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Internet Shopping in Canada

J. Ellison, L. Earl, S. Ogg



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For further information:
Science, Innovation and Electronic Information Division
R.H. Coats Building, 7-L
Ottawa, Ontario, K1A 0T6
Telephone: (613) 951-2581
Facsimile: (613) 951-9920

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Note of appreciation

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Internet Shopping in Canada

J. Ellison, L. Earl and S. Ogg

For further information, please contact J. Ellison at (613) 951-5882
Email: Jonathan.Ellison@statcan.ca

Editor: George Sciadas

Review Committee: Mike Sheridan, Philip Smith, Louis-Marc Ducharme, Paul Johanis, Philip Cross.

Production: Lucienne Sabourin

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Abstract

As Internet use continues to expand and diversify, Canadians are using the Internet for shopping as well - whether window-shopping or actually placing orders online. In 1999, more than half of the 28.7% regular home-use households made use of the Internet in their purchasing decisions. While more window-shopped, 6.9% of all households purchased goods or services over the Internet, with or without online payment. They placed 3.3 million orders worth \$417 million. On average, these households placed just over 4 orders worth \$517, with an average value per order of \$125.

From the total amount of household spending online, 60% was spent in Canada, while 40% went to pay for purchases from firms in foreign countries. Although window-shoppers checked out big-ticket items, such as travel arrangements and automotive products, those that actually placed orders online generally opted for items with smaller price tags, such as books, magazines and newspapers.

Consistent with the provincial distribution of home Internet users, households in Ontario comprised 42.3% of Internet shoppers. Ontario households also had the highest share of spending, followed by B.C. and Alberta.

Households, including those that actually placed orders or even paid online, expressed concerns about privacy and the security of Internet transactions.

Internet Shopping in Canada

By J.Ellison, L. Earl and S. Ogg

Jonathan Ellison and Louise Earl are with the Science, Innovation and Electronic Information Division, as was Stacie Ogg at the time of the writing.

1. INTRODUCTION

"I'm going shopping" now also means logging onto the Internet rather than going to the mall or phoning in a catalogue order. Consumers can browse the Web for purchasing ideas, to place orders and even pay for purchases over the Internet. Canadians have started doing so. In 1999, more than half of the households that used the Internet from home, representing 15.3% of all households, made use of the Internet in their purchasing decisions, while 806,000 households (6.9%) actually used the Internet to place 3.3 million orders totaling \$417 million. On average, these households placed just over 4 orders worth \$517, with an average value per order of \$125.

Statistics Canada has been monitoring household Internet use for some time. With e-commerce as an emerging phenomenon, the 1999 Household Internet Use Survey (HIUS) collected for the first time detailed information on Internet shopping. This information forms the basis of this paper, and is available only for household transactions from home. Although this represents a substantial component of e-commerce, it is a subset of business-to-consumer (B2C) transactions¹.

The paper describes the size and scope of household Internet shopping, the destination of e-commerce orders and payments, whether Canadian or

international, as well as the methods of payment and the type of products and services browsed, ordered and paid for over the Internet. In addition, it paints a portrait of home Internet shopping households and offers user perceptions on impediments to engage in Internet shopping, such as privacy and security.

2. INTERNET SHOPPING

In 1999, 1.8 million households indicated that at least one member of their household had engaged in some aspect of Internet shopping from home, either using the Internet as part of their buying process by researching characteristics and prices of goods and services (window-shopping) or placing orders for purchases online. These households represented 15.3% of all households and more than half (53.2%) of the 3.3 million home-use households. There were 806,000 households that took the extra step and actually engaged in e-commerce, accounting for almost a quarter of home-use households.

These households placed 3.3 million orders² for goods and services online, regardless of whether or not these orders were paid for online or through alternative methods. The value of these orders amounted to \$417 million - which accounts for a very

Household-to-business e-commerce refers to the value of orders placed over the Internet from home by Canadian households who are regular users of the Internet, whether these orders were paid online or not, and regardless of whether or not they were made to Canadian or foreign firms. It does not include the value of orders placed by household members from other locations, such as work or school, the value of transactions that took place over the telephone and other networks, or orders placed to the Web sites of Canadian firms by non-residents.

1 -- Following extensive international work, e-commerce has been defined in a nested way by the OECD (2000). The narrow definition includes transactions conducted over Internet-protocol based networks. The order was placed over such a network, regardless of whether or not the payment and the delivery took place on or offline. A broader definition expands to include electronic transactions over computer-mediated network. This, for example, allows for the inclusion of transactions over proprietary networks, such as those for Electronic Data Interchange (EDI), conducive to business-to-business (B2B) commerce.

2 -- Orders refer to the number of distinct transactions and may be for one or more items.

small fraction of annual consumer spending³.

Keeping track of household types

The analysis in this paper is based on information collected from households that are regular users of the Internet. (The survey also collects information on households that have ever used the Internet).

Regular-use households are those that responded yes to the question "In a typical month, does anyone in the household use the Internet - from any location?"

Home-use households are those regular-use households that responded yes to the question "In a typical month, does anyone in the household use the Internet - from home?"

Internet shoppers are those home-use households that in the last 12 months engaged either in window-shopping or e-commerce.

Window shoppers are those Internet shoppers that browsed good and services but did not place orders over the Internet.

E-commerce households are those Internet shoppers that did place at least one order over the Internet from home, regardless of whether or not they paid online. (A subset of these households made an online payment for at least one of their transactions - e-payment).

households, and expresses them as a proportion of Internet shoppers, regular home-use households and all households.

Understanding the characteristics of window-shopping households is important for Internet sellers since these households are visiting Internet sites to gain familiarity with the availability of products and services and their specifications, while undertaking comparison shopping. Window shoppers have already indicated that they are at ease with using the Internet and thus could become potential clients for Internet sellers. Of course, e-commerce households also window-shop.

Methods of payment

More than three-quarters of e-commerce households paid online by using a credit card⁴. Among those who did not pay online, the predominant means of payments were billing the household prior to or following delivery (36%), cash-on-delivery (COD) (33%) and giving credit card information over the telephone (29%). These offline, traditional means of payment, likely reflect both the comfort consumers have with them and that some Internet retailing sites do not offer an online payment option.

Destination of orders and payments

From the total number of orders placed, 1.8 million or slightly over half (54.5%) were made to Canadian firms. This leaves a sizeable proportion of orders made to firms in

3 -- This refers to the value of orders placed by households from home to Internet retailing sites of businesses, regardless of whether or not these businesses belong to the retail industry. For instance, orders may well have been placed on the retailing sites of firms in the manufacturing or the transportation industries. In recent releases (Statistics Canada 2000b, Bakker 2000) it was reported that the Canadian retail industry generated \$611 million in e-commerce revenues in 1999. This figure is not comparable to the \$417 million reported here for several reasons. Canadian retailers were asked to report the value of their Internet-based orders, regardless of whether these orders originated from households ordering from home or other locations, other businesses or foreign countries. Regular home-use households were asked to report the value of their Internet-based orders, whether they were placed in Canadian or international sites. In addition, the reference period was the calendar year, whereas the household survey covered the period of November 1998 to November 1999.

4 -- The numbers of households that ordered and paid online, includes 96,000 households that paid for transactions with alternative methods as well. Thus, it refers to those households that made an online payment for at least one of their e-commerce transactions.

Table 1 shows the number of households that engaged in Internet shopping, distinguishes between window-shopping and e-commerce

Table 1.
Number and proportions of households, by type, 1999

Households

| | ,000 | | % | | |
|-----------------------------------|---------------|--------------|-------|-------|-------|
| All | 11,632 | 100.0 | | | |
| Internet, home-use - any location | 4,865 | 41.8 | | | |
| Internet, home-use | 3,340 | 28.7 | 100.0 | | |
| Internet shopper | 1,776 | 15.3 | 53.2 | 100.0 | |
| window shopper | 971 | 8.3 | 29.1 | 54.7 | |
| e-commerce | 806 | 6.9 | 24.1 | 45.4 | 100.0 |
| e-payment | 613 | 5.3 | 18.4 | 34.5 | 76.1 |

foreign countries. However, the dollar value of orders to Canadian firms (\$250 million) represented 60% of total household spending online, reflecting a higher average value of domestic orders.

These proportions hold when it comes to the number and value of orders that were also paid online - although the proportion of Canadian sales was

somewhat lower vis-à-vis that of other countries (Table 2). This means that the proportion of orders paid online was higher for other countries than for Canada, at 72.2% and 68.0%, respectively. This is more pronounced in the dollar value of these purchases, at 69.4% and 61.5%, respectively.

Table 2.
Destination of orders and payments, 1999

| | Canada | | Other Countries | | Total | |
|------------|------------------|----------------|------------------|----------------|------------------|----------------|
| | Number of orders | Millions of \$ | Number of orders | Millions of \$ | Number of orders | Millions of \$ |
| e-commerce | 1,822 | 250 | 1,520 | 167 | 3,342 | 417 |
| e-payments | 1,238 | 154 | 1,097 | 116 | 2,336 | 270 |
| | | | % | | | |
| e-commerce | 54.5 | 60.0 | 45.5 | 40.0 | 100.0 | 100.0 |
| e-payments | 53.0 | 57.0 | 47.0 | 43.0 | 100.0 | 100.0 |

Types of products and services

Overall, Internet shoppers were attracted to sites offering reading materials, travel arrangements and computer software. E-commerce households, that actually committed to purchasing by placing orders on the Internet, were inclined towards products and services that had smaller price tags - books, magazines and newspapers ranked first, followed

by computer software and music. However, window-shoppers checked out "big ticket" items, with travel arrangements topping the list, and cruised for "wheels" and other automotive products. Table 3 shows the list of goods and services used in the survey and their ranking based on the responses of Internet shoppers, window-shoppers and e-commerce households.

Table 3.
Proportions and ranking of products and services, 1999

| | E-commerce | | Window Shoppers | | Internet Shoppers | |
|-------------------------------------|------------|------|-----------------|------|-------------------|------|
| | % | Rank | % | Rank | % | Rank |
| Books, Magazines & Newspapers | 47.5 | 1 | 30.0 | 3 | 37.9 | 1 |
| Travel Arrangements | 28.8 | 4 | 31.5 | 1 | 30.3 | 2 |
| Computer Software | 35.9 | 2 | 23.9 | 4 | 29.4 | 3 |
| Automotive Products | 20.8 | 7 | 30.1 | 2 | 25.9 | 4 |
| Music (CDs, Tapes, MP3) | 29.5 | 3 | 20.5 | 7 | 24.6 | 5 |
| Clothing, Jewelry & Accessories | 24.3 | 5 | 22.6 | 5 | 23.4 | 6 |
| Computer Hardware | 24.1 | 6 | 21.0 | 6 | 22.4 | 7 |
| Consumer Electronics | 18.4 | 8 | 18.8 | 8 | 18.6 | 8 |
| Other Entertainment (e.g. tickets) | 16.9 | 9 | 13.5 | 10 | 15.0 | 9 |
| Banking and Financial | 15.8 | 11 | 13.7 | 9 | 14.7 | 10 |
| Housewares (Furniture & Appliances) | 13.1 | 12 | 13.3 | 11 | 13.2 | 11 |
| Other | 16.4 | 10 | 7.3 | 13 | 11.4 | 12 |
| Videos, Digital Video Discs | 11.7 | 13 | 8.8 | 12 | 10.1 | 13 |
| Hobbies | 8.5 | 14 | 5.6 | 14 | 6.9 | 14 |
| Food, Condiments & Beverages | 5.8 | 15 | 4.7 | 15 | 5.2 | 15 |
| Toys and Games | 4.3 | 16 | 2.7 | 16 | 3.4 | 16 |

NOTE TO READERS

The HIUS is administered to a sub-sample of dwellings included in the Labour Force Survey (LFS), and therefore its sample design is closely tied to that of the LFS. The LFS is a monthly household survey whose sample is representative of the households with civilian, non-institutionalized population, 15 years of age or older in Canada's ten provinces. Excluded from the survey's coverage are residents of the Yukon, Northwest Territories or Nunavut, persons living on Indian Reserves, full-time members of the Canadian Armed Forces and inmates of institutions.

In total, 43,034 households were eligible for the HIUS survey. Interviews were completed for 36,241 of these households for a response rate of 84.2%. Results were weighted to the entire count of households in Canada. The annual estimate for the number of households in Canada is projected from the Census of Population. HIUS 1999 used a population projection based on 1996 Census of Population (11,632 thousand households).

The HIUS collected information on e-commerce from households that typically accessed the Internet from home for the sole consumption of the household in the twelve months between November 1998 and November 1999. Unlike the LFS, where information is collected on each eligible household member individually, the HIUS collected information on the household as a whole. A designated member of the household enumerated the online orders made by all members of the household in the last 12 months.

This may lead to the following sources of bias: the responses may be subject to poor recall; the respondent may not have been aware of whether other household members had placed orders on the Internet, or; the respondent knew that orders were placed but did not know their value. (Approximately 1.3% of regular home-use households indicated that they did not know whether household members had placed Internet orders or paid for purchases online and therefore did not respond to any further questions on Internet shopping. 0.8% of regular home-use households or 3.4% of the households that ordered products or services did not know the values involved). More methodological details concerning HIUS can be found in Statistics Canada (2000a). A public microdata file is also available.

The regional dimension

Consistent with the provincial distribution of home Internet users in Canada, households in Ontario comprised 42.3% of Internet shoppers. British Columbia followed with 18.5%.

Households in Ontario accounted for a significant proportion of the total value of Internet orders. They committed \$185 million (44.3% of the total) to electronic purchases, placing 1.3 million orders (38.9% of the total). They were followed by households in British Columbia, which

accounted for almost a quarter of the total value of orders. The shares of Ontario and British Columbia were even higher among the value of orders placed with Canadian firms, while Alberta's was distributed more evenly between domestic and foreign destinations. Households in Atlantic Canada spent more money on foreign than Canadian orders. Table 4 provides a geographical account of the values and shares of Internet commerce, as well as their destination by region.

Table 4.
E-commerce spending, by region, 1999

| | Canada | | Other Countries | | Total | |
|---------------------------|----------------|--------------|-----------------|--------------|----------------|--------------|
| | Millions of \$ | % | Millions of \$ | % | Millions of \$ | % |
| Atlantic provinces | 10 | 3.9 | 12 | 7.5 | 22 | 5.3 |
| Québec | 21 | 8.4 | 17 | 10.1 | 38 | 9.1 |
| Ontario | 114 | 45.8 | 70 | 42.1 | 185 | 44.3 |
| Manitoba and Saskatchewan | 11 | 4.4 | 8 | 4.7 | 19 | 4.5 |
| Alberta | 27 | 11.0 | 23 | 13.7 | 50 | 12.1 |
| British Columbia | 66 | 26.5 | 37 | 21.9 | 103 | 24.7 |
| Canada | 250 | 100.0 | 167 | 100.0 | 417 | 100.0 |

This geographical breakdown is dictated by data availability. Although efforts were made to provide as much geographical detail as possible, the number of respondent households is not sufficiently large to provide data for each province.

On average, e-commerce households placed just over 4 orders worth \$517 per household. The average expenditure per order stood at \$125. There are interesting variations by region, though. While e-commerce households in Alberta recorded the highest number of average orders, the highest average household

spending and the highest average spending per order were noted in British Columbia. Quebec had the lowest average household spending, whereas the lowest average spending per order was in Manitoba and Saskatchewan (Table 5), which are among the least connected provinces.

Table 5.
Average orders and spending, by region, 1999

| | Average Expenditure | Average Number of Orders | Average Expenditure per Order |
|---------------------------|---------------------|--------------------------|-------------------------------|
| | \$ | | \$ |
| Atlantic provinces | 449 | 4.0 | 112 |
| Québec | 350 | 3.7 | 96 |
| Ontario | 517 | 3.8 | 137 |
| Manitoba and Saskatchewan | 367 | 4.4 | 83 |
| Alberta | 558 | 5.0 | 112 |
| British Columbia | 689 | 4.8 | 143 |
| Canada | 517 | 4.1 | 125 |

3. THE ALLURE OF INTERNET SHOPPING AND THE SPECTRES OF SECURITY AND PRIVACY

Catalogue and other direct sales retailers, including those specializing in over-the-telephone sales, have much experience in exploiting the advantages to consumers of shopping from home. Many offer 24-hour service with delivery to the home, another residential address or to a

depot within tight time frames. To encourage purchases, catalogue retailers may offer credit cards, special discounts, purchase points plans and flexible returns policies. In addition, many of these retailers offer similar Internet shopping services.

Catalogue and direct sales companies face similar disadvantages as Internet businesses, such as the inability of purchasers to "try on the product"; privacy worries, such as being put on multiple marketing mailing lists, and;

concerns about the security of their financial information. In order to ensure payment for products or services ordered, catalogue or over the telephone retailers often insist on payment with orders or upon delivery. Thus, their customers are accustomed to giving out credit card numbers over the telephone, although they may not feel comfortable with the practice.

“No thanks, I’m just browsing”

Concerns about Internet security and privacy may have played a role in both the frequency and the intensity of household e-commerce. Three-quarters of regular home-use households were unwilling to provide credit card information over the Internet. Almost half (45.8%) of all home-use households were very concerned about the security of financial transactions, such as using credit cards for purchases. Similar concerns were expressed by window shoppers and even by those who paid online for at least one of their transactions. This last point merits particular attention.

To put it in perspective: in 1999, less than 30% of all households were home Internet users and of them just over half were Internet shoppers. In turn, more than half of those were window shoppers. This leaves only 6.9% of households that actually placed orders on the Internet (e-commerce households) and only 5.3% that paid online for at least one transaction. Even among this last group, about 70% expressed concern about the financial security of the Internet, with a full one-third being ‘very concerned’.

These concerns become more pronounced when the group expands to include window-shoppers. More than half were ‘very concerned’, while adding those concerned brings the total to more than 80%. Interestingly, their concerns were elevated compared to home-use households who were not even window-shoppers, indicating perhaps heightened concern when one gets closer to having to make such a decision (Table 6).

Table 6.
Concerns over Internet security, 1999

| | Very Concerned | Concerned | Not Concerned |
|--------------------------------------|----------------|-----------|---------------|
| | % | | |
| Regular home-use Internet households | 45.8 | 29.0 | 19.7 |
| Internet shopper | 45.7 | 31.1 | 20.8 |
| window shopper | 52.5 | 28.2 | 15.7 |
| e-commerce | 37.5 | 34.6 | 27.0 |
| e-payment | 33.2 | 35.7 | 30.6 |

Privacy issues were a concern for almost three-quarters of Internet shoppers and more than two-thirds of e-commerce households. Only a

quarter of home-use households and Internet shoppers were not concerned about privacy issues. User perceptions among several groups are shown in Table 7.

Table 7.
Concerns over Internet privacy, 1999

| | Very Concerned | Concerned | Not Concerned |
|--------------------------------------|----------------|-----------|---------------|
| | % | | |
| Regular home-use Internet households | 32.5 | 38.4 | 25.0 |
| Internet shopper | 32.3 | 40.7 | 25.6 |
| window shopper | 36.7 | 40.1 | 22.3 |
| e-commerce | 27.0 | 41.5 | 29.5 |
| e-payment | 25.7 | 40.3 | 31.5 |

The notion that Internet retailers are challenged by concerns about security and privacy (e.g. OECD 1999) appears well founded. To overcome these perceptions, Internet companies have been adopting many strategies including new encryption and authentication technologies, posting privacy and security policies on their Web sites and launching consumer reassurance campaigns. Governments are also acting on this front with new legislation. As well, e-commerce households may be adopting strategies such as the use of credit cards with low purchasing limits to protect themselves.

4. CHARACTERISTICS OF INTERNET SHOPPER HOUSEHOLDS

The characteristics of households that use the Internet have been amply documented (Dickinson and Sciadas 1996, 1997, 1999 and Dickinson and Ellison 1999a, 1999b, 2000). On average, regular-use households have higher incomes, are more likely to be urban families with children headed by someone 35-54 years of age, and have higher levels of education than non-users. Since Internet shopper households comprise a large proportion of regular home-use households, their characteristics are similar.

For instance, Internet shopper households are also concentrated in the higher income levels, with 45% having household incomes in excess of \$65,000 and more than 70% with incomes greater than \$45,000. Only 14% of Internet shopper households had incomes less than \$30,000. For e-commerce households, this income profile becomes slightly more pronounced. In fact, almost half (48%) had household incomes greater than \$65,000, while three-quarters had incomes of \$45,000 or more (Chart 1).

Similarly, heads of Internet shopper households were more educated than the average. For instance, 38.5% had a university degree, whereas only 7.7% did not have a high school diploma. When considering the

education level of all household members, the impact of education becomes more visible. Half of Internet shopper households (49.6%) had at least one member with a university degree or certificate, while only 1.9% had no high school graduates (Appendix 1). The influence of education is even more pronounced among e-commerce households. For instance, 55.5% of those had at least one member with a university degree and almost all had at least one high school graduate.

Households with heads in their middle-years, aged 35-54 years, accounted for 60.2% of Internet shopper households and 58.6% of e-commerce households. The figures for those with heads under 35 were 23.8% for Internet shoppers and 25% for e-commerce households, respectively. Households headed by seniors aged 65 years or more accounted for less than 5% of either Internet shoppers or e-commerce households.

Appendix 1 contains detailed comparative breakdowns of home-use households, Internet shoppers, window-shoppers and e-commerce households by income, education, age, and family type.

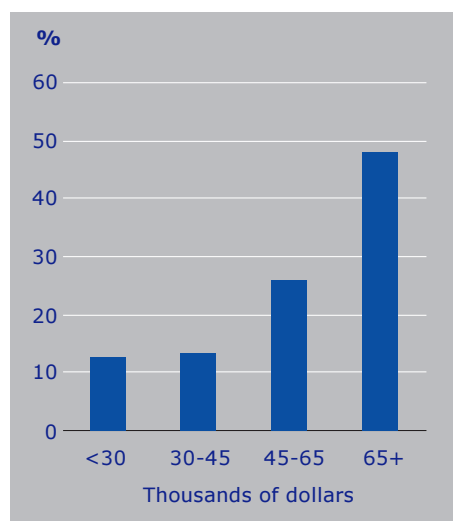


Chart 1.
E-commerce household by income, 1999

5. CONCLUSIONS

Internet shoppers let their fingers do the walking - across their keyboards!

Household Internet shopping is an emerging facet of consumer behaviour. This paper provided an initial overview of this phenomenon. It profiled different types of Internet shopping households based on their shopping activities. The 971,000 households that window-shopped constituted 8.3% of all households or 29.1% of the 3.3 million regular home-use households. With almost one-third of households accessing the Internet from home, the Internet provides a substantial alternative to advertise product and service availability.

In 1999, Internet sellers caught the attention of 15% or 1.7 million Canadian households. While few households placed an order or paid for products or services on-line, Canadian households committed \$417 million to Internet purchases in 1999, \$250 million of which went to Canadian firms. These amounts still constitute a very small fraction of

overall consumer spending. On average, annual spending by Internet shoppers was \$517, with an average order value of \$125.

Perhaps due to the established online presence of well-known booksellers, computer software and hardware dealers, and music and travel industries, their products and services attracted the most of the attention of Internet shoppers. Not surprisingly, high-income households with university-educated members were more likely to engage in Internet shopping. Ontario was home to the highest proportion of Internet shoppers in Canada, but Internet shoppers in British Columbia had the highest average annual expenditure. In general, households expressed concern about the financial security of on-line transactions, as well as the protection of their privacy in electronic communications.

As part of its continuous efforts to illuminate emerging phenomena by quantifying their magnitude and growth, Statistics Canada will continue to monitor and report on e-commerce, both from the household and the business sides.

References

- Bakker, C. (2000) "Information and Communications Technologies and Electronic Commerce in Canadian Industries", Statistics Canada, Catalogue No. 88F0006XPB-XIB-00004.
- Dickinson, P. and Sciadas, G. (1996) "Access to the Information Highway", *Canadian Economic Observer*, Statistics Canada, Catalogue No. 11-010-XPB, December.
- Dickinson, P. and Sciadas, G. (1997) "Access to the Information Highway: the Sequel", *Services Indicators*, Statistics Canada, Catalogue No. 63-016-XPB, 1st Quarter.
- Dickinson, P. and Sciadas, G. (1999) "Canadians Connected", *Canadian Economic Observer*, Statistics Canada, Catalogue No. 11-010-XPB, February.
- Dickinson, P. and Ellison, J. (1999) "Getting Connected or Staying Unplugged: The Growing Use of Computer Communications Services", *Services Indicators*, Statistics Canada, Catalogue No. 63-016-XPB, 1st Quarter.
- Dickinson, P. and Ellison, J. (2000) "Pluggin In: The Increase of Household Internet Use Continues into 1999", *Connectedness Series*, Statistics Canada, Catalogue No. 56F0004, No.1.
- OECD (1999) "The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda", Organisation for Economic Co-operation and Development, Paris.
- OECD (2000) "Defining and Measuring Electronic Commerce: A Provisional Framework and a Follow-up Strategy", Organisation for Economic Co-operation and Development, DSTI/ICCP/IIS(2000)3/REC 1, Paris.
- Statistics Canada (2000a), "Household Internet Use Survey, 1999", Science, Innovation and Electronic Information Division, Catalogue No. 56M0002XCB.
- Statistics Canada (2000b) "The Daily", August 10, www.statcan.ca.

Appendix 1.
Household characteristics, 1999

| Household Characteristics | All Households | | Regular Home-use Internet Households | | Internet Shopper Households | | | |
|---|----------------|--------------|--------------------------------------|--------------|-----------------------------|--------------|----------------------|--------------|
| | ,000s | % | ,000s | % | ,000s | % | | |
| TOTAL | 11,632 | 100.0 | 3,340 | 100.0 | 1,776 | 100.0 | | |
| Type of family | | | | | | | | |
| Single family with unmarried children under 18 | 3,819 | 32.8 | 1,549 | 46.4 | 819 | 46.1 | | |
| Single family without unmarried children under 18 | 4,421 | 38.0 | 1,251 | 37.5 | 663 | 37.3 | | |
| One-person households | 2,930 | 25.2 | 370 | 11.1 | 199 | 11.2 | | |
| Multi-family households | 463 | 4.0 | 170 | 5.1 | 95 | 5.4 | | |
| Age of household maintainer | | | | | | | | |
| Less than 35 years | 2,263 | 19.5 | 743 | 22.2 | 423 | 23.8 | | |
| 35-54 years | 5,237 | 45.0 | 1,990 | 59.6 | 1,070 | 60.2 | | |
| 55-64 years | 1,638 | 14.1 | 403 | 12.1 | 202 | 11.4 | | |
| 65 years and over | 2,493 | 21.4 | 205 | 6.1 | 82 | 4.6 | | |
| Highest level of education of the household maintainer | | | | | | | | |
| Less than high school | 3,192 | 27.4 | 307 | 9.2 | 137 | 7.7 | | |
| High school certificate | 1,984 | 17.1 | 486 | 14.5 | 246 | 13.9 | | |
| Some post-secondary and college certificate | 4,109 | 35.3 | 1,317 | 39.4 | 709 | 39.9 | | |
| University certificate or degree | 2,347 | 20.2 | 1,231 | 36.8 | 684 | 38.5 | | |
| Highest level of education completed in the household | | | | | | | | |
| Less than high school | 2,089 | 18.0 | 76 | 2.3 | 33 | 1.9 | | |
| High school certificate | 1,731 | 14.9 | 287 | 8.6 | 143 | 8.1 | | |
| Some post-secondary and college certificate | 4,730 | 40.7 | 1,382 | 41.4 | 719 | 40.5 | | |
| University certificate or degree | 3,082 | 26.5 | 1,595 | 47.7 | 881 | 49.6 | | |
| Presence of household member aged* | | | | | | | | |
| 0-5 years | 1,640 | 14.1 | 562 | 16.8 | 313 | 17.6 | | |
| 6-12 years | 2,010 | 17.3 | 798 | 23.9 | 418 | 23.5 | | |
| 13-17 years | 1,625 | 14.0 | 774 | 23.2 | 398 | 22.4 | | |
| 18-25 years | 2,202 | 18.9 | 902 | 27.0 | 455 | 25.6 | | |
| Household income | | | | | | | | |
| Less than \$30,000 | 4,647 | 40.0 | 591 | 17.7 | 252 | 14.2 | | |
| \$30,000 - \$44,999 | 2,326 | 20.0 | 548 | 16.4 | 272 | 15.3 | | |
| \$45,000 - \$64,999 | 2,326 | 20.0 | 872 | 26.1 | 452 | 25.4 | | |
| \$65,000 or more | 2,332 | 20.0 | 1,330 | 39.8 | 801 | 45.1 | | |
| | | | Window Shopper Households | | E-commerce Households | | E-payment Households | |
| | | | ,000s | % | ,000s | % | ,000s | % |
| TOTAL | | | 971 | 100.0 | 806 | 100.0 | 613 | 100.0 |
| Type of family | | | | | | | | |
| Single family with unmarried children under 18 | 469 | 48.3 | 350 | 43.4 | 252 | 41.1 | | |
| Single family without unmarried children under 18 | 360 | 37.1 | 303 | 37.6 | 233 | 38.0 | | |
| One-person households | 92 | 9.5 | 107 | 13.3 | 89 | 14.4 | | |
| Multi-family households | 50 | 5.2 | 45 | 5.6 | 39 | 6.4 | | |
| Age of household maintainer | | | | | | | | |
| Less than 35 years | 222 | 22.8 | 201 | 25.0 | 159 | 25.9 | | |
| 35-54 years | 598 | 61.6 | 472 | 58.6 | 349 | 56.9 | | |
| 55-64 years | 109 | 11.2 | 93 | 11.5 | 76 | 12.4 | | |
| 65 years and over | 42 | 4.4 | 39 | 4.9 | 29 | 4.7 | | |
| Highest level of education of the household maintainer | | | | | | | | |
| Less than high school | 89 | 9.2 | 48 | 5.9 | 35 | 5.7 | | |
| High school certificate | 139 | 14.3 | 107 | 13.3 | 77 | 12.6 | | |
| Some post-secondary and college certificate | 409 | 42.2 | 300 | 37.2 | 230 | 37.6 | | |
| University certificate or degree | 333 | 34.3 | 351 | 43.5 | 271 | 44.1 | | |
| Highest level of education completed in the household | | | | | | | | |
| Less than high school | (23) | (2.4) | (10) | (1.3) | (7) | (1.2) | | |
| High school certificate | 83 | 8.5 | 61 | 7.5 | 44 | 7.2 | | |
| Some post-secondary and college certificate | 431 | 44.4 | 288 | 35.7 | 217 | 35.4 | | |
| University certificate or degree | 434 | 44.7 | 447 | 55.5 | 345 | 56.2 | | |
| Presence of household member aged* | | | | | | | | |
| 0-5 years | 168 | 17.3 | 145 | 18.0 | 108 | 17.6 | | |
| 6-12 years | 236 | 24.3 | 182 | 22.6 | 123 | 20.1 | | |
| 13-17 years | 241 | 24.8 | 157 | 19.5 | 112 | 18.2 | | |
| 18-25 years | 265 | 27.3 | 190 | 23.6 | 148 | 24.2 | | |
| Household income | | | | | | | | |
| Less than \$30,000 | 150 | 15.4 | 103 | 12.7 | 75 | 12.2 | | |
| \$30,000 - \$44,999 | 164 | 16.9 | 108 | 13.4 | 83 | 13.5 | | |
| \$45,000 - \$64,999 | 243 | 25.1 | 209 | 25.9 | 160 | 26.0 | | |
| \$65,000 or more | 414 | 42.6 | 387 | 48.0 | 296 | 48.3 | | |

* percentages do not add too 100% as households may have more than one member in a given age range.

() = Lower reliability estimates due to sample size.

Connectedness Series

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