MEASURING E-COMMERCE VALUE ON ICT BUSINESS AND HOUSEHOLD SURVEYS

December 1, 2023

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PRESENTATION OUTLINE

1. E-COMMERCE SURVEYS AT STATCAN
2. HOUSEHOLD SURVEY
3. BUSINESS SURVEY
4. RECONCILING BOTH SURVEYS
E-COMMERCE SURVEYS AT STATISTICS CANADA
WHY MEASURE E-COMMERCE?

OECD Ministerial held in Ottawa in 1998 identified the potential of e-commerce

*electronic commerce offers a radically new way of conducting commercial transactions, and is potentially a key engine to increase economic growth, and enhance development around the world...*

And the OECD was urged to...

*Apply its research and statistical expertise to analyse and measure the economic and social impact of global electronic commerce*

As well as...

*Work with other international organisations, regional bodies, and the private sector, and Non-OECD countries to encourage collaboration and coordination within and among as many fora as possible to advance global electronic commerce*
E-COMMERCE SURVEYS IN CANADA

CIUS: Canadian Internet Use Survey
• Main source of household e-commerce statistics, although e-commerce is not the focus

Why not calculate it through the Survey of Household Spending (SHS)? SHS has detailed information on household expenditures, that is used to calculate the GDP and CPI, but it is hard to differentiate online sales vs offline sales

SDTIU: Survey of Digital Technology and Internet Use
• Enterprise survey, includes business-to-business as well as business-to-consumer

Business to Business accounts for the majority of the value of online sales, a trend that has also been observed in other countries with high e-commerce sales, according to statistics from the UNCTAD.
INTERNATIONAL COMPARABILITY

OECD definition of an e-commerce transaction:

- “...the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders”.
- Payment and delivery do not have to be conducted online.
- Orders made by telephone calls, fax or manually typed e-mail excluded

Share of Internet users who have purchased online

https://goingdigital.oecd.org/indicator/22
Accessed: Sep, 2023
HOUSEHOLD ICT USE AND E-COMMERCE SURVEY
### Advantages

- Can ask and disaggregate by other questions
  - Ex: Time spent online, plays video games, etc.
- Can link to more demographic individual variables for further disaggregation
  - Ex: income, CMA, etc.
- Used by other programs requiring household inputs
  - Ex: national accounts
- Can build internationally comparable indicators

### Issues

- Accuracy is reliant on self-reporting.
  - Ex: Because of recall period can be hard for respondents to remember
- Usually voluntary surveys, same sampling issues as all non-census surveys
- Sensitive to survey design (can cause issues with YOY comparisons)
  - Responses can be very sensitive to changes in survey wording
  - Seasonality (ensuring reference periods are consistent)
  - Regional effects
Its purpose is to gather data on how digital technologies and the Internet are transforming society, the economy, and the everyday lives of Canadians.

Target population:
- Individuals 15 years of age or older
- Living in the ten provinces
- Private households

Frequency: Occasional/ biennial
Reference period: various reference periods
Participation: Voluntary

Modes of collection:
1) Electronic questionnaire self-response
2) Interviewer telephone follow-up
PAST INTERATIONS OF CANADIAN INTERNET USE SURVEY

1997-2003 Household Internet Use Survey (HIUS)
  • Focus on household Internet penetration

2005-2009 Canadian Internet Use Survey (CIUS)
  • Conformed to international standards
  • Changed from a household survey to individual survey

2010, 2012 Canadian Internet Use Survey (CIUS)
  • Redesigned to meet needs of Broadband Canada

2018, 2020 Canadian Internet Use Survey (CIUS)
  • Survey changed to a stand-alone survey (no longer a LFS supplement, collects demographics)
  • Sampling & collection method changed
  • Complete redesign in 2018, stakeholder consultations for data needs, questionnaire testing
  • New indicators in to address changes in data needs
  • Quebec and rural area oversample

Detailed information including questionnaires, descriptions, data sources and methodology:
Other reference periods - Surveys and statistical programs - Canadian Internet Use Survey (CIUS) (statcan.gc.ca)
2022 CANADIAN INTERNET USE SURVEY

Total sample: 55,700

Collection period: December 5, 2022 to April 5, 2023

Response Rate:

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2020</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td>13,810</td>
<td>17,409</td>
<td>25,118</td>
</tr>
<tr>
<td>Response rate</td>
<td>44%</td>
<td>42%</td>
<td>45%</td>
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</tbody>
</table>
2022 CANADIAN INTERNET USE SURVEY BREAKDOWNS

Geography
Province, CMA/non-CMA, Rural/Urban

Population characteristics
Age groups, Gender, Indigenous identity, Population group, Language, Immigration status

Socioeconomics
Education, School attendance, Employment status, Household composition & size, income quartiles

Health
Self-perceived health and life satisfaction, Disability status
Online shopping has generally been increasing over the years.

![Chart showing the percent of Canadians that shopped online from 2010 to 2022.]

- 2010: 51%
- 2012: 56%
- 2014: 77%
- 2016: 82%
- 2018: 74%
- 2020: 74%
- 2022: 74%

*2022 numbers are not completely comparable to previous years.

Those 65+ had the lowest proportion at 49%. Those 25-34 had the highest at 88% (2022).
Canadians online shopping by type, 2022

- Digital goods or services: 38%
- Peer-to-peer services: 12%
- Physical goods: 66%
- Other services: 38%
Average expenditure over the internet per person, 2022

Total, average: $2958 per person

- Digital goods or services: $480
- Peer-to-peer services: $1'603
- Physical goods: $1'946
- Other services: $1'389
Types of digital services bought, 2022

% of Canadians who bought the following

<table>
<thead>
<tr>
<th>Service</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Any additional digital goods or services ordered over the Internet</td>
<td>10</td>
</tr>
<tr>
<td>Online gaming, gaming applications, game downloads or in-game purchases</td>
<td>14</td>
</tr>
<tr>
<td>Online gambling</td>
<td>3</td>
</tr>
<tr>
<td>Online newspapers or magazines</td>
<td>5</td>
</tr>
<tr>
<td>E-books, audio books or podcast books</td>
<td>11</td>
</tr>
<tr>
<td>Music or video downloads or streaming subscriptions</td>
<td>30</td>
</tr>
</tbody>
</table>
BUSINESS ICT USE AND E-COMMERCE SURVEY
SURVEY OF DIGITAL TECHNOLOGY AND INTERNET USE

MAIN PARAMETERS

Its purpose is to measure the impact of digital technologies on the operations of Canadian enterprises.

| Targets | Frequency: Occasional/ biennial
          | Reference period: 12 month calendar year
          | Participation: Mandatory

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Target population: 332, 241 enterprises
   • derived from StatsCan's Business Register (BR) which contains a list of all businesses in Canada

Total final sample: 15,683

Collection period: 2021-11-25 to 2022-03-21

Response Rate: 73%

Stratification
Enterprises were stratified by industry and two sets of size categories to meet the data needs of both domestic and international stakeholders.

The overall size of the survey sample was determined based on these.
Industry, SDTIU 2021
For Canadian businesses with five or more employees

E-commerce by industry, billions of CAD

- All: 398
- Manufacturing sector: 105
- Wholesale trade: 77
- Transportation and warehousing: 51
- Retail trade: 35

At least **72%** of all e-commerce sales were business-to-business (B2B)

Retail trade was **8.8%** of all e-commerce trade
One-third (33%) of Canadian businesses had at least some e-commerce sales in 2021 compared with 25% in 2019

<table>
<thead>
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<th>% of businesses that had online sales</th>
<th>2021</th>
<th>2019</th>
<th>Increase</th>
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</thead>
<tbody>
<tr>
<td>Small businesses</td>
<td>32%</td>
<td></td>
<td>41%</td>
</tr>
<tr>
<td>Medium businesses</td>
<td>36%</td>
<td></td>
<td></td>
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<tr>
<td>Large businesses</td>
<td>38%</td>
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</tbody>
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41% increase from 2019
Types of sales, SDTIU 2021

- Digitally delivered: 23%
- Physical goods: 59%
- Other services: 18%
8% of businesses with online sales reported having customers located in regions other than Canada or the United States.
SDTIU 2021: Percentage of value of online sales obtained from specific regions

4% of Canadian businesses online sales originated from international locations outside the U.S.

Map showing:
- 80% Canada
- 16% United States
- 4% Other regions

Pie chart showing:
- Mexico 0.8
- Latin America and Caribbean 0.9
- EU 0.9
- China 0.2
- Other Asian 0.5
- Other 0.4
- UK 0.7
- Other regions 4%
Reconciling Household and Enterprise Surveys
E-commerce continues to grow (but still is a small % of overall sales)

**CIUS**
- 2020: $84 billion
- 2018: $57 billion
- 2012: $19 billion

**SDTIU**
- 2021: $398 billion
- 2019: $305 billion
- 2012: $106 billion
The CIUS arrives at a final estimate by using a weighted total. The CIUS’s estimate is lower than the SDTIU’s because it only tracks demand-side retail (consumer purchases).

The SDTIU arrives at a final estimate by using a weighted total. The largest portion is made up of business-to-business transactions, retail is only one portion, making this estimate much larger.
STATISTICS CANADA: RELEVANT PRODUCTS


CIUS 2022 Daily Article: https://www150.statcan.gc.ca/n1/daily-quotidien/230720/dq230720b-eng.htm

CIUS questionnaire, methodology, more info https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4432

OECD handbook on measuring digital trade

UNCTAD handbook: https://unctad.org/publication/measuring-value-e-commerce

SDTIU questionnaire, methodology, more info
https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4225