Census program data viewer, 2016 Census

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Outline

- Background
- CPDV requirements
- Demo
2016 Census of Population provided remarkable results

- Self-response rate of 88.8% (compare to 85.3% in 2011 Census)
- Internet response rate of 68.3% (compare to 53.6% in 2011 Census).
- 18-month dissemination schedule
Objective for 2016

Produce new more interactive data visualization tools

1. Interactive charts and graphs
2. Statistical dashboard
2011 Census – Setting the stage

Interactive charts

Data visualization
The following interactive data products assist in the interpretation of census data by putting it in a visual context:

- **Age**
  - Comparison age pyramid (2011 and 2016)
  - Historical age pyramid (1851 to 2036)
  - Relationship between population growth and aging for various regions in Canada

- **Language**
  - Proportion of mother tongue responses for various regions in Canada

- **Labour**
  - Employed labour force who worked full year, full time and reported employment income in 2015

- **Income**
  - Total income explorer

- **Immigration**
  - Immigrant population by selected places of birth, admission category and period of immigration

Statistical dashboard

Web-based data visualization tool that makes statistical information more interpretable by presenting key indicators in a dashboard using a variety of communication elements such as thematic maps, charts, graphs, images in addition to textual information.
Build process

- RFI – Summer 2015
- RFP – Summer 2016
- Contract awarded in December 2016
CPDV design requirements

- A map is main focus of the dashboard
- At least 1 chart
- An area for facts
- Be easy to interpret by users
  - What municipality has the oldest average age?
  - What are the top visible minorities in Canada?
  - How does the average value of homes in my municipality compare to that of my province or that of Canada?
  - What areas of my metropolitan area have the highest income earners?
  - Is there a relationship between unemployment and education in any given municipality?
Technical requirements

- Must use technologies that work with Statistics Canada existing:
  - IT infrastructure
  - software technology stacks
  - development frameworks
  - programming languages
  - data sources
- Must support a Service-Oriented Architecture (SOA) model
- Must not require the installation of any software, plug-in or data on users computer or mobile devices
Government standards

- Standard on Web Accessibility (WCAG 2.0 AA)
- Government of Canada Theme and Style Requirements
- Standard on Optimizing Websites and Applications for Mobile Devices Requirements
- Official Languages Act Requirements
- Security requirements (Information Technology Security Guidance Publication 33 (ITSG33)).
Different ways to update the dashboard:
- Select an indicator and/or geographic area
- Select a geographic area on the map
- Search place name or postal code (autocomplete)
- Select a geographic level to display

Interactivity
- Compare units within the same geographic level
- Sort records
- Typical map functions: e.g. pan, zoom
- Modify class breaks
- Print/export dashboard elements, tabular data
- Share your dashboard with others
- Link to other related Statistics Canada data products
Challenges

- Managing the number of indicator/geographic level combinations
- Diversity of sizes of geographic units within a geographic level
  - e.g. P.E.I. and Québec
- Outlier indicator values
- Number of geographic units in some levels of geography
- Number of categories for some indicators
  - e.g. immigration, language
- Providing useful info that is specific to a place
  - e.g. immigrants from Haiti in Montreal
- Adhering to Statistics Canada’s formatting standards
- Designing for both desktop and mobile devices
Overcoming challenges

- Out of the box solutions
- Customizations
- Compromises
Demo

Demo

• What municipality has the oldest average age?
• What are the top visible minorities in Canada?
• How does the average value of homes in my municipality compare to that of my province or that of Canada?
• What areas of my metropolitan area have the highest income earners?
• Is there a relationship between unemployment and education in any given municipality?
Next steps

- We will continue to release new indicators
  - Currently have 471 indicators
  - 89 mappable indicators
- Implement logarithmic charts to address outliers
- Add the ability to generate a report
- Add additional facts
Feedback

Email to: statcan.censusconsultation-consultationrecensement.statcan@canada.ca
Questions
THANK YOU!

For more information, please visit
www.statcan.gc.ca

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