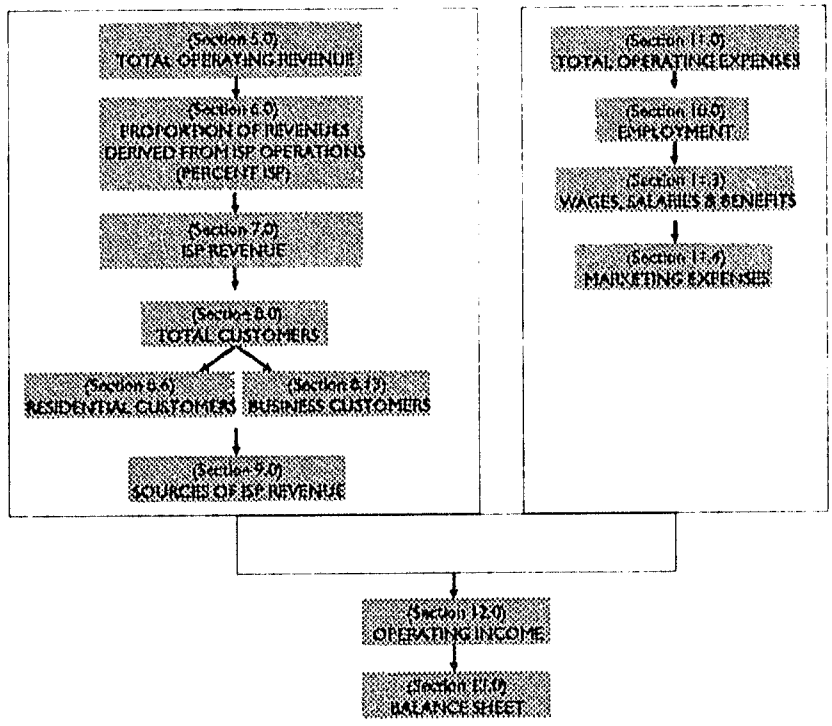
Exhibit 2-2: Respondents at a Glance

Number of Respondents:	*389*
Total Revenue from ISP Activities:	*$259 Million*
Total Number of ISP Customers:	*1.2 Million*

3.0 Organization of this Report

Theme I of the 1997 Survey of Internet Service Providers focuses on the structure, composition, and financial performance of respondents. The aim is to gain a better sense of the types of firms competing in the industry, and how their sizes, structures, and strategies affect their overall performance. With this objective in mind, Theme I has been organized to broadly parallel the elements of two key financial statements: the income statement and the balance sheet. The figure below outlines the report s structure.

Exhibit 3-1: Organization of Theme I



In an effort to relate the elements of size, structure, and strategy through each section of the report, the survey data have been segmented in the six ways shown in Exhibit 3-2. The multiple segmentation bases are intended to enhance the reader s understanding of Canada s ISP industry.

Exhibit 3-2: Segmentation Bases

GEOGRAPHY: Respondents' home region

FIRM SIZE: Measured by total operating revenue

PERCENT ISP: Proportion of operating revenue derived from respondents' ISP business units

ISP REVENUE: Revenue generated from ISP activities

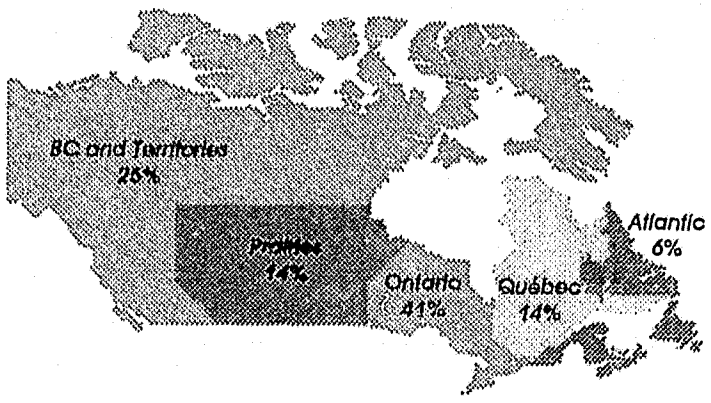
RESIDENTIAL CUSTOMER BASE: Number of residential customers served by respondents

BUSINESS CUSTOMER BASE: Number of business customers served by respondents

4.0 Geographic Distribution of Respondents

The survey captured ISPs from every province and territory. In order to assess how regional conditions affect the performance of ISPs, respondents can be grouped along geographic lines. Geography also provides a natural basis for reporting, and allows for comparisons between this survey s findings and the results of related surveys. Exhibit 4-1 illustrates the distribution of respondents by region.

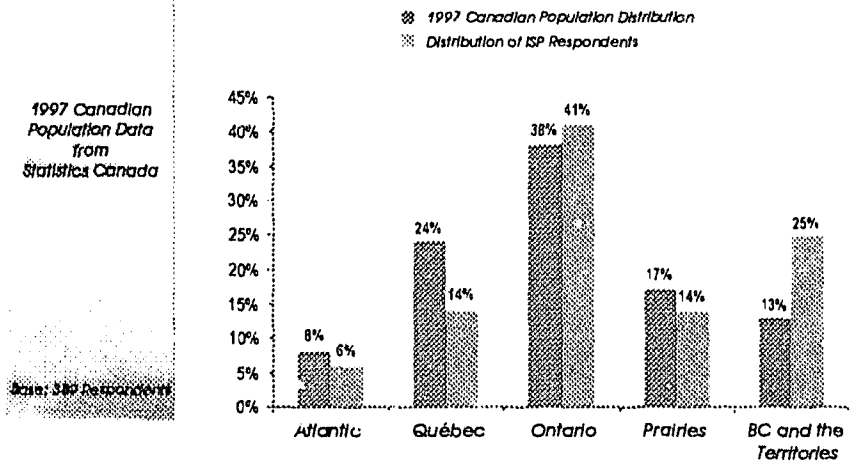
Exhibit 4-1: Geographic Distribution of Respondents



As noted in the methodology section, the actual number of firms competing in Canada's ISP industry is not known with certainty. Moreover, there are no accurate estimates of the regional distribution of ISPs across the country. Consequently, it is difficult to determine whether the distribution in Exhibit 4-1 is truly representative of the ISP population as a whole. The rapid entry and exit of firms competing in this industry only compounds the problem of estimating the ISP population.

One way to gain a sense of how well each region is represented is to compare the distribution of respondents to the Canadian population distribution, as shown in Exhibit 4-2.

Exhibit 4-2: Comparison of Canadian Population Distribution and Respondent Distribution



Relative to the Canadian population statistics, ISPs in Ontario and British Columbia and the Territories appear to be over-represented, while those in Atlantic Canada, Québec, and the Prairies appear to be under-represented. The over-representation of ISPs in BC and the Territories was not entirely unexpected. There was a relatively low response rate among BC ISPs to the 1995 Industry Canada ISP Survey, so a conscious effort was made to send questionnaires to as many BC ISPs as possible for the 1997 survey. The result was overwhelming, with firms in BC and the Territories accounting for one-quarter of the respondent base.

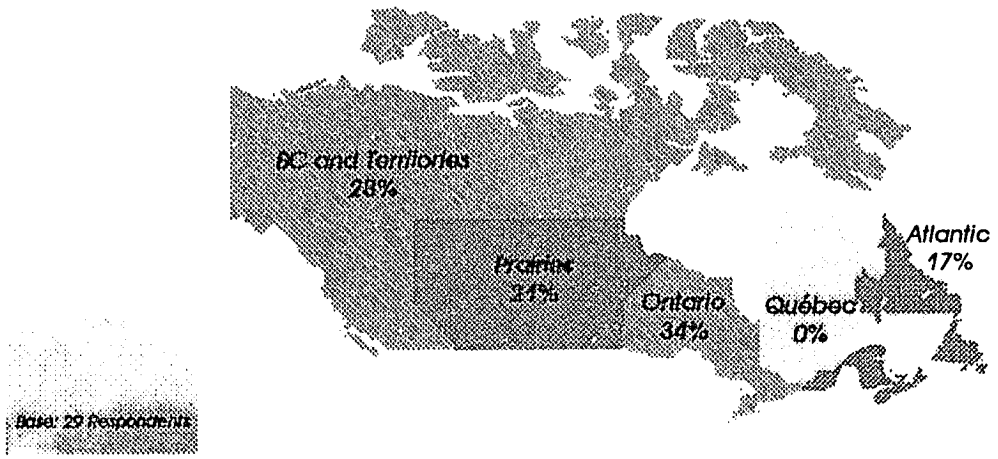
In contrast, a smaller proportion of Québec-based ISPs responded. The relatively low Québec response rate may, in fact, reflect the actual state of Internet use in Québec – that is, supply may be mirroring demand. Demand-side surveys, for example, consistently reveal that Internet use and household penetration is lower in Québec than in other regions of the country. In its 1997 *Household Facilities and Equipment Survey*, for example, Statistics Canada found that just over 8% of Québec households had access to the Internet, compared to the national average of 13%. Similarly, ACNielsen's 1997 *Canadian Internet Survey* showed that Québec had a smaller proportion of Internet users than any other region of the country.

It may also be the case that proportionately fewer Québec ISPs registered their company names with the on-line directories that were used to build the survey mailing list. As with the Canadian population of ISPs, it is not known with certainty how many Québec Internet Service Providers actually exist.

4.1 Geographic Distribution of FreeNets and Non-Profit Organizations

Of the 389 survey respondents, 7.5% reported being FreeNets, Community Networks, or non-profit organizations (NPOs). The geographic distribution of respondents outlined in Exhibit 4-1 does not change appreciably when these firms are removed from the respondent base. A regional breakdown of FreeNets and NPOs is presented in Exhibit 4-3.

Exhibit 4-3: Geographic Distribution of FreeNets, Community Networks, and Non-Profit Organizations



It is not known how representative this distribution is of the actual population of FreeNets and NPOs; however, it is reasonable to assume that there are more FreeNets based in Québec than were captured by this survey.

5.0 Corporate Operating Revenues

5.1 A Note on Operating Revenues

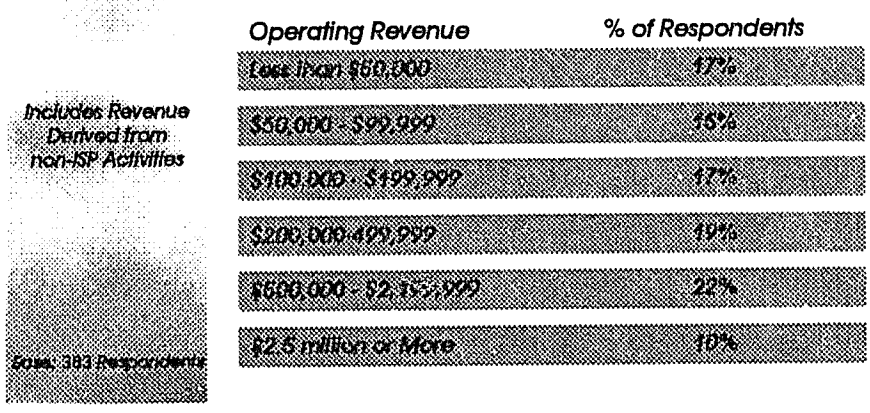
The terms ***operating revenue***, ***total operating revenue***, and ***firm size*** that are used throughout this report refer to the revenue that respondents generate from ***all*** of their corporate operations. These measures include, therefore, revenue derived from activities other than the provision of Internet services. The revenue that respondents generate from their ISP business units alone is discussed in Section 7.0 of this report, entitled *ISP Revenue*.

5.2 Distribution of Respondents by Total Operating Revenue

As stated in the methodology section, any firm that, at a minimum, offers Internet access to the public was considered an ISP for the purposes of this survey. Many firms that offer ISP services, however, do not derive the bulk of their operating revenue from ISP activities. A respondent s primary line of business may be the provision of telephone or cable television services, software development, retailing, consulting, or even transportation.

The revenue figures presented in Exhibit 5-1 reflect the total revenue that respondents generate from ***all*** of their corporate operations, not only from their ISP business units. As such, they serve as a measure of overall firm size, rather than firm dominance in the ISP industry specifically.

Exhibit 5-1: Distribution of Respondents by Total Operating Revenue



Respondents were fairly evenly distributed, with one-third of firms generating less than $100,000 in total operating revenue, just over one-third earning between $100,000 and $500,000, and the remaining third generating over $500,000. Exhibit 5-1 reveals that incumbents in the Canadian ISP industry range from the very small to the very large, and that the survey was successful in capturing firms of varying size.

Still, some large firms that were on the mailing list did not respond to the survey. In some instances, the questionnaire may not have reached the individual in the organization who is responsible for completing such surveys. In other cases, survey recipients may not have been willing or able to complete the questionnaire. As a result, large firms that compete in the ISP industry may be under-represented in this survey.

5.3 Firm Size Categories

For analytical purposes, it was deemed important to segment respondents according to the total operating revenue they generate from all of their business activities. Underlying this segmentation is the notion that respondents that are larger in size (where size is measured by ***total*** operating revenue) are likely to have different business profiles than smaller respondents. For example, larger respondents may have extensive distribution networks or marketing channels that they can leverage to help promote and sell their ISP services.

In an effort to compare and contrast large and small respondents, four categories of firm size were created, as shown in Exhibit 5-2. Sufficient numbers of respondents fall into each of these categories to allow for meaningful comparisons to be made. In particular, the following hypotheses can be tested when firm size is used as a basis for segmentation:

(a) larger firms are more likely to be diversified entities than smaller firms and, therefore, are less likely to rely on their ISP business units as their primary revenue source;

(b) larger firms are likely to have different cost structures than smaller firms;

(c) smaller firms are more likely to serve fewer customers and to target niche markets than to adopt strategies based on capturing market share.

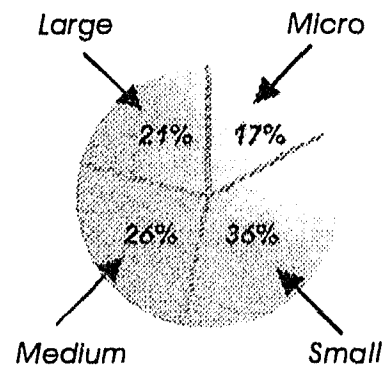
Exhibit 5-2: Firm Size Categories

Firm Size	*Operating Revenue*
Micro	*Less than $50,000*
Small	*$50,000 - $249,999*
Medium	*$250,000 - $999,999*
Large	*$1 million or More*

Includes Revenue Derived from non-ISP Activities

When the firm size categories described in the previous exhibit are used, just over half of the respondents fall into the Small or Micro categories, as outlined in Exhibit 5-3, while approximately one-fifth are classified as Large firms

Exhibit 5-3: Breakdown of Respondents by Firm Size



Base: 383 Respondents

The distribution of respondents according to firm size varies along geographic lines, as summarized by Exhibit 5-4 The majority of respondents in Western Canada (the Prairies and BC and the Territories) fall into the Small or Micro categories, respondents in Central Canada (Ontario and Quebec) are almost evenly split between the Micro-Small and the Medium-Large categories, and respondents in Atlantic Canada are evenly distributed throughout each category As a result, measures of average firm size, such as average revenue and average customer base can be expected to be lower in Western Canada than in other regions of the country Any mega-firms in Western Canada that may have responded to the survey, however, may serve to alter these expectations

Exhibit 5-4: Regional Distribution of Respondents by Firm Size

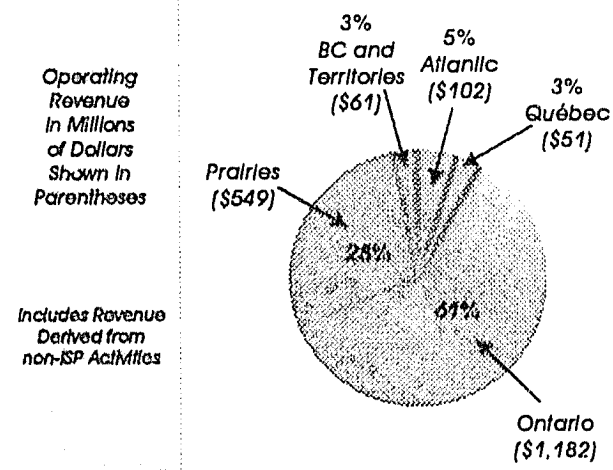
Firm Size	Atlantic	Quebec	Ontario	Prairies	BC and Territories	Canada (All Regions)
Micro	26%	9%	14%	16.5%	23%	17%
Small	26%	38%	34%	42.5%	37.5%	36%
Medium	22%	38%	28.5%	13%	24%	26%
Large	26%	15%	23.5%	26%	15.5%	21%
Total	100%	100%	100%	100%	100%	100%

Base: 383 Respondents

5.4 Operating Revenue by Region

Survey respondents reported a total of just under $2 billion in corporate revenues from operations (including both ISP and non-ISP operations). Exhibit 5-5 offers a regional breakdown of total operating revenue.

Exhibit 5-5: Total Operating Revenue by Region



Although ISPs in BC and the Territories account for one quarter of survey respondents, they contribute only 3% to the national operating revenue figure of $1.95 billion. This can be explained by the findings in Exhibit 5-4, which showed that over 60% of BC and Territories respondents fell into the Small or Micro firm categories. Both Québec and BC and the Territories had fewer Large respondents than other regions (as shown in Exhibit 5-4), which may explain their comparably low contributions to the national operating revenue figure.

In contrast, the relatively high revenue totals in Atlantic Canada, Ontario, and the Prairies can be attributed to the presence of several mega-firms in these regions. In fact, respondents in Ontario and the Prairies combined constitute 89% of the Canada-wide revenue figure. When the ten largest firms (in terms of operating revenue) are removed from the respondent base, total operating revenues fall from $1.95 billion nationally to $269 million. In other words, ***the ten largest respondents account for 86% of the national operating revenue figure.***

Exhibit 5-6 presents average operating revenues on a regional basis. The largest respondents have a significant impact on these averages. When the ten respondents reporting the greatest operating revenues are removed from the respondent base, average revenue falls from $5.0 million nationally to $722,000. In fact, the regional variation that is evident in Exhibit 5-6 is virtually eliminated when the ten largest respondents are removed (Exhibit 5-7), suggesting that ***there does not appear to be a relationship between a firm s size (as measured by operating revenue) and its geographic location.***

Another factor to consider is the impact of FreeNets and non-profit organizations on the average revenue statistics. When these organizations are removed from the respondent base, average revenue increases from $5.0 million nationally to $5.5 million.

Exhibit 5-6: Average Operating Revenue by Region

Includes Revenue Derived from non-ISP Activities

Base: 383 Respondents

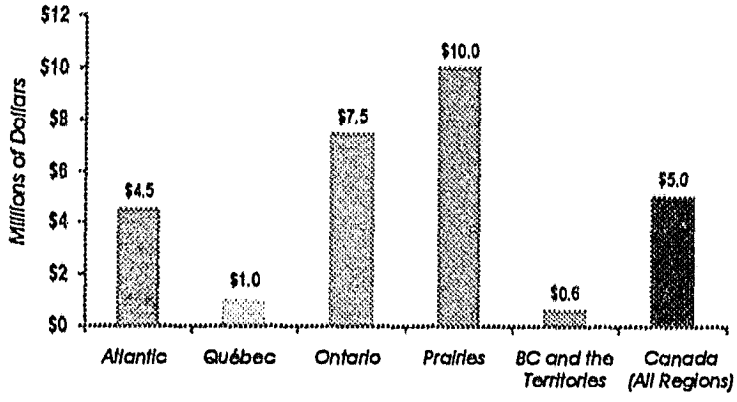
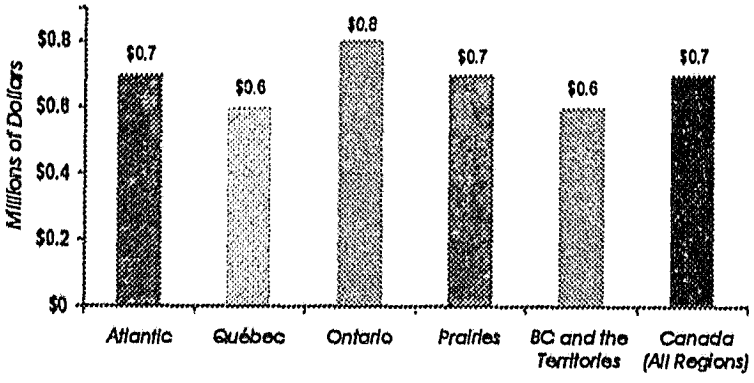


Exhibit 5-7: Average Operating Revenue by Region Excluding the Ten Largest Respondents

Includes Revenue Derived from non-ISP Activities

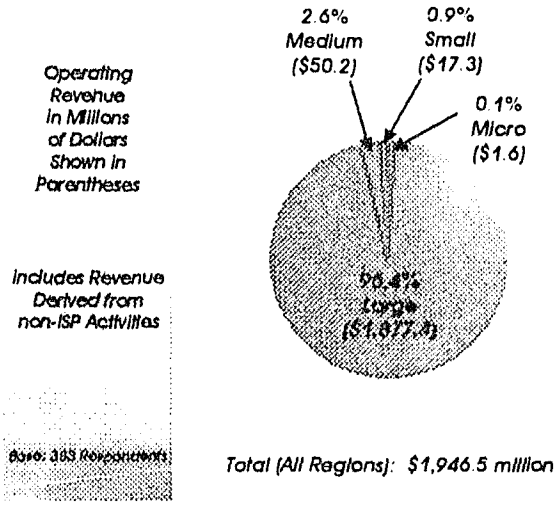
Base: 373 Respondents



5.5 Operating Revenue by Firm Size Category

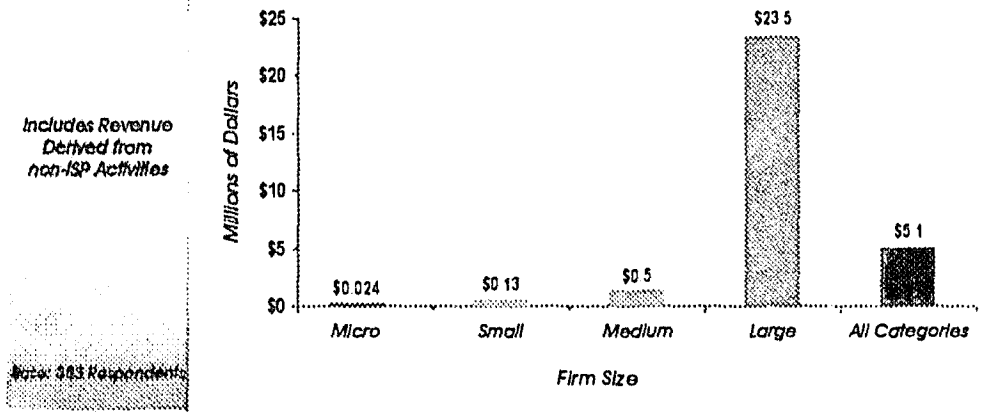
Exhibit 5-8 paints a striking picture of the contribution that Large firms make to the national operating revenue total. Large firms (those with operating revenues of $1 million or more) make up approximately one-fifth of the respondent base, yet they account for 96% of total operating revenues. When the ten largest respondents are removed, operating revenues in the Large category fall from $1.88 billion to $200 million ten respondents account for almost 90% of the Large category total.

Exhibit 5-8: Total Operating Revenue by Firm Size



A very similar picture emerges when average operating revenues are considered, as in Exhibit 5-9, with Large firms generating far more revenue on average than respondents in the other categories. When the ten firms reporting the highest operating revenues are removed, the Large category average falls from $23.5 million to $2.9 million.

Exhibit 5-9: Average Operating Revenue by Firm Size



Clearly, there is a tremendous gap between the operating revenues generated by the ten largest respondents and those generated by all of the other respondents combined. However, what proportion of those revenues are derived from ISP services has not yet been established. What is apparent is that ***the Canadian ISP industry consists of players of a variety of sizes, of which a relatively small subset are firms with significant revenue-generating power.*** The question of whether the largest players actually dominate the ISP industry from a market share or profitability perspective will be explored throughout the remainder of this report.

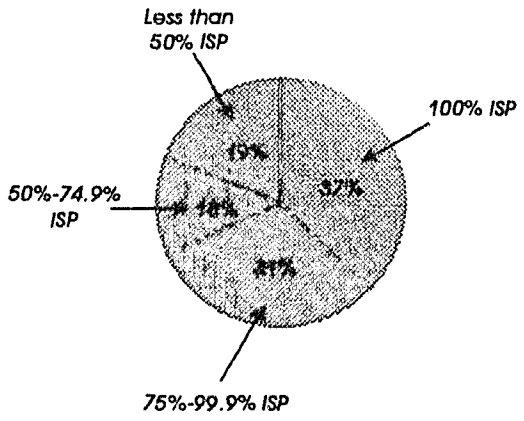
6.0 Proportion of Operating Revenues Derived from ISP Activities

The previous section focused on the revenue that respondents generate from all of their lines of business, and offered insight into how varied firms competing in the ISP industry are in terms of their size. In an effort to isolate the revenues attributable solely to their ISP business units, respondents were asked to report the proportion of operating revenues they derive from ISP activities. The results were as wide-ranging as possible, with some firms stating that ISP services account for less than 1% of their total operating revenue, and others for as much as 100%. The difference between ISP activity and industry classification is discussed in section 2.0 *Methodology*.

6.1 Distribution of Respondents by Percent ISP

Exhibit 6-1 depicts the distribution of respondents according to the proportion of their revenue derived from ISP activities. Over two-thirds of respondents generate 75% or more of their total operating revenue from ISP services, and nearly two-fifths are reliant solely on ISP revenue. The four categories outlined in Exhibit 6-1 will be used throughout the remainder of this report as a basis for segmenting respondents, and will be referred to as "Percent ISP" categories.

Exhibit 6-1: Distribution of Respondents by Percent ISP



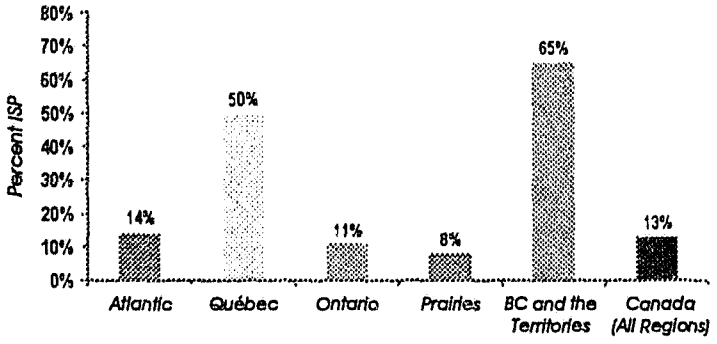
In Section 5.3, the following hypothesis was put forward: larger firms are more likely to be diversified entities than smaller firms and, therefore, are less likely to rely on their ISP business units as their primary revenue source. With reference to Exhibit 6-1, this hypothesis can be re-stated as follows: smaller firms are more likely to fall into the "75%-99.9% ISP" or the "100% ISP" categories, and larger firms are more likely to be in the Less than 50% ISP category. A first test of this hypothesis will be made in Section 6.2.

6.2 Percent ISP by Region

Regionally, there is significant variation in the proportion of revenues that respondents derive from their ISP activities, as shown in Exhibit 6-2. The comparably high values in Québec (50%) and BC and the Territories (65%), coupled with the findings in Exhibit 5-4 that these two regions had a lower proportion of Large respondents than other regions, suggest that Large respondents derive a smaller proportion of their total operating revenue from ISP activities than other respondents.

Exhibit 6-2: Percent ISP by Region

Percent ISP by Region = Revenue from ISP Services for All Respondents in a Given Region / Total Operating Revenue for All Respondents in that Region

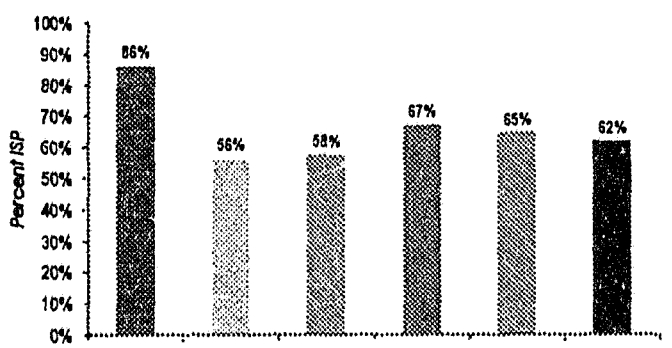


Base: 353 Respondents

The values presented in Exhibit 6-2 are weighted by firm size (as shown by the equation in Exhibit 6-2), with larger respondents inflating operating revenues (the denominator in the equation above). As a result, the Percent ISP figures tend to fall when Large respondents are included in the calculation, and tend to rise when Large respondents are excluded from the calculation. For example, the Ontario average of 11% is skewed by the presence of several Large firms in that region. When the ten largest respondents (in terms of operating revenue) are removed from the respondent base, the national average soars from 13% to 62%, as shown in Exhibit 6-3. This finding provides evidence that these ten firms derive a much smaller proportion of their total operating revenue from ISP services than other respondents.

Exhibit 6-3: Percent ISP by Region Excluding the Ten Largest Respondents

Percent ISP by Region = Revenue from ISP Services for All Respondents in a Given Region / Total Operating Revenue for All Respondents in that Region



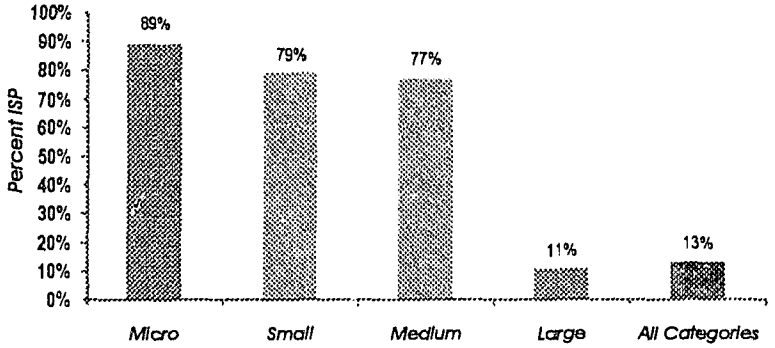
Base: 373 Respondents

6.3 Percent ISP by Firm Size

Exhibit 6-4 highlights the inverse relationship that appears to exist between the size of a respondent and its reliance on ISP services as a source of revenue. Respondents in the Micro firm category rely on their ISP business units for an average of almost 90% of their operating revenue, while Large respondents derive an average of just over 10% of their revenue from ISP services. The ten largest respondents (by operating revenue) derive an average of only 5.5% of their corporate operating revenues from ISP activities.

Exhibit 6-4: Percent ISP by Firm Size

Percent ISP by Firm Size = Revenue from ISP Services for All Respondents in a Given Firm Size Category / Total Operating Revenue for All Respondents in that Firm Size Category



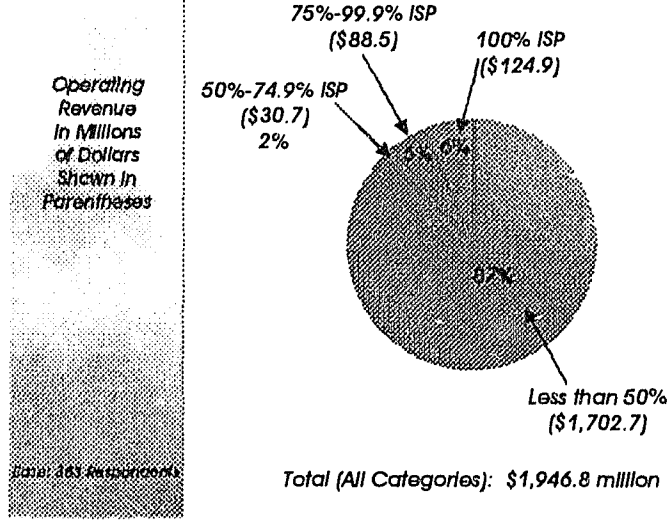
Base: 323 Respondents

The results that have been presented to this point support the hypothesis put forward in Section 5.3; namely, ***smaller respondents are more likely than larger respondents to rely on the revenues they derive from their ISP activities as their primary source of operating revenue. Large respondents derive a relatively small fraction of their revenue from ISP services.***

6.4 Operating Revenue by Percent ISP

Exhibit 6-5 reveals that many of the largest respondents, in terms of operating revenue, fall into the smallest Percent ISP category. In fact, firms in the Less than 50% ISP category account for 87% of total operating revenues, providing further evidence that Large respondents tend to be much less reliant on their ISP business units as a source of corporate operating revenue than smaller respondents.

Exhibit 6-5: Total Operating Revenue by Percent ISP

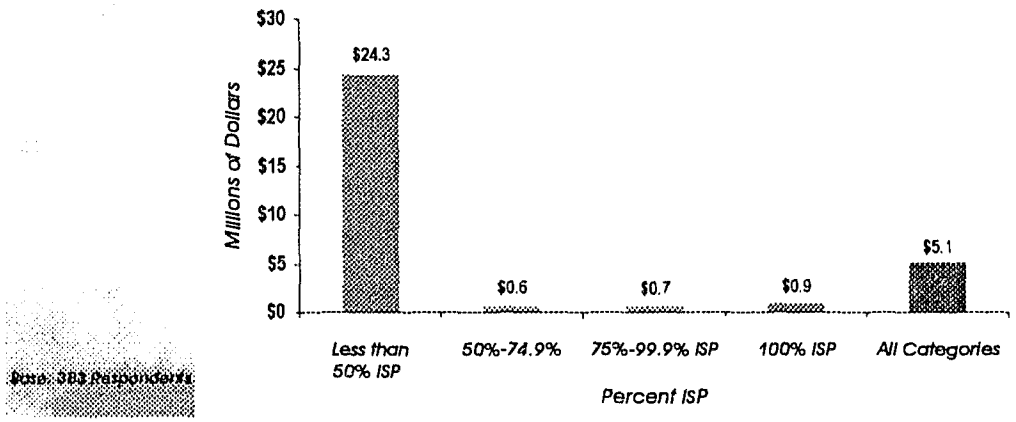


Total: 323 Respondents

Total (All Categories): $1,946.8 million

A similar pattern emerges when average operating revenue is examined, as in Exhibit 6-6. Respondents in the Less than 50% ISP category generate more revenue on average and in total than other respondents, again suggesting that Large firms tend to derive less than half of their operating revenue from ISP activities.

Exhibit 6-6: Average Operating Revenue by Percent ISP



However, not all of the ten largest respondents fall into the Less than 50% ISP category. When the ten largest respondents are removed, the following operating revenue averages result:

Less than 50% ISP:	**$1.5 million**
50%-74.9% ISP:	**$0.6 million**
75%-99.9% ISP:	**$0.65 million**
100% ISP:	**$0.5 million**

Respondents that derive 50% or more of their revenue from ISP services exhibit relatively constant average operating revenues, while those that generate less than 50% of their revenues from ISP activities have much higher revenues on average. The evidence put forth in this section suggests that ***Large firms are more likely to fall into the Less than 50% ISP category than into any other Percent ISP category.*** It is not clear, however, whether the smallest respondents can be associated with any particular Percent ISP category.

7.0 ISP Revenue

7.1 Distribution of Respondents by ISP Revenue

The multiplication of the proportion of total operating revenues derived from ISP activities by total operating revenue yields a dollar value. This dollar value will be referred to as ISP revenue, since it represents the revenue that respondents generate from their ISP business units only. Exhibit 7-1 presents a detailed breakdown of respondents according to the ISP revenue they generate.

Exhibit 7-1: Distribution of Respondents by ISP Revenue

ISP Revenue	% of Respondents
Less than $50,000	22%
$50,000 - $99,999	20%
$100,000 - $249,999	22%
$250,000 - $499,999	14%
$500,000 - $749,999	7%
$750,000 - $999,999	4%
$1,000,000 - $2,499,999	4%
$2,500,000 - $4,999,999	2%
$5,000,000 or More	3%

Base: 161 Respondents

Nearly two-thirds of respondents generated less than $250,000 in ISP revenue in 1997, while 11% generated $1 million or more. This is consistent with the findings in Section 5.2, which showed that roughly two-thirds of respondents generated less than $500,000 in total operating revenue, while 10% generated $2.5 million or more (see Exhibit 5-1).

Respondents can be grouped into one of three ISP revenue categories, as shown in Exhibit 7-2.

Exhibit 7-2: ISP Revenue Categories

Category	ISP Revenue	% of Respondents
Low	Less than $100,000	41%
Medium	$100,000 - $499,999	36%
High	$500,000 or More	23%

Base: 383 Respondents

The classification of respondents into these three ISP revenue categories has a significant drawback: it does not isolate the activities of those firms that generated far more than $500,000 in ISP revenue in 1997. However, the breakdown illustrated in Exhibit 7-2 ensures that there are sufficient numbers of respondents in each category when data are looked at in a multidimensional way; by region and by ISP revenue category, for example, or by customer base and by ISP revenue category. This criterion would not be met had a cutoff in the millions of dollars been used instead of $500,000.

Further, the breakdown presented above relates nicely to the firm size breakdown that was used to segment respondents (Exhibit 5-2). When that breakdown is used, 79% of respondents fall into the Micro, Small, or Medium categories, and 21% are considered Large firms. With the ISP revenue breakdown, 77% of respondents are classified in the Low or Medium ISP revenue categories, and 23% are in the High revenue category.

It is clearly of interest to isolate the responses of the largest firms to assess the extent to which they dominate Canada's ISP industry. Therefore, the activities of the ten largest respondents (by operating revenue *not* by ISP revenue) will continue to be examined where possible.

7.2 Regional Distribution of Respondents by ISP Revenue Category

Exhibit 7-3 highlights an interesting regional pattern. Respondents in Ontario, Québec, and Atlantic Canada exhibit very similar distributions, while those in the Prairies and BC and the Territories are skewed toward the Low ISP revenue category. Once again, this lends support to the findings in Section 5.3 that respondents in Western Canada (the Prairies and BC and the Territories) are comparably smaller to their counterparts in Central (Ontario and Quebec) and Atlantic Canada. It is not clear why Western Canadian respondents tend to be smaller and generate less ISP revenue than their Central and Atlantic counterparts. There could be strategic benefits to operating smaller ISPs in Western Canada, but it may also be that the pool of respondents captured by the survey was skewed toward smaller firms in that region.

Exhibit 7-3: Regional Distribution of Respondents by ISP Revenue Category

ISP Revenue Category	Atlantic	Québec	Ontario	Prairies	BC and Territories	Canada (All Regions)
Low	39%	39%	36%	46%	52%	42%
Medium	39%	38%	37%	35%	30%	36%
High	22%	23%	27%	19%	18%	22%
Total	100%	100%	100%	100%	100%	100%

Base: 383 Respondents

7.3 ISP Revenue by Region

Some striking features can be extracted from the regional ISP revenue totals shown in Exhibit 7-4. In particular, respondents in BC and the Territories account for 15% of the national ISP revenue figure, while these same respondents account for just 3% of total operating revenue. Similarly, respondents in Québec contribute 10% to the national ISP revenue figure, but contribute just 3% to the Canada-wide operating revenue figure. This suggests that respondents in Québec and BC and the Territories are more likely to derive a significant proportion of their operating revenues from ISP activities than respondents in other regions. This finding is supported by Exhibit 6-2, which showed that firms in Québec and BC and the Territories are much more reliant on their ISP business units than other respondents.

7.2 Regional Distribution of Respondents by ISP Revenue Category

Exhibit 7-3 highlights an interesting regional pattern. Respondents in Ontario, Québec, and Atlantic Canada exhibit very similar distributions, while those in the Prairies and BC and the Territories are skewed toward the Low ISP revenue category. Once again, this lends support to the findings in Section 5.3 that respondents in Western Canada (the Prairies and BC and the Territories) are comparably smaller to their counterparts in Central (Ontario and Québec) and Atlantic Canada. It is not clear why Western Canadian respondents tend to be smaller and generate less ISP revenue than their Central and Atlantic counterparts. There could be strategic benefits to operating smaller ISPs in Western Canada, but it may also be that the pool of respondents captured by the survey was skewed toward smaller firms in that region.

Exhibit 7-3: Regional Distribution of Respondents by ISP Revenue Category

ISP Revenue Category	Atlantic	Québec	Ontario	Prairies	BC and Territories	Canada (All Regions)
Low	38%	39%	36%	46%	62%	42%
Medium	39%	34%	37%	35%	30%	36%
High	22%	27%	27%	19%	18%	22%
Total	100%	100%	100%	100%	100%	100%

Total 383 Respondents

7.3 ISP Revenue by Region

Some striking features can be extracted from the regional ISP revenue totals shown in Exhibit 7-4. In particular, respondents in BC and the Territories account for 15% of the national ISP revenue figure, while these same respondents account for just 3% of total operating revenue. Similarly, respondents in Québec contribute 10% to the national ISP revenue figure, but contribute just 3% to the Canada-wide operating revenue figure. This suggests that respondents in Québec and BC and the Territories are more likely to derive a significant proportion of their operating revenues from ISP activities than respondents in other regions. This finding is supported by Exhibit 6-2, which showed that firms in Québec and BC and the Territories are much more reliant on their ISP business units than other respondents.

Exhibit 7-4: Comparison of ISP Revenue and Total Operating Revenue by Region

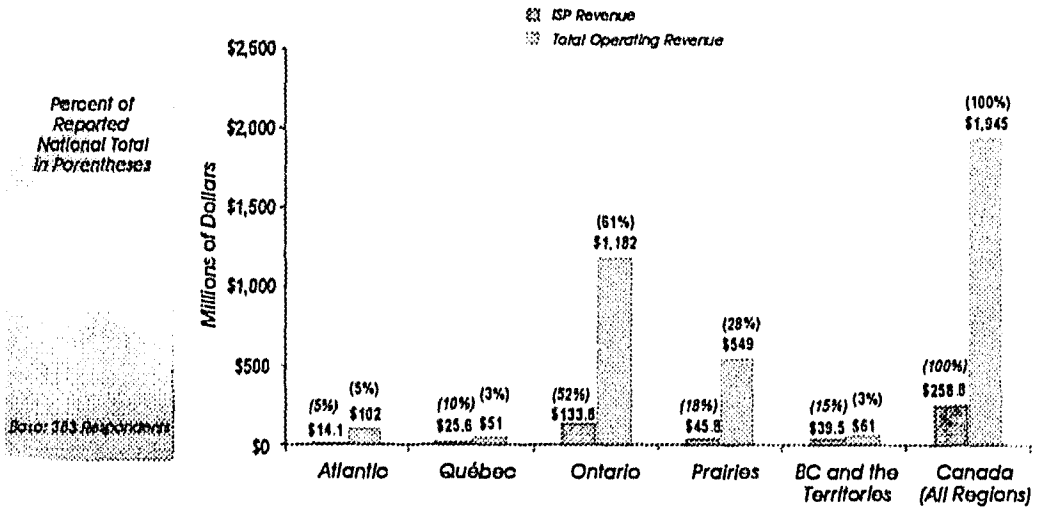
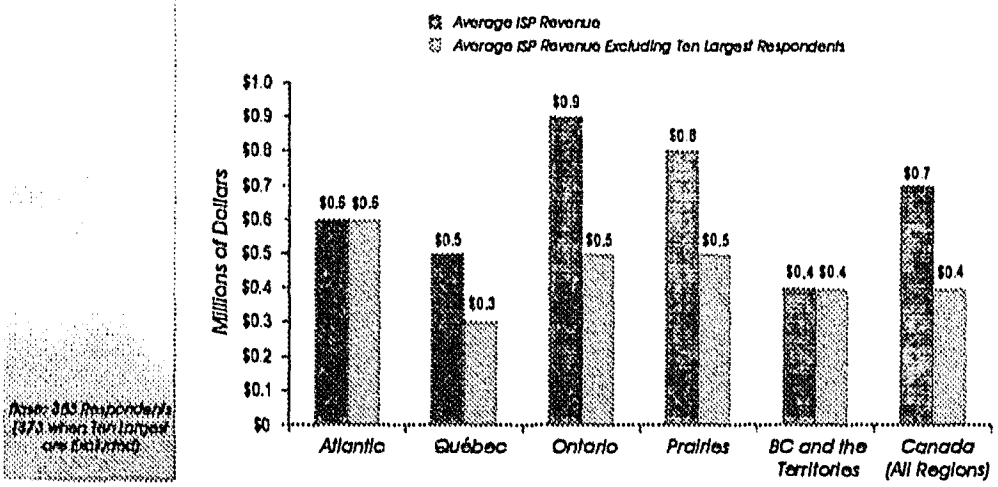


Exhibit 7-5, average ISP revenue by region, highlights the similar averages across the country. When the ten largest respondents (in terms of operating revenue) are removed, the averages exhibit even less variation, as shown below. This is consistent with the findings in Section 5.4, which showed that firm size (as measured by total operating revenue) did not appear to depend on geographic location.

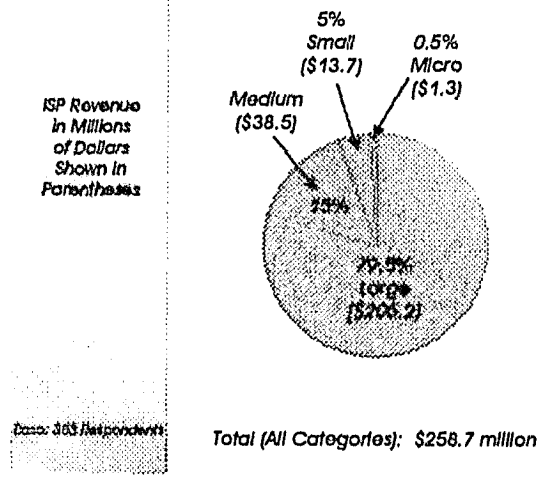
Exhibit 7-5: Average ISP Revenue by Region



7.4 ISP Revenue by Firm Size

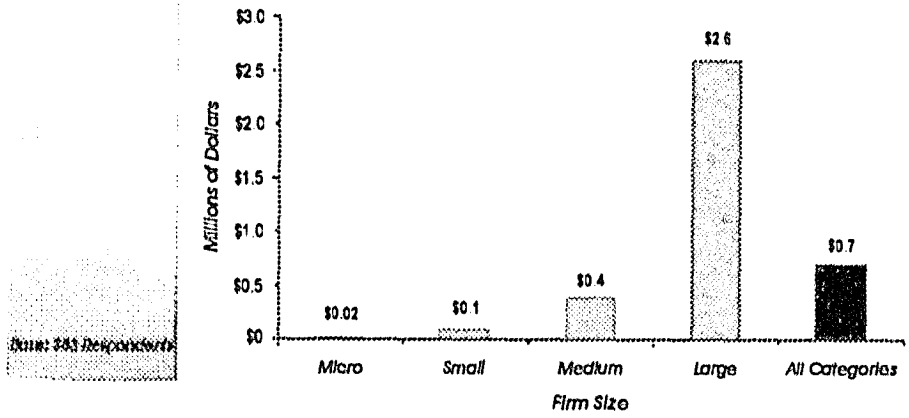
An obvious trend emerges, with respect to ISP revenue, when respondents are divided into the firm size categories defined in Exhibit 5-2. Respondents in the Large firm category account for 80% of total ISP revenue, as shown in Exhibit 7-6, and respondents in the Large and Medium categories combined account for 95% of total ISP revenue. When the ten largest respondents (in terms of operating revenue) are removed, ISP revenue in the Large category falls from $205.2M to $113.0M. In other words, ***the ten largest respondents account for 36% of total reported ISP revenue.***

Exhibit 7-6: ISP Revenue by Firm Size



A similar pattern emerges when average ISP revenue is considered, with larger firms generating more ISP revenue on average than smaller firms. When the ten largest respondents are removed from the respondent base, the average in the Large category falls from $2.6 million to $1.6 million.

Exhibit 7-7: Average ISP Revenue by Firm Size



Therefore, a positive relationship appears to exist between total operating revenue and ISP revenue. The largest firms generate the most ISP revenue, in total and on average. When this outcome is combined with the findings in Section 6.3, the following results emerge: ***Large respondents (those with operating revenues of $1 million or more) tend to fall into the High ISP revenue category; however, ISP activities tend to contribute an average of 11% to Large respondents' total operating revenue.*** In other words, Large respondents tend to generate more ISP revenue than other respondents. However, that ISP revenue constitutes only a small fraction of Large respondents total operating revenue.

8.0 ISP Customers

8.1 Distribution of Customers

Respondents were asked to report the total number of ISP customers they serve both residential and non-residential. The results, presented in Exhibit 8-1, show that more than one-half of respondents serve fewer than 1000 customers. This fact, coupled with the numerous firms competing in the industry, offers significant evidence that Canada s ISP industry is fragmented.

Exhibit 8-1: Distribution of Respondents by Total Customer Base

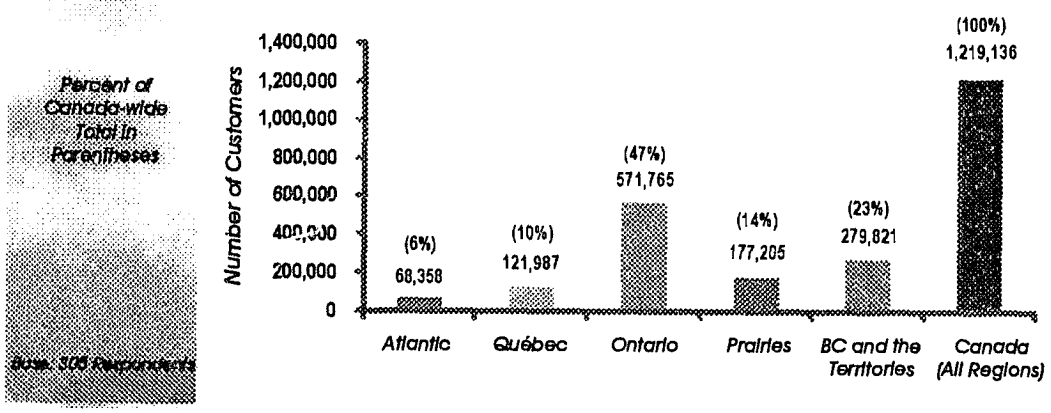
Number of Customers	% of Respondents
Fewer than 250	23%
250 - 999	34%
1000 - 1499	9.5%
1500 - 2499	11%
2500 - 9999	16%
10,000 - 49,999	6%
50,000 or More	1.5%

Base: 306 Respondents

8.2 ISP Customers by Region

Exhibit 8-2 illustrates the total number of ISP customers by region. Note that region refers to where the ISP is located, not where the customer is located. Firms competing in this dynamic industry are not necessarily constrained by geographical boundaries, so it is possible, for example, for an ISP located in Atlantic Canada to serve customers in the Prairies. It should be noted that just under 80% of respondents answered the customer portion of the survey questionnaire. The figures in Exhibit 8-2, therefore, under-represent the actual customer base of respondents.

Exhibit 8-2: Total Number of Customers by Region

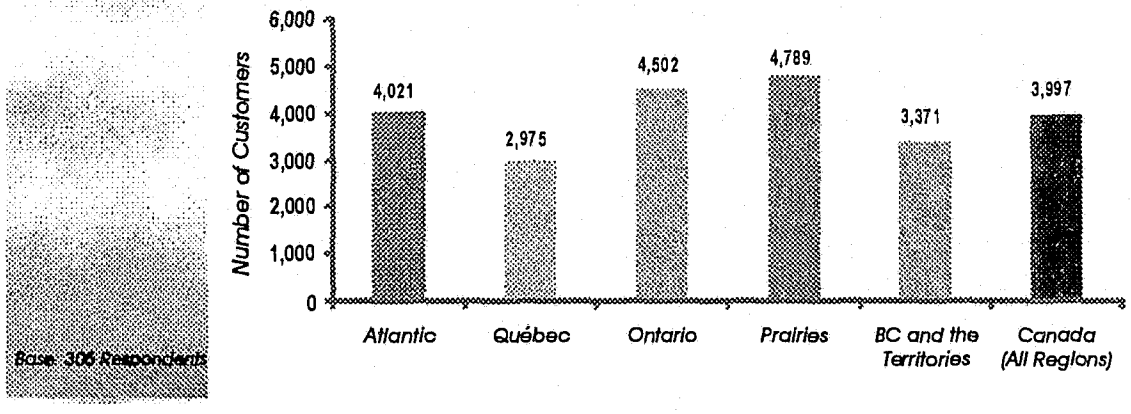


Respondents in Ontario account for just under half of the national total of 1.2 million customers. Although respondents in BC and the Territories were found to be relatively small firms, they account for 23% of the reported number of customers. This may be a function of the sheer number of respondents captured in BC and the Territories relative to other regions of the country. The relatively high number of customers in BC and the Territories helps to explain the high ISP revenue figure for respondents in this region that was explored in Section 7.3.

Six of the ten largest respondents (by operating revenue) answered the customer portion of the survey questionnaire. Those six firms account for about 21% of the reported national customer total.

Exhibit 8-3, average number of customers by region, shows that the regional variation of customers is fairly small. This is consistent with the findings in Sections 5.4 and 7.3 that firm size and ISP revenue do not appear to vary with an ISP s geographic location. The slightly lower averages in Québec and BC and the Territories are likely due to the relative lack of response of very large firms in these two regions.

Exhibit 8-3: Average Number of Customers by Region



8.3 ISP Customers by Province

Not only did the 1997 ISP Survey attempt to gain a sense of the market share of respondents in each region, but it also attempted to identify the distribution of ISP customers across the country. That is, the survey tried to identify the province in which ISP customers reside. Exhibit 8-4 presents those customer statistics. Once again, these figures include both residential and non-residential customers.

Exhibit 8-4: Number of ISP Customers in Each Province

Province or Territory	Number of ISP Customers	% of National Total
Yukon	1,461	0.1%
Northwest Territories	1,799	0.1%
British Columbia	281,605	23.1%
Alberta	116,193	9.6%
Saskatchewan	27,112	2.2%
Manitoba	43,782	3.6%
Ontario	482,723	39.8%
Québec	188,775	15.5%
New Brunswick	44,877	3.7%
Nova Scotia	10,766	0.9%
Prince Edward Island	1,003	0.1%
Newfoundland	19,021	1.6%
Canada (All Provinces)	1,219,116	100%

Base: 30 Respondents

When grouped by region, the distribution of customers outlined in the Exhibit 8-4 virtually mirrors the geographic distribution of survey respondents.

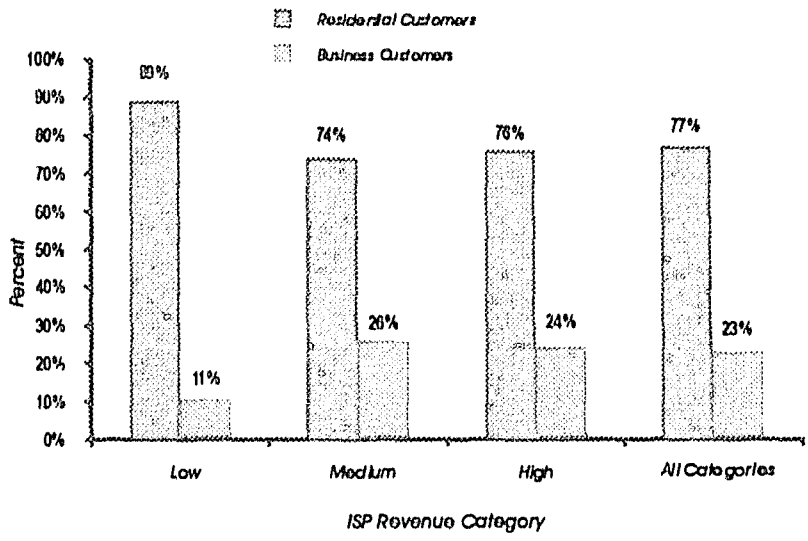
8.4 A Note on Customer Types

Respondents to the 1997 Survey of Internet Service Providers were asked to specify the proportion of their customers that were residential. They were not explicitly asked whether the remainder of their customers were business clients. It is possible that respondents non-residential customers include, for example, volunteer-based organizations or schools. For the purposes of this report, however, all non-residential customers will be assumed to be business customers. In this way, the total number of customers can be divided into two customer type categories: residential customers and business customers.

8.5 Proportion of Residential-to-Business Customers

The proportion of residential-to-business customers does not change significantly when respondents are grouped by firm size, by percent ISP, or by ISP revenue category. On average, residential customers account for approximately three-quarters of respondents total customer bases. Exhibit 8-5, which illustrates the proportion of residential-to-business customers by ISP revenue category, shows the customer composition similarity that exists across categories. Respondents in the Low ISP revenue category have a somewhat smaller proportion of business customers (11%). This potential positive relationship between ISP revenue and the number of business customer will be revisited in section 8-17, and may imply that business customers provide an important revenue source for ISPs. The relationship between type of customer (residential versus business) and ISP revenue will also be explored later in this section of the report.

Exhibit 8-5: Proportion of Residential-to-Business Customers by ISP Revenue Category



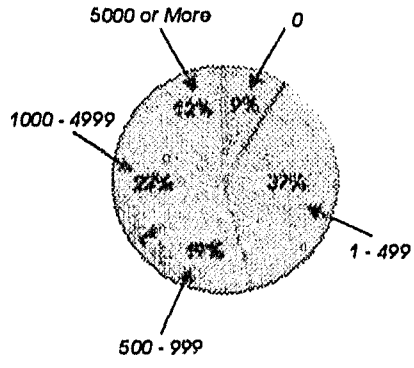
Base: 303 Respondents

8.6 Distribution of Respondents by Residential Customer Base

The breakdown of respondents according to the size of their residential customer base is presented in Exhibit 8-6.

The 0 category in Exhibit 8-6 reflects those respondents that reported serving only business customers. Overall, 56% of respondents reported having between one and 1000 residential customers. When the 0 category is taken into consideration, the proportion of respondents with fewer than 1000 residential customers rises to 65%. This is consistent with the findings of other studies on the industry, and reinforces the idea that ***the ISP industry in Canada is quite fragmented with a relatively large number of ISPs serving relatively few customers.***

Exhibit 8-6: Distribution of Respondents by Residential Customer Base

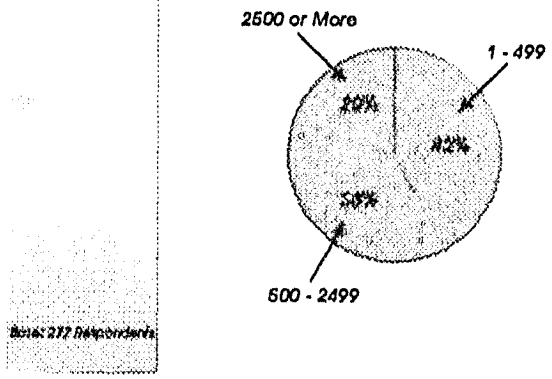


Base: 303 Respondents

8.7 Residential Customer Base Segmentation

For analytical purposes, respondents can be grouped into one of three residential customer base categories. These are shown in Exhibit 8-7.

Exhibit 8-7: Residential Customer Base Segmentation



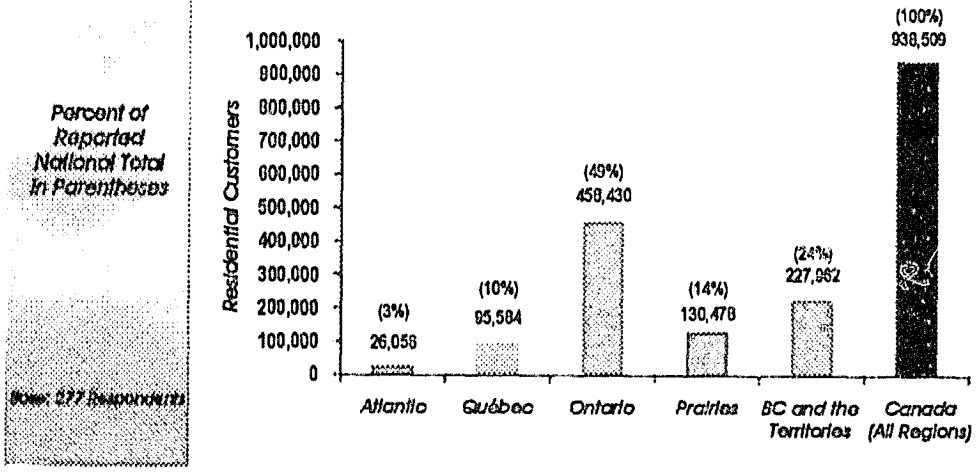
According to this breakdown, firms reporting 2500 or more residential customers are grouped together. Some ISPs, however, reported serving far more than 2500 residential customers. Several respondents reported residential subscription totals in the tens or even hundreds of thousands. However, there were not enough of these respondents to warrant creating a separate category for them. A residential customer cutoff of 2500 may seem low, but it accurately reflects the majority of firms responses: 88% of respondents reported serving fewer than 5000 residential customers.

8.8 Residential Customers by Regional Location of ISP

As Exhibit 8-8 illustrates, Ontario-based respondents serve nearly one-half of the total reported residential customers. The large number of respondents that are based in BC and Territories means that the percentage indicated in the figure below likely over-represents the proportion of residential customers in that region.

Of the ten largest respondents (by operating revenue), only four reported their residential customer totals. These four firms account for 23% of the reported national residential customer total. Again, this does not necessarily reflect the actual market share of the largest firms in the industry since some of the country s largest ISPs did not respond to the survey. Further, the largest respondents do not necessarily serve more residential customers than other ISPs. In fact, their focus may be the business market.

Exhibit 8-8: Residential Customers by Region



8.9 Residential Customers in Each Province

The previous section focused on the number of residential ISP customers served by respondents in each region. This section looks at where the customers themselves are located. Exhibit 8-9 summarizes the reported number of residential customers in each province, and the proportion of the national total that they represent.

Exhibit 8-9: Number of Residential Customers in Each Province

Province or Territory	Number of Residential ISP Customers	% of National Total
Yukon	1,001	0.1%
Northwest Territories	1,070	0.1%
British Columbia	230,953	24.6%
Alberta	81,270	8.7%
Saskatchewan	16,224	1.7%
Manitoba	37,938	4.1%
Ontario	370,893	39.6%
Quebec	166,579	17.8%
New Brunswick	14,209	1.5%
Nova Scotia	9,230	1.0%
Prince Edward Island	1,003	0.1%
Newfoundland	7,862	0.8%
Canada (All Provinces)	938,282	100%

Base: 277 Respondents

To gain a sense of how well the distribution of customers captured by the 1997 ISP Survey aligns with the population of Canadian Internet users, the two can be compared. Exhibit 8-10 presents the 1997 distribution of Canadian households with Internet access according to Statistics Canada, along with the distribution of residential customers captured by the 1997 Survey of Internet Service Providers.

Exhibit 8-10: Comparison of Residential Customer Distribution to Distribution of Households with Internet Access

Province or Territory	Distribution of Residential ISP Customers	Distribution of Households with Internet Access
Yukon	0.1%	N/A
Northwest Territories	0.1%	N/A
British Columbia	24.0%	18.0%
Alberta	8.7%	10.3%
Saskatchewan	1.7%	2.3%
Manitoba	4.1%	3.3%
Ontario	39.5%	43.2%
Québec	17.6%	16.7%
New Brunswick	1.5%	2.1%
Nova Scotia	1.0%	2.5%
Prince Edward Island	0.1%	0.3%
Newfoundland	0.6%	1.3%
Canada (All Provinces)	100%	100%

Distribution of Households with Internet Access from Statistics Canada's 1997 Household Facilities and Equipment Survey

Base: 277 Respondents

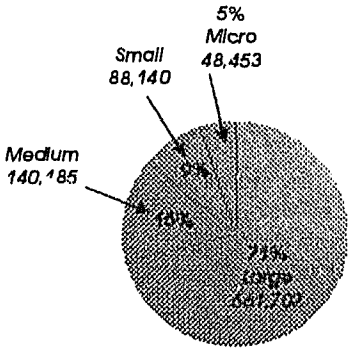
With the exception of British Columbia, the provincial distribution of residential customers captured by the ISP survey closely resembles the 1997 distribution of households with Internet access. The ISP survey's over-representation of residential customers in BC is likely due to the over-representation of BC ISPs (see Section 4.0 for a discussion of the over-representation of ISPs in British Columbia and the Territories). It is also worth noting that while Québec ISPs appear to have been under-represented in this survey, the number of Québec residential customers served by respondents is consistent with the Internet penetration figure. That is, it appears that a relatively large number of Québec residential customers are served by ISPs that are located in a province other than Québec.

8.10 Residential Customers by Firm Size

Exhibit 8-11 breaks down residential customers according to the size of respondents. ISPs in the Large category account for 71% of the reported residential customer total. In fact, four of the ten largest firms (by operating revenue) that answered the customer portion of the survey make up 33% of the Large category total (and 23% of the reported national total). Since the other six largest firms did not indicate their residential customer totals, the Large category value of 661,707 likely under-represents the actual number of customers served by firms that fall into the Large category. The fact that ***four Large respondents account for 23% of the reported residential customer base provides insight into the market power that Large firms appear to wield in this fragmented industry.***

There is little difference in the average number of residential customers among Small and Micro firms (approximately 1000 residential customers for firms in each category). Medium firms have an average of just under 2000 customers, while those in the Large category have an average of over 11,000 residential customers further evidence of the market share dominance of Large ISPs.

Exhibit 8-11: Residential Customers by Firm Size

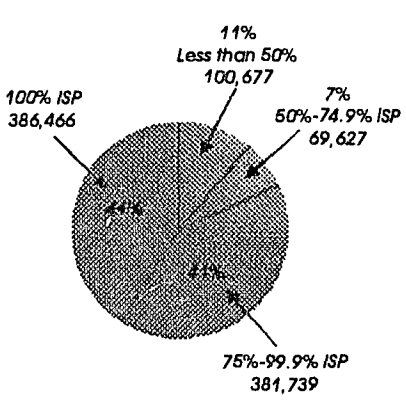


Total (All Categories): 938,487

8.11 Residential Customers by Percent ISP

The residential customer statistics presented in Exhibit 8-12 suggest that respondents that derive less than 50% of their operating revenue from ISP activities have fewer residential customers than those that derive 75% or more of their revenue from ISP activities. However, several of the largest respondents that fall into the Less than 50% ISP category did not report their customer totals. These respondents likely serve numerous customers. Consequently, the customer statistics for the Less than 50% category likely under-represent the actual customer base of respondents in this category.

Exhibit 8-12: Residential Customers by Percent ISP

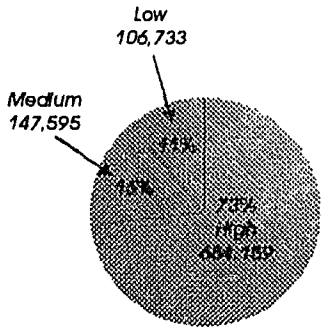


Total (All Categories): 938,509

8.12 Residential Customers by ISP Revenue Category

Exhibits 8-13 and 8-14 highlight an apparent positive relationship between ISP revenue and the size of a respondent s residential customer base. Respondents in the High ISP revenue category tend to have more residential customers, on average and in total, than firms in other categories. Once again, several of the largest respondents did not complete the customer portion of the survey questionnaire, so it is likely that the High category values under-represent the actual number of residential customers served by these firms.

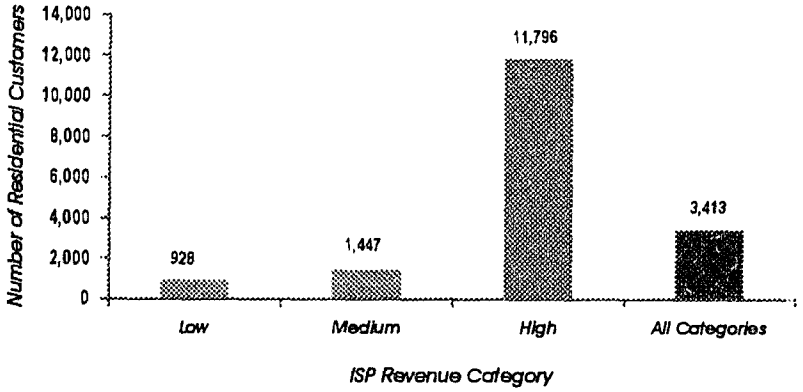
Exhibit 8-13: Residential Customers by ISP Revenue Category



Base: 275 Respondents

Total (All Categories): 938,487

Exhibit 8-14: Average Number of Residential Customers by ISP Revenue



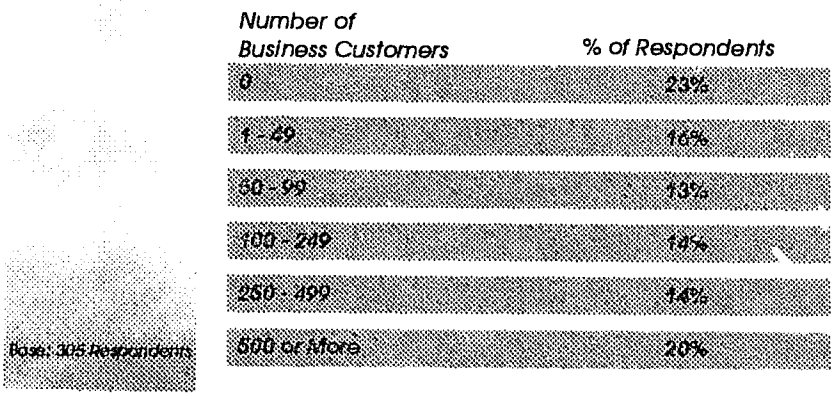
Base: 275 Respondents

The positive relationship between ISP revenue and residential customer base suggests that capturing residential market share is important to an ISP s revenue-generating power. Incumbents that currently control a large portion of the residential market likely have a significant advantage over those that are looking to enter the industry by building their businesses from the ground up. In addition, several market research companies, including ACNielsen, have recently found that Internet usage rates are no longer growing exponentially in Canada. The slower pace of growth, coupled with the significant market power of several incumbents, may pose a barrier to ISPs that are seeking to capture a large customer base.

8.13 Distribution of Respondents by Business Customer Base

Compared to household Internet use, relatively little is known about business customers use of the Internet. This survey offers one of the first known attempts at examining the characteristics of Internet business customers from the point of view of the ISP. As Exhibit 8-15 illustrates, 77% of respondents who reported their customer totals serve the business market. The 0 category reflects respondents that serve the residential market only. Because this report assumes that non-residential customers are business customers, the statistics presented in this section may over-represent the actual business customer base of respondents.

Exhibit 8-15: Distribution of Respondents by Business Customer Base

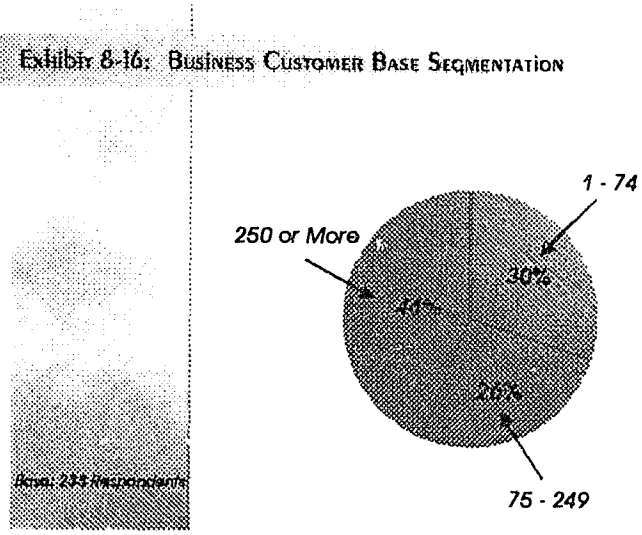


8.14 Business Customer Segmentation

In order to study their customer base characteristics more closely, respondents can be grouped into one of three categories based on the number of business customers they serve. Exhibit 8-16 presents the three business customer categories.

The business categories shown in Exhibit 8-16 were selected largely for statistical reasons; that is, this breakdown offers a reasonable distribution of respondents in each category about which comparative statements can be made.

Exhibit 8-16: Business Customer Base Segmentation

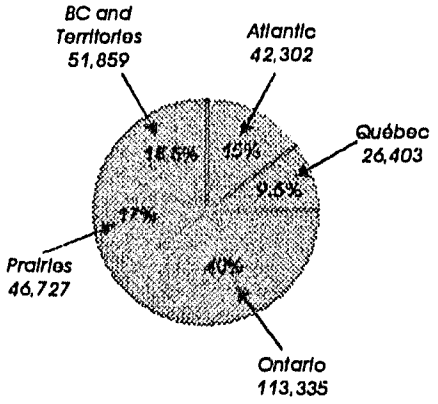


8.15 Business Customers by Regional Location of ISP

Exhibit 8-17 reflects the number of business clients served by respondents in each region. In this diagram, business customers are reported by the location of the ISP that serves them, rather than where the customer is located. The national total of 280,000 may under-represent the actual business customer base of respondents for two reasons: (i) several Large respondents did not complete the customer portion of the questionnaire; (ii) respondents may have reported home-based business customers as residential subscribers rather than business subscribers Indeed, the proportion of respondents that actually track how many of their clients are home-based business users is not known.

Six of the ten largest respondents (by operating revenue) reported their customer totals. Those six firms serve just under 34,000 of the reported number of business customers, or approximately 12% of the national total.

Exhibit 8-17: Business Customers by Regional Location of ISP

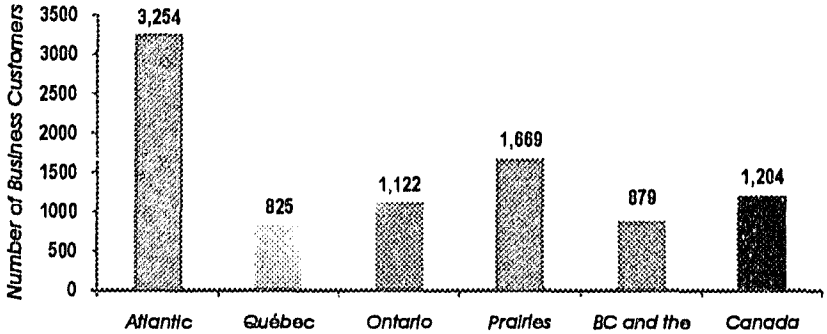


Base: 233 Respondents

Total (All Regions): 280,627

Examination of the average number of business customers served by ISPs in each region reveals a high degree of variation. Exhibit 8-18 shows that respondents in Québec and BC and the Territories reported the smallest number of business subscribers on average, while those in Atlantic Canada reported having nearly three times as many business clients as the national average. These figures, however, are influenced by the presence of a small group of respondents that serve significant numbers of business customers.

Exhibit 8-18: Average Number of Business Customers by Regional Location of ISP



Base: 233 Respondents

Of the ten largest respondents (by operating revenue), only six reported their customer totals. All six, however, reported serving the business market. When those six firms are removed from the respondent base, the national average falls from 1,204 to 1,087.

8.16 Number of Business Customers in Each Province

Exhibit 8-19 presents the number of business customers in each province; that is, the statistics reflect where the business customer is located, not where the ISP that serves that customer is located (the latter statistics were reported in Exhibit 8-18). By virtue of the size and types of ISPs captured by the survey, the customer totals in some provinces are likely under-represented and others over-represented. It is unlikely, for example, that there are no business customers in Prince Edward Island, as Exhibit 8-19 suggests.

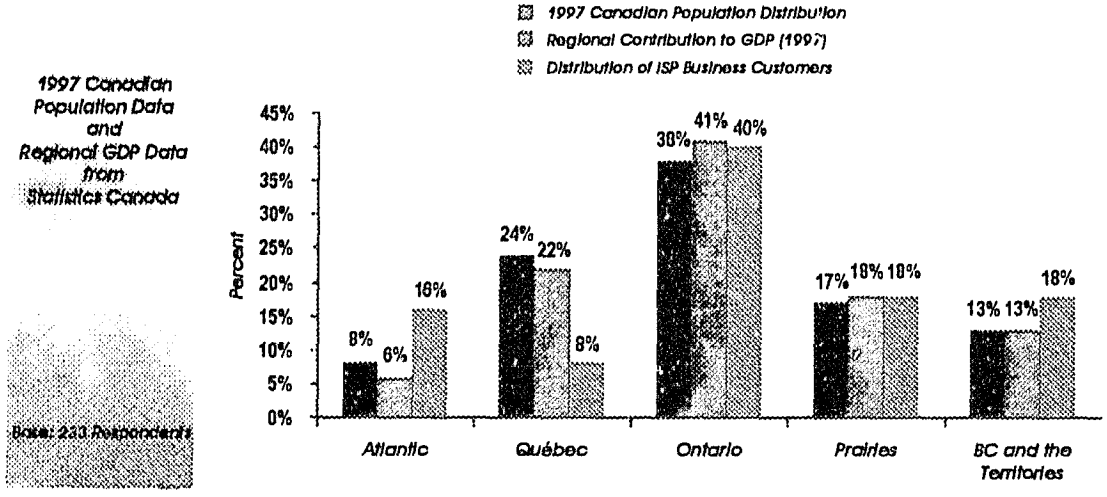
Exhibit 8-19: Number of Business Customers in Each Province

Province or Territory	Number of Business Customers
Yukon	460
Northwest Territories	729
British Columbia	50,662
Alberta	34,923
Saskatchewan	10,888
Manitoba	5,824
Ontario	111,830
Québec	22,195
New Brunswick	20,068
Nova Scotia	1,476
Prince Edward Island	0
Newfoundland	11,169
Canada (All Provinces)	280,834

Base: 233 Respondents

As a basis for comparison, the distribution of business customers captured by the survey can be measured against both the Canadian population distribution and each region s contribution to Canada s gross domestic product (GDP). This comparison is shown in Exhibit 8-20.

Exhibit 8-20: Comparison of ISP Business Customer Distribution to Canadian Population Distribution and Regional Contribution to GDP



Regional contribution to GDP approximates regional economic activity and, therefore, should serve as a reasonable measure of the distribution of businesses across the country. The regional distribution of ISP business customers can then be compared to the regional distribution of businesses. With the exceptions of Atlantic Canada and Québec, the distribution of ISP business customers captured by the survey generally corresponds with the GDP distribution. These exceptions are explored below.

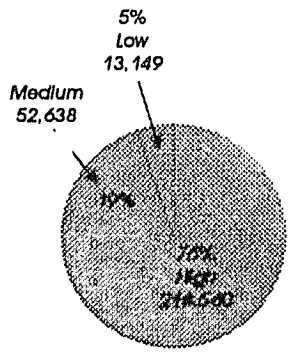
In using the Canadian population distribution as a benchmark, the assumption is that the number of companies (ISP business customers) in a given region should be proportional to that region s population base. This follows from the fact that economic activity is generally concentrated in more densely populated, largely urban, areas. Based on this assumption, the distribution of ISP business customers should generally be consistent with the distribution of Canadians. As Exhibit 8-20 illustrates, and as noted with the comparison to regional economic activity, the survey appears to have over-represented ISP business customers in Atlantic Canada, while under-representing those in Québec.

The presence of outliers (respondents serving large numbers of business customers) may have the effect of artificially increasing the Atlantic Canada figure. The Québec finding, however, may not be inconsistent with Internet use among businesses in that province. In its Spring 1998 survey, for example, the Canadian Federation of Independent Business (CFIB) found that about 30% of small- and medium-sized firms in Québec had Internet access. This compares to the national average of just under 45%. It is important to note that the CFIB used a broad definition of Internet access, whereby respondents need not have a business Internet account. A respondent to the CFIB survey may, for example, use the Internet from home for purposes related to their business, or may use the Internet account of someone else in their organization.

8.17 Business Customers by ISP Revenue

When grouped by ISP revenue, firms in the High category account for 76% of reported business customers (Exhibit 8-21). There may be a relationship between the revenue that respondents generate from their ISP activities and the size of their business customer base. That is, ISPs that have more business customers are more likely to fall into the High ISP revenue category than into any other category.

Exhibit 8-21: Business Customers by ISP Reve

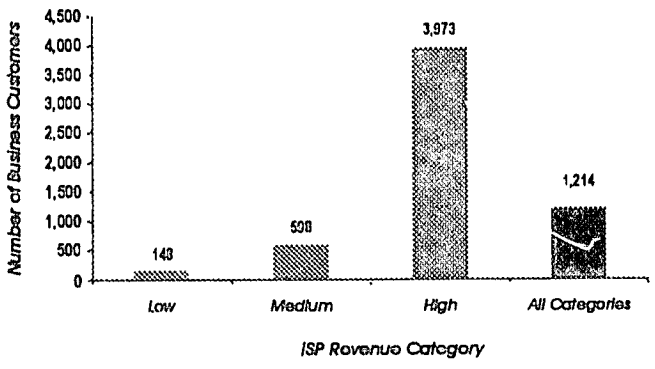


Base: 231 respondents

Total (All Categories): 280,347

Exhibit 8-22 reinforces the positive relationship that seems to exist between ISP revenue and business customer base. Serving the business market appears to increase the ISP revenue-generating potential of respondents. As with the residential customer findings in section 8.12, industry incumbents that serve large numbers of business customers may have an advantage, with respect to their ability to earn ISP revenue, over new entrants. Of course, a strategy of acquiring existing ISPs in order to achieve market share may offset this potential advantage.

Exhibit 8-22: Average Number of Business Customers by ISP Revenue

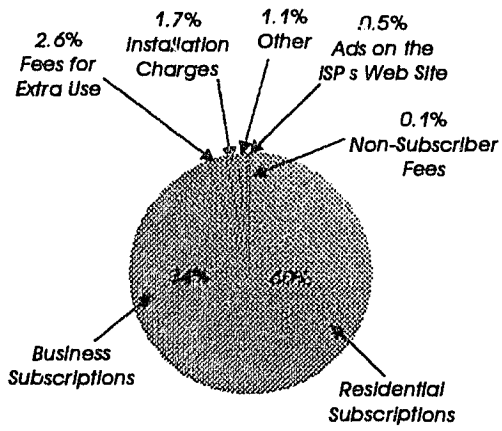


Base: 231 respondents

9.0 Sources of ISP Revenue

Respondents were asked to estimate the proportion of ISP revenue that they derive from various sources. As shown in Exhibit 9-1, most respondents cited residential subscriptions as their primary revenue source, accounting for nearly 60% of their total ISP revenue. On average, business subscriptions contributed almost 35% to respondents' ISP revenue. All other sources accounted for just over 5% of total ISP revenue.

Exhibit 9-1: Sources of ISP Revenue

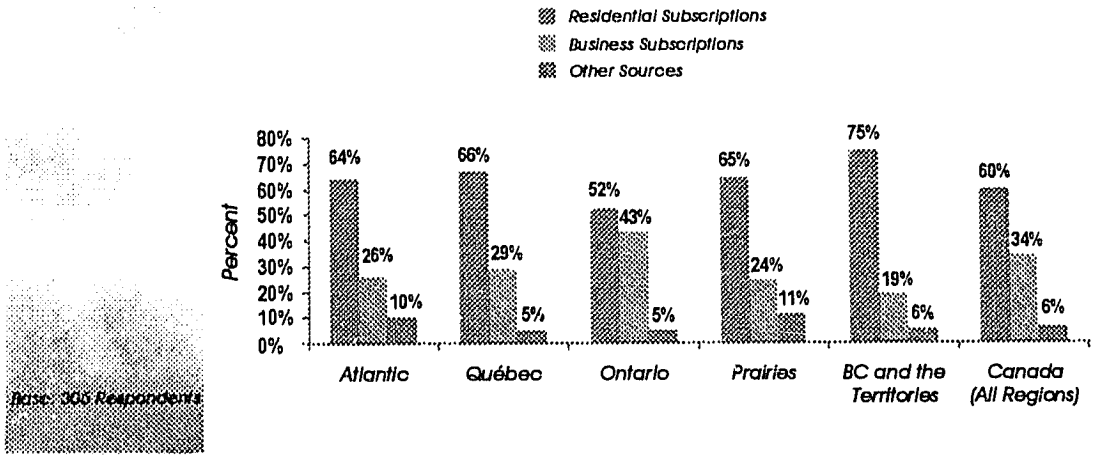


Throughout the remainder of this section, only residential and business subscriptions will be explored in detail. All of the other revenue sources will be combined into a single category called "Other".

9.1 Sources of ISP Revenue by Region

Regionally, there appears to be some variation in the dependence of respondents on residential versus business subscriptions (Exhibit 9-2). Respondents in Ontario derive nearly equal proportions of their ISP revenue from residential and business subscribers, while respondents in BC and the Territories are much more dependent on residential subscriptions. As discussed in section 5.3, the distribution of respondents in BC and the Territories is skewed toward smaller respondents; in contrast, Ontario accounts for more Large respondents than any other region. There may, therefore, be a relationship between a firm s size and its reliance on the residential market as a source of ISP revenue. That is, smaller respondents may be more likely to rely on the residential market than the business market as a source of revenue. This hypothesis will be explored in more detail in the next section, *Sources of ISP Revenue by Firm Size.*

Exhibit 9-2: Sources of ISP Revenue by Region



When the percentages presented in Exhibit 9-2 are converted to dollars, the following values result at the national level:

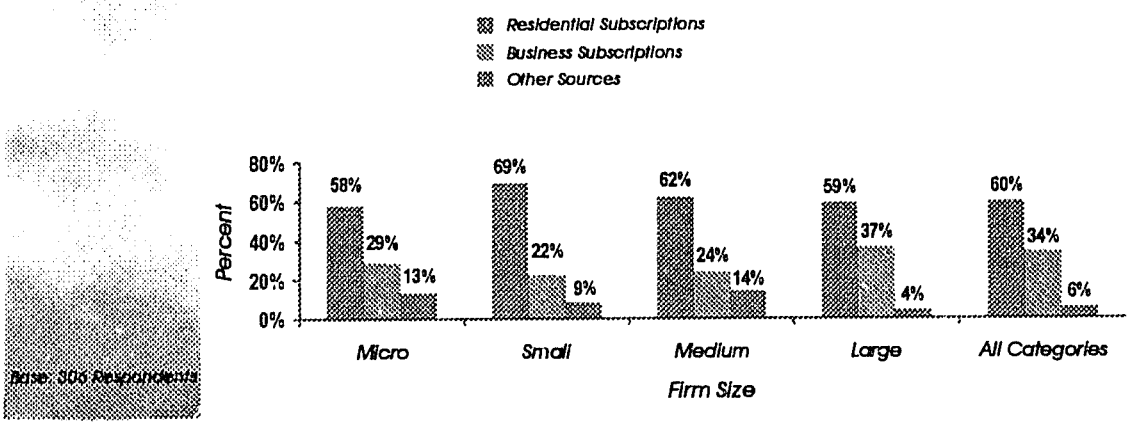
Residential subscriptions:	$130.3 million (60% of respondents ISP revenue)
Business subscriptions:	$74.2 million (34% of respondents ISP revenue)
Other sources:	$13.1 million (6% of respondents ISP revenue)

9.2 Sources of ISP Revenue by Firm Size

Exhibit 9-3 summarizes the proportion of revenue derived from each source when respondents are grouped by firm size. Large respondents derive more of their ISP revenue from business subscriptions than other respondents, while Small respondents rely more on residential subscriptions. Interestingly, those in the Micro category derive more revenue from business subscriptions than either Small or Medium respondents. Their size may allow Micro respondents to be more flexible than other ISPs in offering customized services to business clients. Alternatively, a subset of Micro respondents may derive almost all of their ISP revenue from business subscriptions, thereby inflating the business subscription average for that category.

With the exception of the Micro category, the hypothesis that firm size and reliance on residential subscriptions as an ISP revenue source appears to hold. That is, smaller respondents rely more on the residential market for their ISP revenue than larger respondents.

Exhibit 9-3: Sources of ISP Revenue by Firm Size

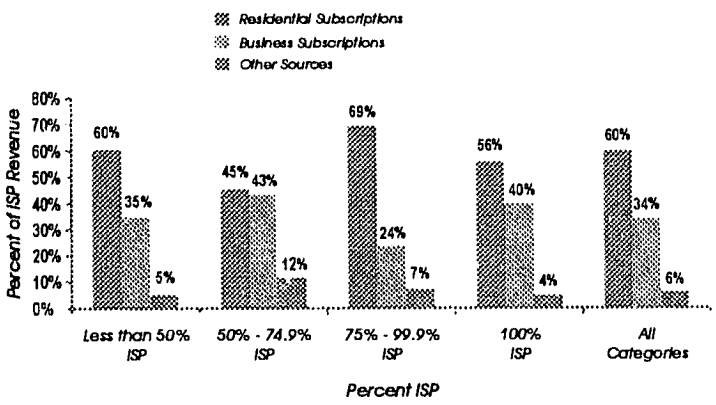


9.3 Sources of Revenue by Percent ISP

Exhibit 9-4 shows that respondents in the 50%-74.9% ISP category generate nearly equal proportions of their ISP revenue from residential and business subscriptions. In contrast, those in the 75%-99.9% ISP category are much more reliant on residential subscriptions. Across categories, however, no obvious relationship exists.

When the responses of those in the Less than 50% ISP category (which, in terms of operating revenue, tend to consist of larger respondents) are compared to those in the 100% ISP category, there are relatively small differences. 100% ISPs tend to rely somewhat more heavily on business subscriptions than Less than 50% ISPs.

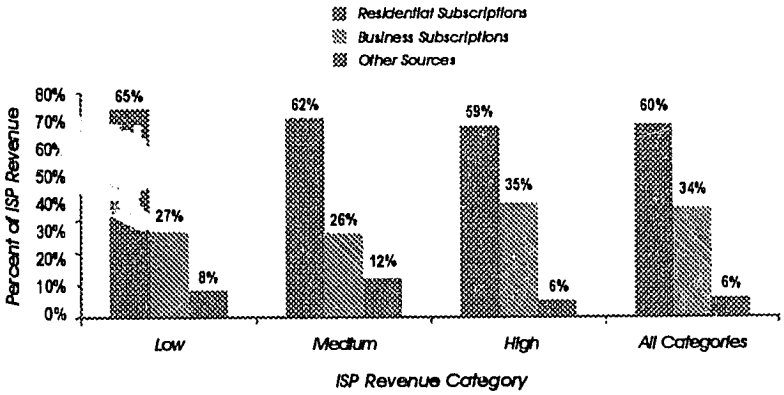
Exhibit 9-4: Sources of ISP Revenue by Percent ISP



9.4 Sources of Revenue by ISP Revenue Category

As shown in Exhibit 9-5, respondents in the High ISP revenue category derive a greater proportion of their ISP revenue from business subscriptions than other respondents. This result lends further support to the findings in section 8.17, which showed that serving the business market increases the ISP revenue-generating capacity of respondents.

Exhibit 9-5: Sources of ISP Revenue by ISP Revenue Category

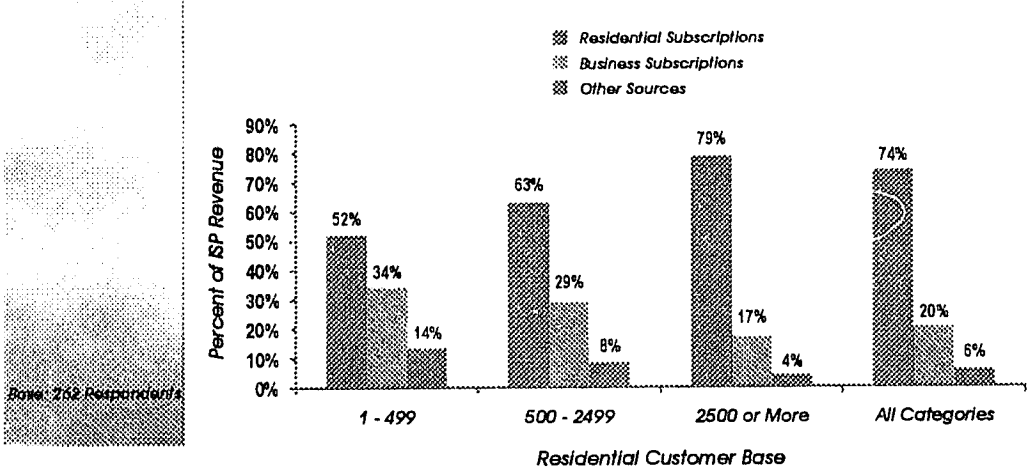


9.5 Sources of Revenue by Residential Customer Base

Not surprisingly, there is a positive relationship between a respondent s residential customer base and its reliance on residential subscriptions as a source of revenue. Respondents with 2500 or more residential customers derive nearly 80% of their revenue from residential subscriptions, as shown in Exhibit 9-6. In contrast, those with fewer than 500 residential customers generate just over half of their ISP revenue from residential subscriptions.

Note also the inverse relationship between residential customer base and the proportion of ISP revenue derived from business subscriptions. Respondents with fewer residential customers derive a greater proportion of their ISP revenue from business subscriptions than those with more residential customers. It is important to note that the respomnses of several of the largest respondents (by operating revenue) are not reflected in Exhibit 9-6, as they did not complete the customer portion of the questionnaire.

Exhibit 9-6: Sources of ISP Revenue by Residential Customer Base

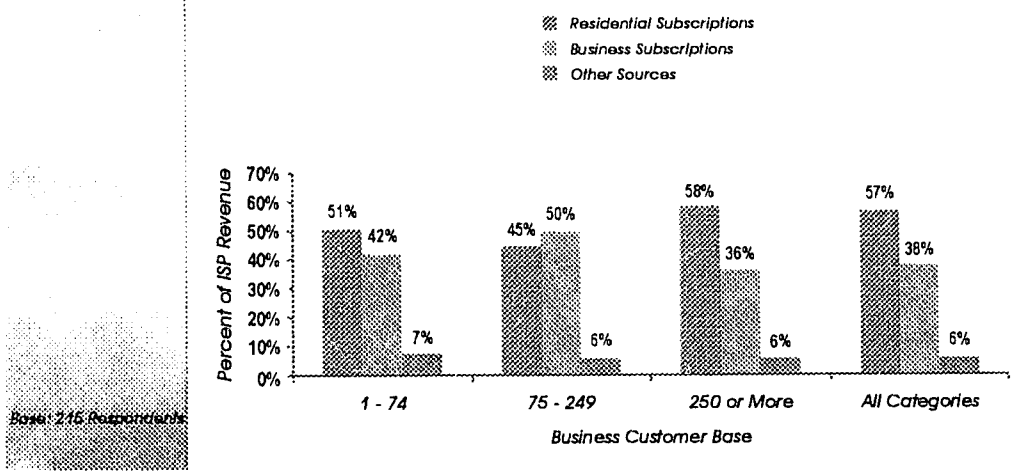


9.6 Sources of ISP Revenue by Business Customer Base

Although it may seem counter-intuitive, Exhibit 9-7 reveals that respondents with more business customers derive a smaller proportion of their ISP revenue from business subscriptions than firms with fewer business customers. One explanation for this result is that respondents with more business customers may be offering only basic services, such as access, to their business clients. The strategy, in this case, would be one of attempting to capture market share. In contrast, those with fewer business customers may offer a wider range of services to their business customers, such as electronic commerce, for which they may charge premium prices.

Not all of the largest respondents (by operating revenue) reported their customer totals. As a result, their responses are not included in Exhibit 9-7.

Exhibit 9-7: Sources of ISP Revenue by Business Customer Base



10.0 Employment

Respondents to the 1997 ISP Survey reported a total of just under 10,000 paid employees. That figure includes full-time employees (FTEs), part-time employees (PTEs), working proprietors or partners in the business, and contract workers. It is important to note that those 10,000 employees may work in ***any*** of a respondent s business units. They are not necessarily staff that work exclusively in the ISP business unit. As a result, the reported number of employees over-represents the number that work on ISP-related activities.

The fact that 389 respondents employ a total of 10,000 workers offers enormous insight into the self-running nature of Internet Service Providers. Relatively few administrative workers or support staff seem to be required to compete in the ISP industry. During the course of contacting respondents to verify their address information (discussed in the Methodology section), it was obvious that many ISPs were sole proprietorships or two-to-three person establishments. This observation helps to explain the rapid pace of industry entry and exit. Relatively few employees are needed to establish an ISP business, and relatively few layoffs need occur when a firm exits the industry.

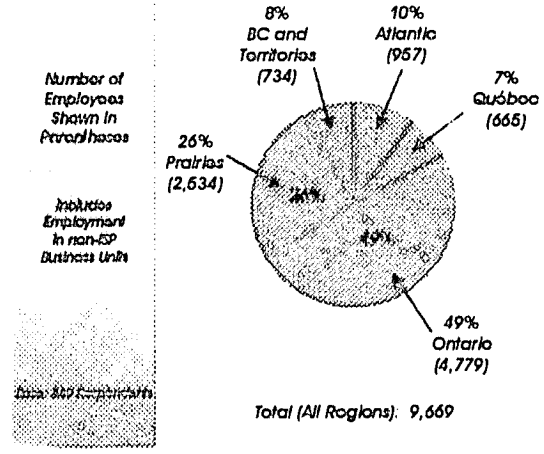
The ten largest respondents (in terms of operating revenue) account for 67% of the total reported number of employees. In contrast, 41 respondents reported having no paid employees this despite the fact that they were for-profit organizations. Such firms may have volunteer staff or may be sole proprietorships where the owner does not draw a salary from the business.

10.1 Employment by Region

Exhibit 10-1 shows the breakdown of employees by region. The regional distribution of employees differs significantly from the geographic distribution of survey respondents (Exhibit 4-1). In particular, 25% of respondents are located in BC and the Territories, yet these same respondents account for only 8% of total employees. Similarly, Québec ISPs constitute 14% of the respondent base, yet they employ only 7% of reported workers. These findings are consistent with those in section 5.4, which showed that the survey captured proportionately fewer Large respondents in Québec and BC and the Territories than in other regions of the country.

In contrast, the Prairies account for 14% of respondents, but Exhibit 10-1 shows that this region employs 26% of reported workers. The over-representation of employees in the Prairies, Ontario, and Atlantic Canada (relative to the geographic distribution of respondents) can be attributed to the presence of several very large respondents in these regions.

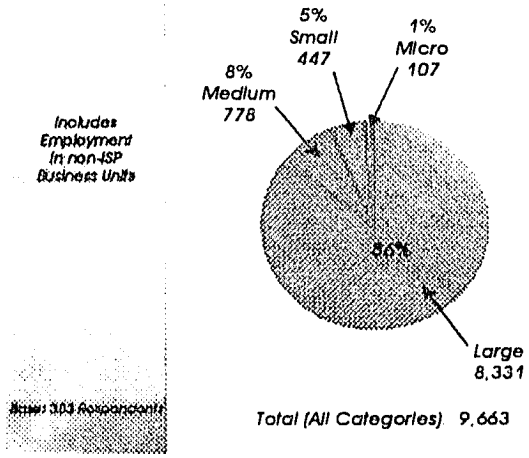
Exhibit 10-1: Number of Employees by Region



10.2 Employment by Firm Size

Not surprisingly, there is a positive relationship between firm size and employment. As shown in Exhibit 10-2, Large firms (those with $1 million or more in operating revenues) account for 86% of total reported employees. Again, it should be stressed that these figures reflect the number of employees that work for the firm as a whole, not the number that work in the ISP business unit alone

Exhibit 10-2: Number of Employees by Firm Size



10.3 Employment by Percent ISP

Respondents in the Less than 50% ISP category account for over two-thirds of the reported number of employees (Exhibit 10-3). As discussed at various points throughout this report, several (but not all) of the largest respondents fall into the Less than 50% ISP category. Therefore, Exhibit 10-3 reinforces the notion that larger respondents have more employees than smaller respondents. Just how many more workers they employ becomes clear when averages are examined, as shown in Exhibit 10-4.

Respondents deriving less than 50% of their operating revenue from ISP activities employ 93 workers on average. In contrast, those in the other three categories employ an average of ten workers.

Exhibit 10-3: Number of Employees by Percent ISP

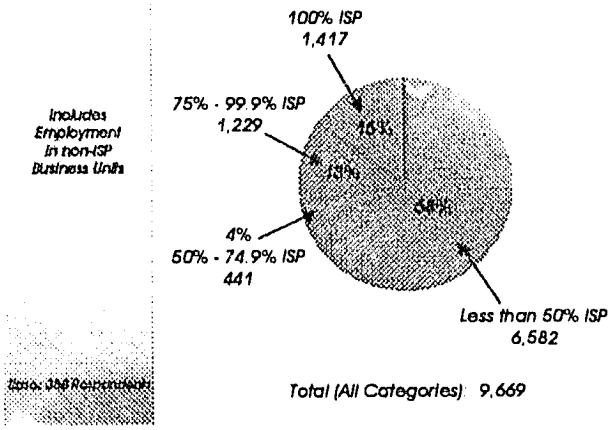
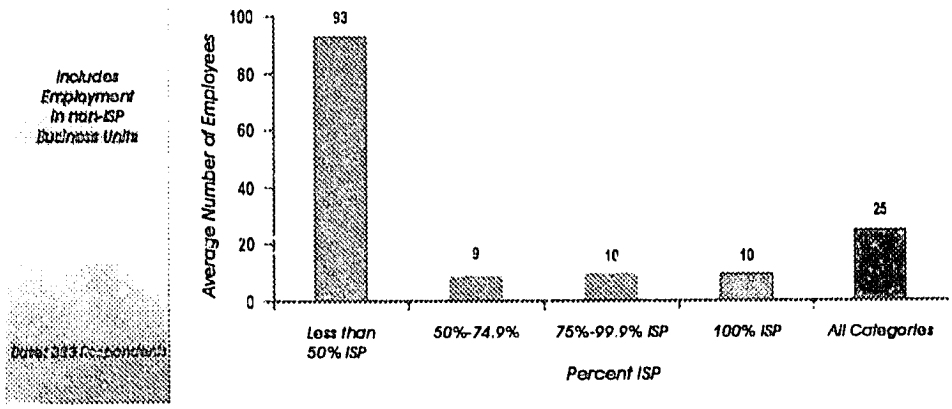


Exhibit 10-4: Average Number of Employees by Percent ISP

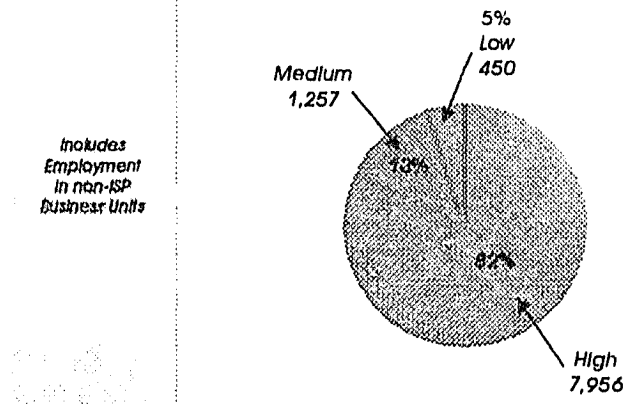


10.4 Employment by ISP Revenue Category

Exhibits 10-5 and 10-6 highlight the positive relationship that appears to exist between ISP revenue and employment. Respondents in the Low ISP revenue category are more likely to be smaller establishments. These ISPs may offer only basic services that require relatively few workers to maintain. In contrast, those in the High category may offer a broader range of services or have formalized departments, such as customer support, that require more employees to sustain.

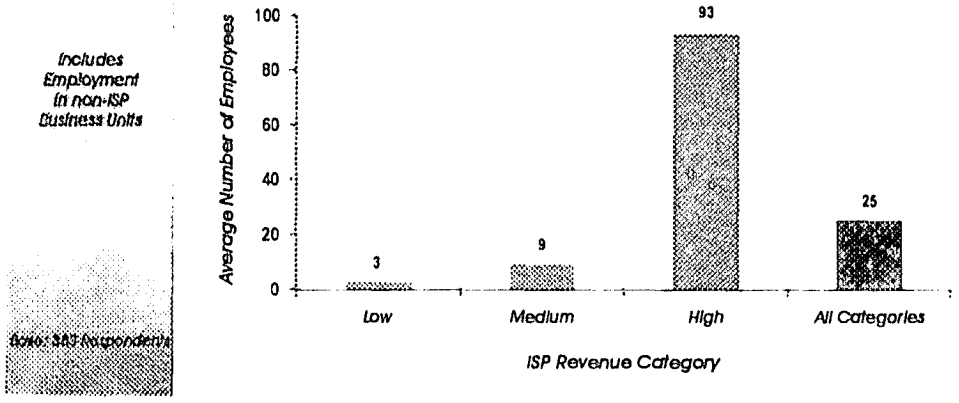
Again, employees in the ISP revenue categories include those that work in respondents non-ISP business units.

Exhibit 10-5: Number of Employees by ISP Revenue Category



Total (All Categories): 9,663

Exhibit 10-6: Average Number of Employees by ISP Revenue



Staffing does not appear to be a major barrier to entry to the ISP industry. The benefit for both incumbents and potential entrants is that the associated costs of employment (wages, salaries, and benefits) likely make up a relatively small portion of ISPs total business expenses. These expenses, including wages, are explored in the next section of this report

11.0 Operating Expenses

11.1 A Note on Operating Expenses

Survey respondents are so varied in terms of their non-ISP business activities that it is extremely difficult to create an exhaustive list of their expenses. Nevertheless, the 1997 ISP Survey attempted to capture several key ISP-specific costs, in addition to firm-wide costs. In so doing, however, the expense portion of the questionnaire included some elements that would not necessarily be considered income statement items in an accounting sense. In addition, respondents may have treated items that can either be expensed or capitalized purely as expense items (this may also have had an impact on respondents' balance sheet entries, which will be discussed in Section 13.0).

For these reasons, the expenses presented in this section of the report should be treated as approximations only. In addition, expenses are at a *firm-wide* level they are *not* expenses that can be attributed to respondents' ISP business units alone.

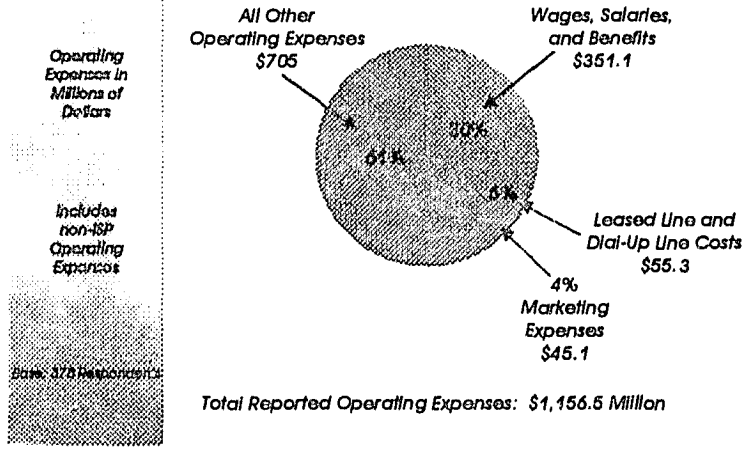
11.2 Total Operating Expenses

This report focuses on two operating expense items:

(i) wages, salaries, and benefits;
(ii) marketing expenses.

Exhibit 11-1 illustrates these two cost categories, along with leased line and dial-up line costs. Combined, these four items account for 39% of respondents total operating expenses. Leased line charges and dial-up line costs are extremely important components of an ISP s business. Although Exhibit 11-1 shows that leased lines and dial-up lines constitute only 5% of respondents total operating expenses, they account for significantly more of respondents ISP business unit expenses. That is, when ISP activities are examined separately from respondents other lines of business, leased lines and dial-up lines likely account for a significant portion of respondents Internet service provision costs.

Exhibit 11-1: Total Operating Expenses



Future survey themes will examine leased line and dial-up line expenses in detail. This section will address only the broader, firm-level expenses of marketing, and wages, salaries, and benefits.

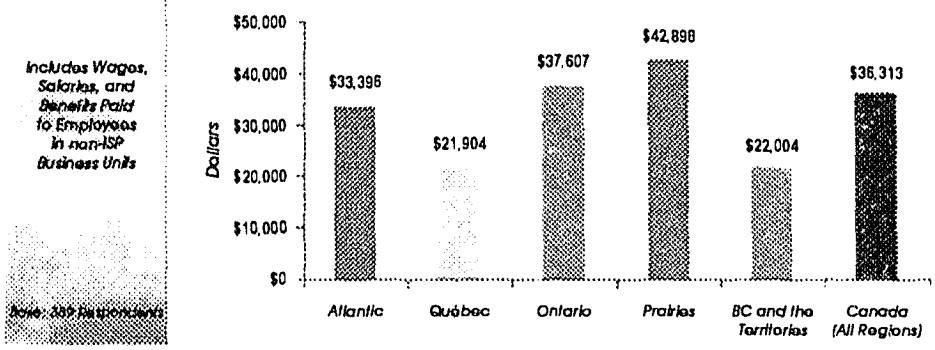
11.3 Wages, Salaries, and Benefits

As discussed in section 10.0, this report groups full-time employees, part-time employees, working proprietors or partners in the business, and contract workers into a single employment category. As a result, the statistics presented in this section should be treated as employment expenses reported during respondents 1997 fiscal year, rather than as measures of the average annual salaries received by employees.

11.3.1 Wages, Salaries, and Benefits per Employee by Region

On average, respondents in Québec and BC and the Territories have significantly lower wage, salary, and benefit costs than those in other regions (Exhibit 11-2). This may be partly due to the findings in Exhibit 5-4, which showed that relatively fewer Large firms responded from these two regions than in other parts of the country, and it may be that larger respondents pay higher wages than smaller respondents. This hypothesis is tested in the next section.

Exhibit 11-2: Wages, Salaries, and Benefits per Employee by Region

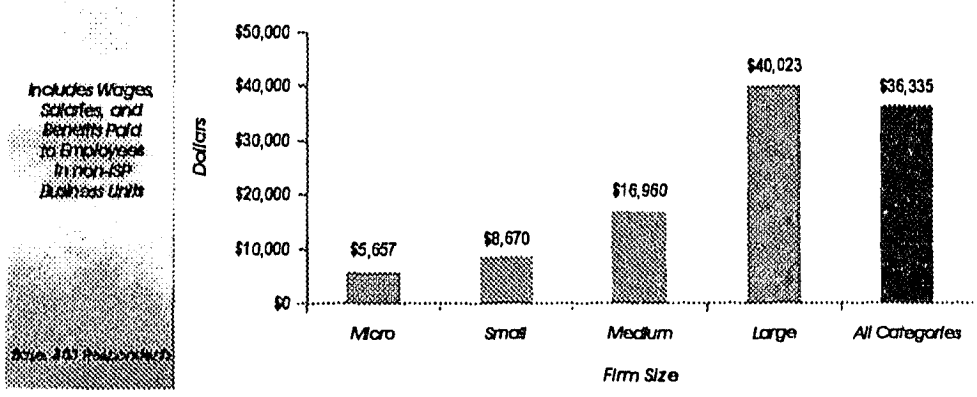


11.3.2 Wages, Salaries, and Benefits per Employee by Firm Size

There is an apparent positive relationship between firm size and the wages, salaries, and benefits paid to employees, as Exhibit 11-3 illustrates. On average, Large respondents pay more than twice as much in wages, salaries, and benefits as Medium respondents; in turn, those in the Medium category pay almost twice as much as Small respondents. Note how little Micro and Small respondents pay in wages, salaries, and benefits. These firms may employ more part-time workers than full-time workers, or they may use volunteer or contract workers to fill their staffing needs.

The relatively low wage expenses incurred by Micro and Small respondents offers further evidence that the cost of employment is not a major barrier to entry in Canada s ISP industry (discussed in section 10.4).

Exhibit 11-3: Wages, Salaries, and Benefits per Employee by Firm Size

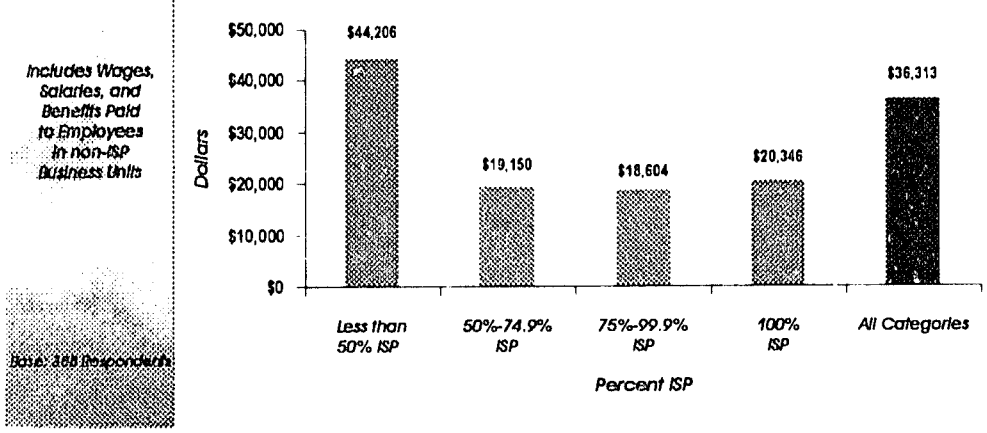


11.3.3 Wages, Salaries, and Benefits per Employee by Percent ISP

Exhibit 11-4 shows that respondents in the Less than 50% ISP category incur more than twice the wage expenses per employee than respondents in other categories. As discussed throughout this report, several of the largest respondents fall into the Less than 50% ISP category. Therefore, Exhibit 11-4 reinforces the finding that larger respondents tend to have higher average employment costs than smaller respondents.

The three other categories exhibit a relatively constant average of approximately $20,000 per employee, which is interesting when considering the findings of section 10-3 – that these categories had an average of ten employees per firm. Both average and total employment expenses for respondents in these categories are strikingly lower than the Less than 50% ISP category.

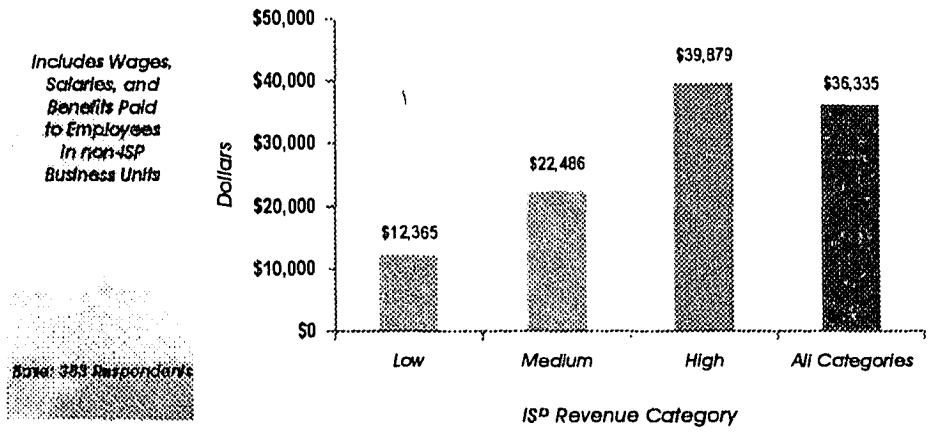
Exhibit 11-4: Wages, Salaries, and Benefits per Employee by Percent ISP



11.3.4 Wages, Salaries, and Benefits per Employee by ISP Revenue Category

There appears to be a positive relationship between ISP revenue and wage expenses per employee, as shown in Exhibit 11-5. In fact, there is approximately a doubling of wage expenses per employee from one category to another: the wage expenses of those in the Medium category are roughly double those of the Low category, and respondents in the High category have nearly twice the wage costs per employee as Medium respondents.

Exhibit 11-5: Wages, Salaries, and Benefits per Employee by ISP Revenue Category



11.4 Marketing Expenses

As with the other operating expenses, respondents were asked to report their marketing expenditures for the firm as a whole. Consequently, the figures presented in this section likely exceed the amount that respondents spend on marketing their ISP services alone.

Respondents spent a total of $45.1 million on marketing in 1997. No clear pattern emerges when marketing expenses are looked at regionally, so an analysis by region will be foregone. In contrast, a rather obvious conclusion results when marketing costs are looked at by firm size; namely, larger respondents spend more on marketing than smaller respondents. In fact, respondents in the Large category (those with $1 million or more in operating revenue) account for 95% of total reported marketing expenditures. The ten largest respondents (by operating revenue) account for 68% of the $45.1 million total.

Marketing expenses by Percent ISP and by ISP Revenue category will be analyzed in the remainder of this section.

11.4.1 Marketing Expenses by Percent ISP

Exhibits 11-6 and 11-7 show that those respondents deriving all of their revenue from ISP activities spend more on marketing, both in total and on average, than respondents in any other Percent ISP category. Those in the 100% ISP category account for over half of the reported national total. Canada s ISP industry is characterized by many players competing for a customer base whose rate of growth is showing signs of slowing, so firms may spend significant resources on marketing in an effort to capture and retain market share. This may explain why respondents that rely on ISP activities for all of their revenue spend more on marketing (on average) than respondents that are more diversified in their business activities.

Respondents in the Less than 50% ISP category also account for a significant share of reported marketing expenses. Organizations that fall into this category may include, for example, cable companies that advertise both their cable television services and their ISP services. For these respondents, the provision of Internet services tends to be a new line of business that they are seeking to launch and promote with large-scale marketing campaigns. This may drive up the average amount that respondents in the Less than 50% ISP category spend on marketing.

Exhibit 11-6: Total Marketing Expenses by Percent ISP

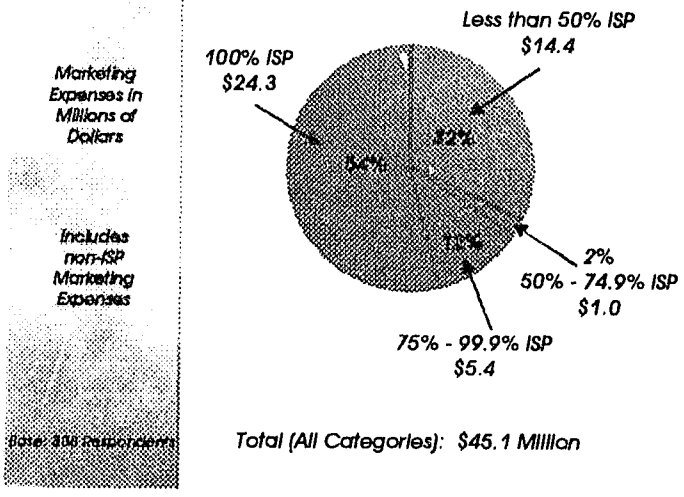
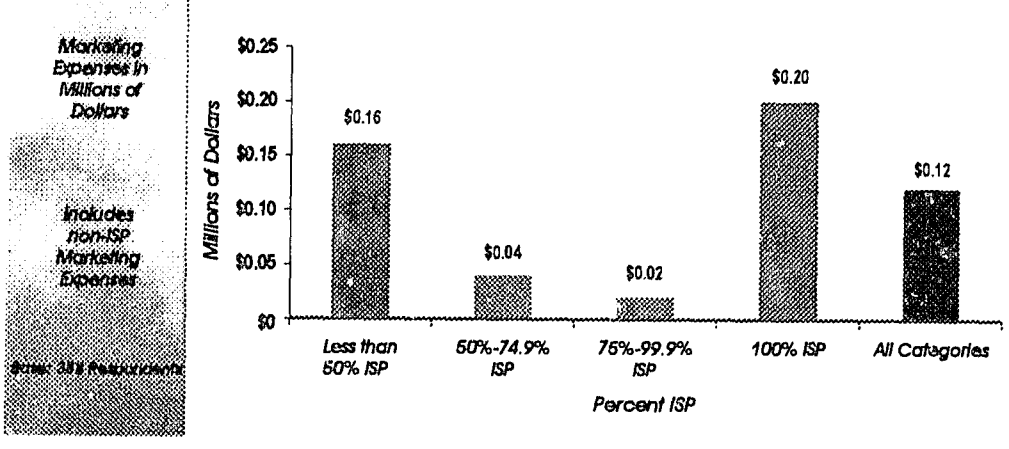


Exhibit 11-7: Average Marketing Expenses by Percent ISP



11.4.2 Marketing Expenses by ISP Revenue Category

A positive relationship appears to exist between ISP revenue category and marketing expenditures, as shown in Exhibits 11-8 and 11-9. Respondents in the High category account for 96% of the reported total, and spend an average of half a million dollars on marketing. Although non-ISP marketing expenditures are included in these calculations, marketing appears to play an important role in increasing the revenue that respondents generate from their ISP activities.

Exhibit II-8: Total Marketing Expenses by ISP Revenue Category

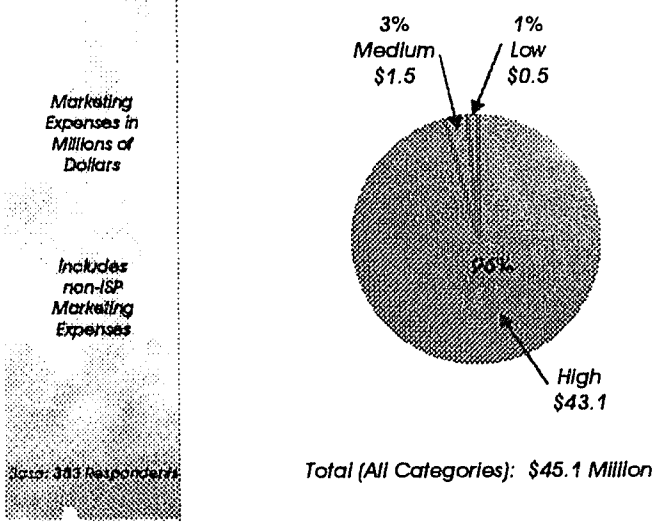
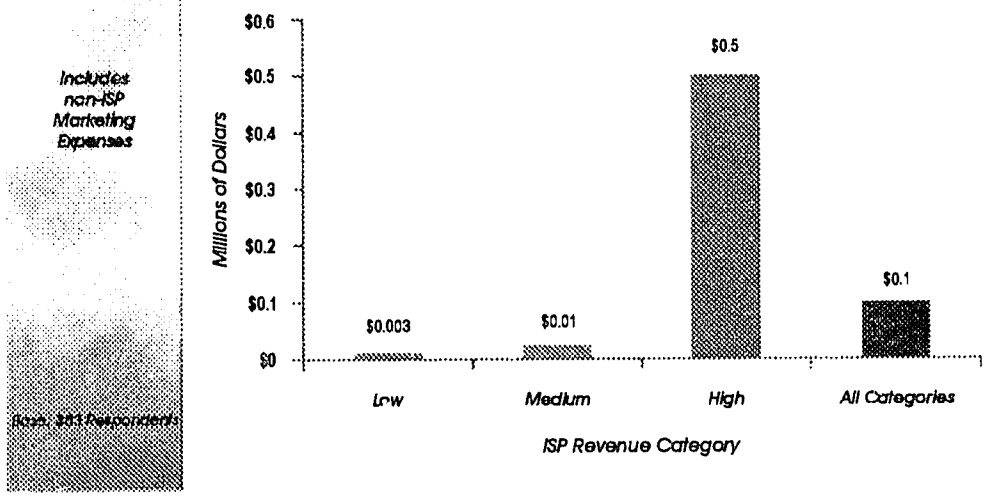


Exhibit II-9: Average Marketing Expenses by ISP Revenue



12.0 Operating Income

12.1 Operating Income Defined

Operating income is a measure of the profitability of a firm s operations. It factors out the revenues, and associated costs, that firms may generate from non-operating sources, such as investments or the sale of assets. In this way, operating income offers a clearer picture of the profitability of a firm s business units than net income does.

Operating Income = Operating Revenues - Operating Expenses

Operating income is a *firm-level* measure of profitability - it does *not* isolate the profitability of respondents ISP business units. Operating revenues were discussed in detail in section 5.0 of this report, and operating expenses were addressed in section 11.0. For comparative purposes, the exhibits in this section show both operating revenue and operating income.

12.2 Operating Income by Region

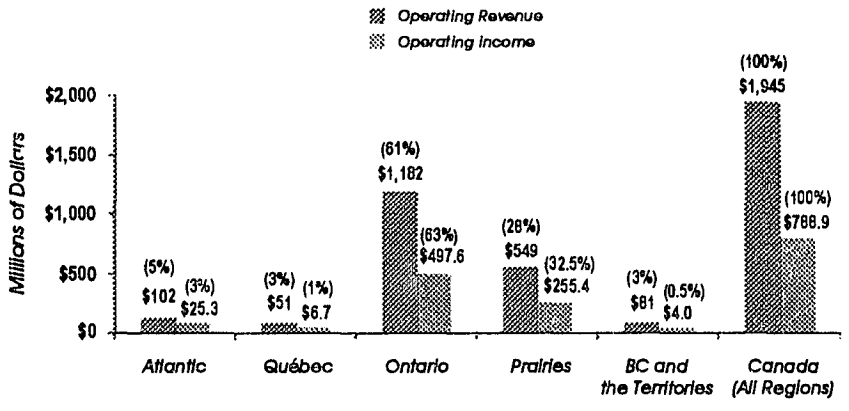
Exhibit 12-1 shows that, taken in aggregate, respondents competing in the ISP industry were profitable in 1997. Ontario-based firms earned close to $500 million in operating income, or 63% of the national operating income total of $789 million. In contrast, those in BC and the Territories earned $4 million from operations, or less than 1% of the national operating income figure. The regional differences may be due both to the number of firms reporting in each region, and to the relative size of respondents in these regions. As discussed in section 5.4, few Large respondents were located in Québec and BC and the Territories relative to other regions, which may account for the comparably low operating income figures in these regions.

Exhibit 12-1: Total Operating Income by Region

Operating Revenue and Operating Income include Revenue and Income Derived from non-ISP Activities

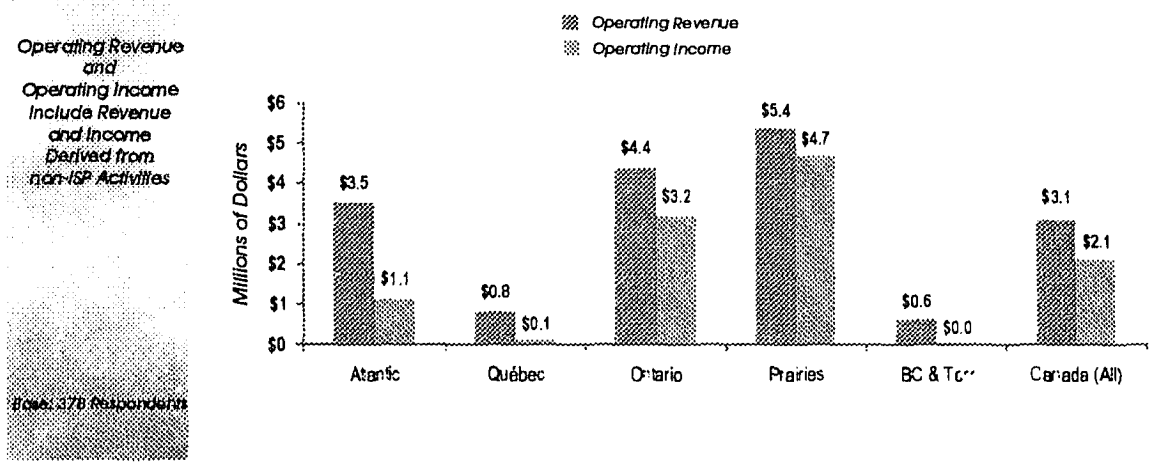
Percent of Reported National Total in Parentheses

Base: 178 Respondents



In terms of average values, there appears to be some regional variation in respondents operating income (Exhibit 12-2). Firms in the Prairies have the highest operating income ($4.7 million) on average, while those in BC and the Territories, who are just breaking even on their operations, have the lowest. Again, the size of respondents that the survey captured in each region may account for much of this variation. Several very large respondents are located in Atlantic Canada, Ontario, and the Prairies, and may be skewing the operating revenue and operating income figures upward.

Exhibit 12-2: Average Operating Income by Region

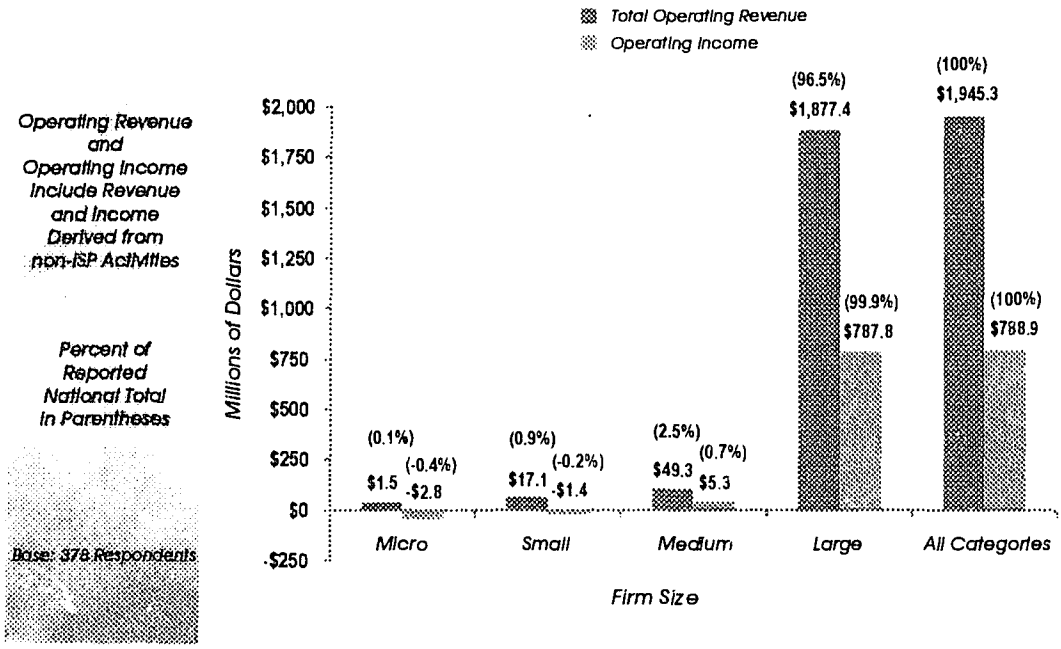


12.3 Operating Income by Firm Size

Exhibit 12-3 presents a dramatic picture of the enormous gap that exists between the operating income of Large respondents and all other respondents. Those in the Large category account for 99.9% of total reported operating income. In fact, only one other group of respondents, Medium firms show positive profits on their operations. The ten largest respondents (by operating revenue) make up 97% of the national operating income figure. In other words, these ten respondents report a combined income from operations of $762 million, while the remaining 368 respondents report a combined income of $27 million.

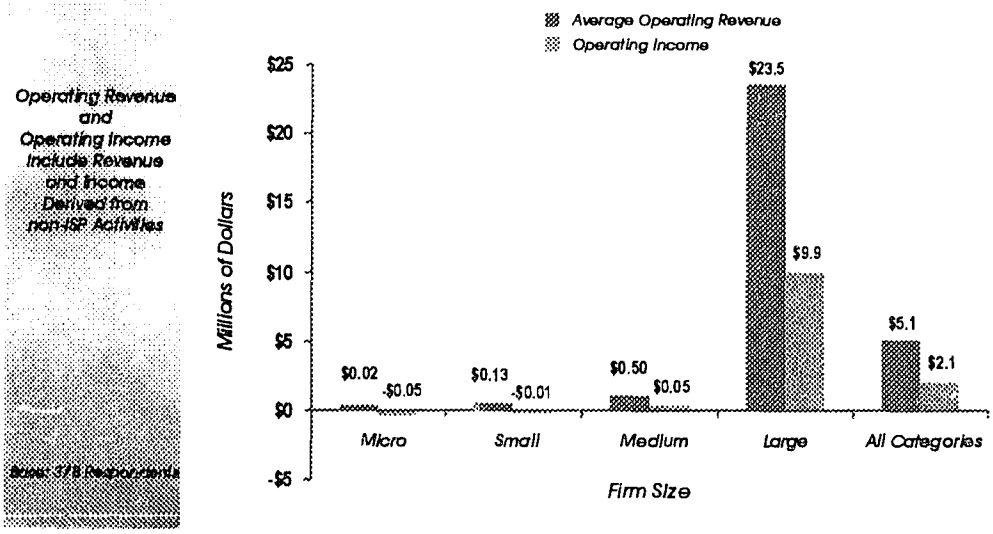
Clearly, the dominance that Large firms exhibit in terms of their capacity for generating ISP revenue (as discussed in section 7.4) and their share of the residential ISP market (section 8.10) extends to profitability. What remains unclear is whether Large respondents are realizing a profit on their ISP operations, or whether their profitability is attributable to non-ISP activities.

Exhibit 12-3: Total Operating Income by Firm Size



In terms of average values, shown in Exhibit 12-4, Large respondents earn considerably higher incomes than other respondents. When the ten largest respondents, FreeNets, and non-profit organizations are excluded from the calculation, the reported national average falls from $2.1 million to $78,000.

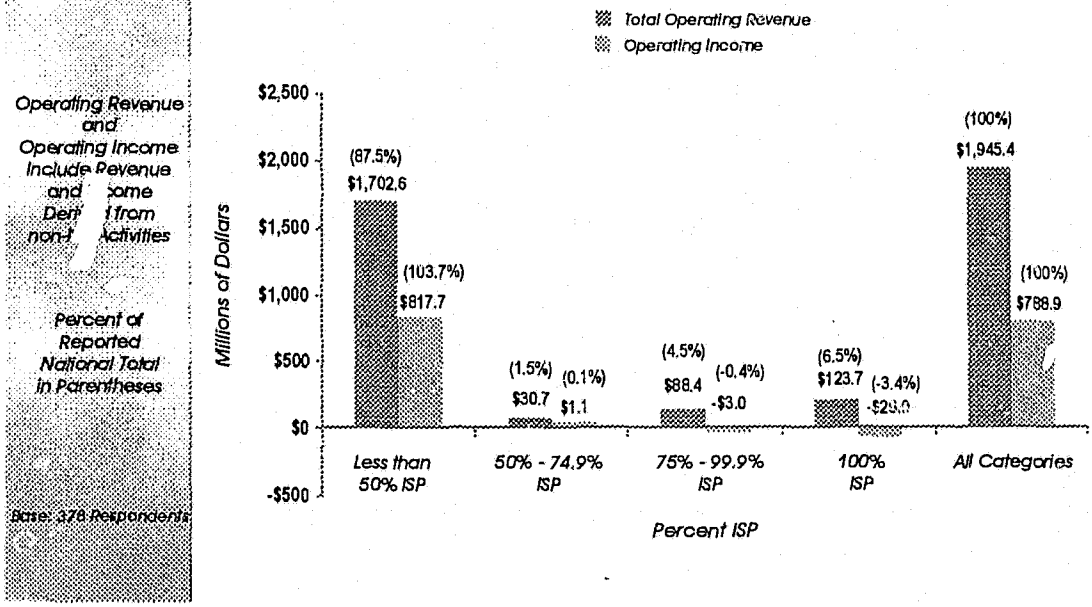
Exhibit 12-4: Average Operating Income by Firm Size



12.4 Operating Income by Percent ISP

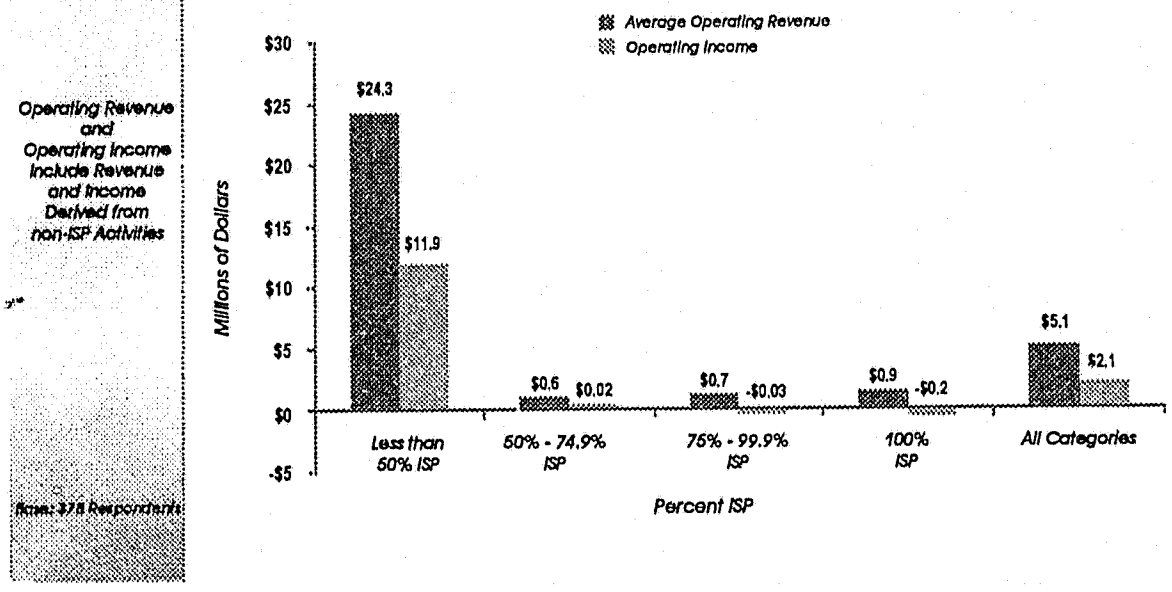
Exhibit 12-5 illustrates the inverse relationship that appears to exist between respondents' operating income and their reliance on ISP activities as a revenue source. Respondents that derive less than 50% of their revenue from ISP activities have significantly higher operating incomes than respondents in any other category. In fact, those respondents that rely on ISP revenue for three-quarters or more of their revenue lost money on their operations in fiscal 1997. As a result of these losses, the profitability of the Less than 50% ISP group ($818 million) exceeds the national total ($789 million).

Exhibit 12-5: Total Operating Income by Percent ISP



Examination of Exhibit 12-6 reveals that respondents in the Less than 50% ISP category earned, on average, close to $12 million, while those in the other categories either incurred a loss or realized only a small profit. *Note, however, that since operating income reflects the profitability of all of a firm's business units (which, in the case of many respondents includes more than ISP business units), it cannot be determined whether these firms are making a profit on their ISP operations alone.* All that can be said is that those respondents that derive 75% or more of their revenue from ISP activities are, on average, losing money on their operations. Respondents that derive less than 75% of their revenue from ISP operations may also be incurring a loss on their ISP business activities. The income they are earning from their non-ISP business units (such as telecommunications services in the case of telephone companies), however, may be more than compensating for this loss. Future research on the profitability of firms ISP business units would be a worthwhile undertaking.

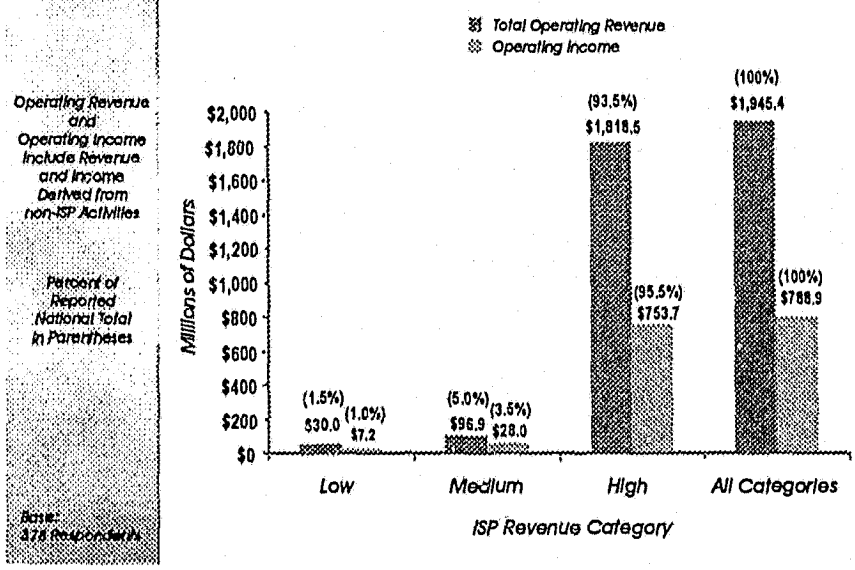
Exhibit 12-6: Average Operating Income by Percent ISP



12.5 Operating Income by ISP Revenue Category

When grouped by ISP revenue, respondents in all three categories show profitability on their operations, as illustrated in Exhibit 12-7. Those in the High ISP revenue category tend to be larger respondents and account for nearly 96% of reported operating income.

Exhibit 12-7: Total Operating Income by ISP Revenue Category

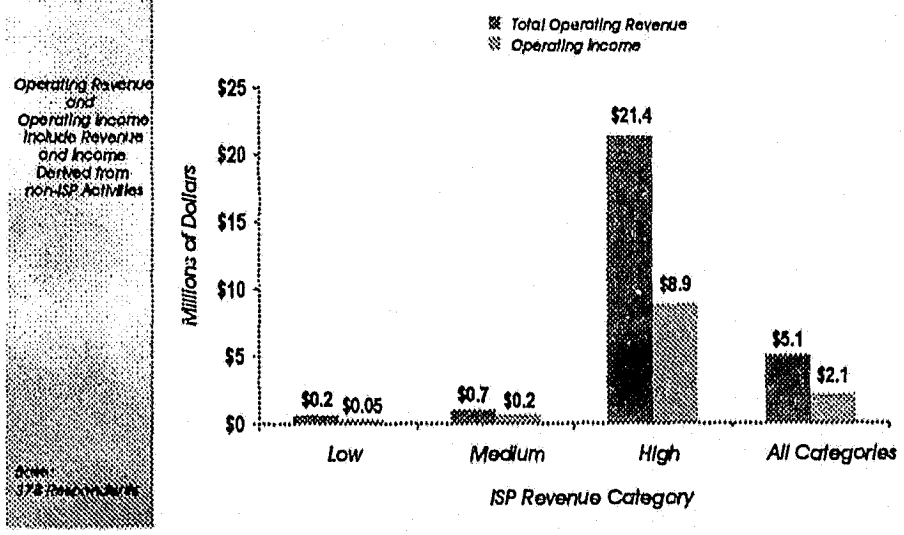


The average values, presented in Exhibit 12-8, highlight the positive relationship that seems to exist between ISP revenue and operating income. When this result is combined with the findings in sections 6.3 and 7.4, the following conclusions emerge:

The largest respondents, in terms of total operating revenue, (i) generate more ISP revenue than other respondents; (ii) derive a relatively small proportion of their total revenue from the provision of Internet services; and (iii) tend to be more profitable than other respondents.

In other words, the largest respondents, by total operating revenue, generate more ISP revenue, are more profitable, and rely less on their ISP business units as a source of revenue than other respondents.

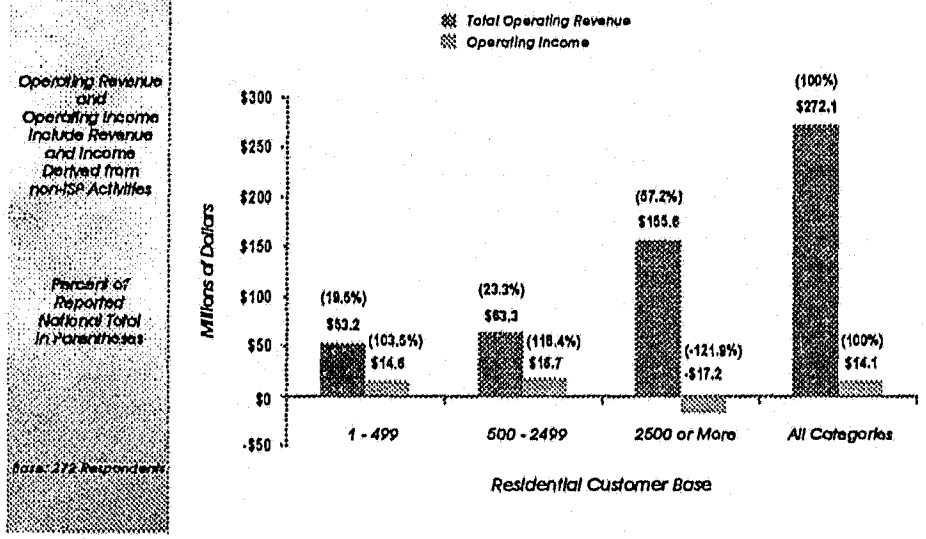
Exhibit 12-8: Average Operating Income by ISP Revenue Category



12.6 Operating Income by Residential Customer Base

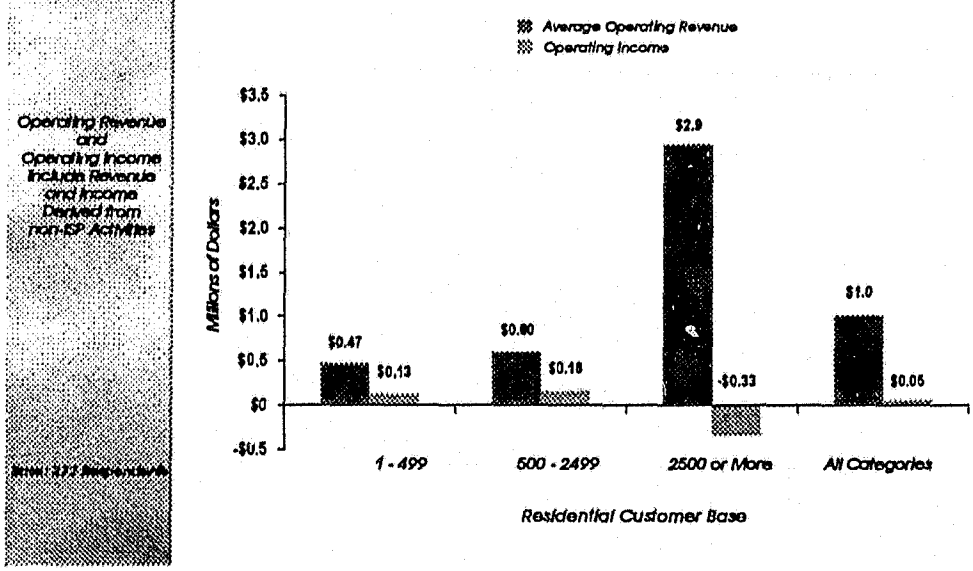
The figures in Exhibit 12-9 seem to suggest that respondents with 2500 or more residential customers are losing money on their operations. This finding is misleading, however, since several of the largest respondents (by total operating revenue) did not report their customer totals. As a result, their operating incomes are not reflected in either of Exhibits 12-9 or 12-10.

Exhibit 12-9: Total Operating Income by Residential Customer Base



The fact that several Large respondents did not complete the customer portion of the questionnaire limits the value of Exhibits 12-9 and12-10, since it is not known which residential customer base category these respondents fall into. In section 12.3, however, it was established that Large respondents account for 97% of total reported operating income. Clearly, those respondents that did not report their customer totals have a significant impact on operating income.

Exhibit 12-10: Average Operating Income by Residential Customer Base



By assumption, those Large respondents that did not report their customer totals are more likely to fall into the 2500 or More customer category than into any other residential customer category. In an effort to shed some light on the profitability of firms with a relatively large share of the residential market, those respondents that reported the largest residential customer totals can be isolated. Nine respondents reported having 30,000 or more residential customers. However, one of those respondents did not report their financial information. Exhibit 12-11 provides a profile of the remaining eight firms that reported the largest residential customer totals.

Exhibit 12-11: Profile of Respondents Reporting 30,000 or More Residential Customers

Number of Respondents	8
Total Number of Residential Customers	406,117
Total Operating Revenue	$55.2 Million
Average Operating Revenue	$6.9 Million
Total Operating Expenses	$85.8 Million
Average Operating Expenses	$10.7 Million
Total Operating Income	-$30,583,466
Average Operating Income	-3,822,933
Average Operating Margin	-55%

Base: 8 Respondents

The table above reveals that the respondents reporting 30,000 or more residential customers are, as a group, losing money. It is not clear, however, whether they are losing money on their ISP operations.

The operating margin value shown in Exhibit 12-11 converts operating income into a percentage, as follows:

operating margin = (operating income ÷ operating revenue) x 100

As such, operating margin offers a relative measure of profitability. In Exhibit 12-11, average operating margin (-55%) is calculated by dividing total operating income (-$30 million) by total operating revenue ($55 million).

13.0 Balance Sheet

To date, there have been no publicly available studies that explore, in detail, the financial statements of Canada s Internet Service Providers. In particular, an analysis of corporate balance sheets has been lacking. Exhibit 13-1 offers the first known presentation of an aggregate balance sheet for firms competing in Canada s ISP industry.

It is important to note that just over 20% of respondents completed the balance sheet portion of the survey questionnaire. The figures presented in this section, therefore, should not be considered representative of the respondent base as a whole. Further, some respondents may have included items on their income statements that, in an accounting sense, might ordinarily be considered balance sheet entries. This may have had the effect of under-representing the asset base of respondents, and over-estimating their expenses. Despite these limitations, the balance sheet in Exhibit 13-1 provides a base upon which future research on the ISP industry can build.

Exhibit 13-1: Aggregate Balance Sheet

Current Assets	$31,377,047
Long Term Assets	$270,550,753
Total Assets	$301,927,800
Current Liabilities	$38,854,115
Long Term Debt	$212,394,653
Total Liabilities	$251,248,768
Share Capital	$44,320,634
Retained Earnings	$6,358,498
Total Equity	$50,679,032

Include Assets, Liabilities, and Equity Attributable to non-ISP Activities

Base: 66 Respondents

From this balance sheet, several basic financial ratios can be calculated. Exhibit 13-2 provides some commonly used ratios that offer insight into the liquidity and the degree of leverage of respondents. As with much of the other financial information that has been discussed in this report, both the balance sheet in Exhibit 13-1 and the ratios in Exhibit 13-2 include items attributable to non-ISP activities.

Exhibit 13-2: Financial Ratios

Non-ISP Activities are Reflected in Calculations

Current Ratio (Current Assets / Current Liabilities)	0.81
Net Working Capital (Current Assets - Current Liabilities)	-$7,477,068
Debt-to-Asset Ratio (Total Debt / Total Assets)	0.83
Debt-to-Equity Ratio (Total Debt / Total Equity)	5.0

Base: 86 Respondents

The current ratio and the net working capital calculation are measures of short-term liquidity. That is, they provide an indication of a firm s ability to liquidate its current assets in order to cover its short-term debt. The fact that net working capital is negative or, equivalently, that the current ratio is less than one suggests that respondents (taken in aggregate) are not capable of meeting their short-term obligations. This finding is perhaps not surprising given the relative immaturity of the ISP industry. In an effort to establish their businesses, firms competing in this industry may be borrowing more money than firms in more mature industries.

A similar argument applies for the ratios that measure the long-term solvency of firms. The debt-to-asset ratio and the related debt-to-equity ratio take into consideration debts of all maturities that are owed to a firm s creditors. As shown in Exhibit 13-2, respondents have $0.17 in equity ($1 - $0.83) for every $0.83 in debt. Equivalently, respondents have a debt-to-equity ratio of 5.0. It may appear from these ratios that firms competing in the ISP industry are highly leveraged (a debt-to-equity ratio of 5.0 might be considered high when compared to other industries or to theoretical ideals). However, it is not known whether this level of debt is sub-optimal for this particular industry. More detailed financial analysis, comparisons to other industries, and a tracking of the financial performance of ISPs over time would be worthwhile undertakings for future research.

14.0 An Industry in Transition

Canada s Internet Service Provider landscape is dominated by the industry s largest players. Survey respondents that are classified as Large firms account for 80% of reported revenues from ISP activities, and control 71% of the reported residential customer base. This dominance would likely be even more pronounced had all of the industry s largest players responded to the survey.

Although few definitive statements can be made about the profitability of respondents ISP business units, much can be said about the profitability of respondents operations as a whole. Large respondents, and those that rely on the provision of Internet services for less than half of their total operating revenue, tend to be much more profitable than other respondents. In fact, those that rely on ISP activities for three-quarters or more of their total operating revenue suffered a collective loss in 1997.

The conclusion that can be drawn from these statements is that the provision of Internet services appears to have been an unprofitable venture in 1997. While it cannot be said with certainty that any one strategy is more profitable than another, those respondents with a significant share of the residential market are, as a group, losing money. It may even be the case that those respondents reporting positive profits on their corporate operations are subsidizing their ISP business units with profits generated from their other lines of business, such as the provision of cable or telephone services. Isolating the profitability of ISP business units is a worthwhile undertaking that future studies on Canada s ISP industry would do well to examine in detail.

The losses that respondents (particularly those that rely on ISP activities for all of their revenue) reported cannot persist. The sheer number of players competing in the industry, the dominance of Large firms, and the slowing rate of growth of Internet use in Canada will likely make industry entry increasingly difficult. These factors are also likely to force incumbents to fight to retain market share. This level of rivalry is often characterized by lower prices, the provision of a greater variety of services, and the exiting of firms from the industry that are incapable of meeting the demands of competition. In other words, the ISP industry appears to be in transition, moving rapidly away from a state of growth and toward a phase of shakeout and consolidation.

This survey theme was designed to paint a picture of the structure and composition of Canada s ISP industry, and of the financial performance of firms competing within it. It has highlighted the diversity of ISPs in terms of their size and their primary lines of business. Future themes will focus on ISP-specific issues and activities. These include ISP services and access technologies, public policy concerns, and barriers to growth. Collectively, these survey themes will capture the essential characteristics of the nation s ISP industry at an instant in time.