Public Views on Technology and the Future of Work

MIKE COLLEDGE—Ipsos, Canadian Public Affairs

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➢ Impact of Technology
➢ Changes to Retail & Money
➢ The Gig Economy
➢ What Jobs?
DOMINO'S WANTS TO ELIMINATE THE PIZZA DELIVERY GUY

No drone yet, but an autonomous Ford Fusion hybrid isn't bad progress

AUGUST 29, 2017

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Nearly half of all jobs that exist today could become automated over the next several years. Even workers in roles that robots will not be able to master will likely see their jobs change as smart technology firmly integrates into the workplace. Nobody can predict exactly how intelligent machines will change the world of work for humans—or how people’s jobs will evolve based on the introduction of automated counterparts. Many questions remain, but one thing is clear:

The future of work will be different—and workforces will need to learn different skills to embrace a shared future with technology.
Today’s View is Best Described as “Uncertain”

- **6% unemployment**, growth of average hourly wage +3.6%

- **48% confident in job security the next six months (down from 53% in June)**

- **11% expect their personal financial situation will be stronger in next 6 months (down from 29% in Feb. 18)**

- **Half say their personal economic situation will be the same (28%) or worse (20%) in ten years**

- **4.6M Canadians work in manufacturing, retail, transportation**

- **42% of Canadians say that it is likely that AI will replace their job entirely within 10 years**
Impact of Technology
Canadians are Split on the Impact of New Technologies

Men, particularly Millennial Men, are much more receptive to new technology than women.

**ALL CANADIANS**

<table>
<thead>
<tr>
<th></th>
<th>Strong Believer</th>
<th>Leaning Believer</th>
<th>Leaning Skeptic</th>
<th>Strong Skeptic</th>
<th>NET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24%</td>
<td>25%</td>
<td>19%</td>
<td>32%</td>
<td>-2%</td>
</tr>
</tbody>
</table>

**BELIEVER vs. SKEPTIC**

<table>
<thead>
<tr>
<th>Gender</th>
<th>BELIEVER (%)</th>
<th>SKEPTIC (%)</th>
<th>NET (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>43%</td>
<td>57%</td>
<td>-14%</td>
</tr>
<tr>
<td>Men</td>
<td>54%</td>
<td>46%</td>
<td>+8%</td>
</tr>
</tbody>
</table>

Boomer Women: 38% BELIEVER, 62% SKEPTIC, -25%
Boomer Men: 48% BELIEVER, 52% SKEPTIC, -4%
Gen X Women: 42% BELIEVER, 58% SKEPTIC, -16%
Gen X Men: 56% BELIEVER, 44% SKEPTIC, +12%
Millennial Women: 52% BELIEVER, 48% SKEPTIC, +4%
Millennial Men: 62% BELIEVER, 38% SKEPTIC, +24%

The Tech Receptivity Index was created based on the responses to numerous questions. For more information please contact Ipsos.
Canadians Feel that the Benefits of Technology will be Uneven

THE WINNERS ...
- Big Business
- Big Cities
- Youth
- High Income

BEING LEFT BEHIND ...
- Immigrants
- Indigenous
- Older
- Low Income
## Autonomous Vehicles and Drones

*Majority* say likely to happen in 10 years...

<table>
<thead>
<tr>
<th>Event</th>
<th>Canadian Impact Positive</th>
<th>Personal Impact Better</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drone delivered packages will be common place</td>
<td>+50%</td>
<td>+31%</td>
</tr>
<tr>
<td>At least <strong>10%</strong> of cars and trucks on Canadians roads will be driverless</td>
<td>+29%</td>
<td>+15%</td>
</tr>
<tr>
<td><strong>10%</strong> of all retail transactions will be delivered via drone or autonomous vehicle</td>
<td>+28%</td>
<td>+20%</td>
</tr>
</tbody>
</table>

*Net of Positive vs. Negative*
### Automation and Robots

**Majority say likely to happen in 10 years ...**

<table>
<thead>
<tr>
<th>Event</th>
<th>CANADIAN IMPACT POSITIVE</th>
<th>PERSONAL IMPACT BETTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most new manufacturing jobs will consist of managing and programming robots</td>
<td>-11%</td>
<td>-20%</td>
</tr>
<tr>
<td>Robots will replace 80% of all manufacturing jobs</td>
<td>-43%</td>
<td>-38%</td>
</tr>
<tr>
<td>Robots will become common place at retail check-out counters</td>
<td>-17%</td>
<td>-25%</td>
</tr>
</tbody>
</table>

*Net of Positive vs. Negative*
Changes to Retail and Money
Retail Will Never Be The Same

**Majority** say likely to happen in 10 years ...

<table>
<thead>
<tr>
<th></th>
<th>CANADIAN IMPACT POSITIVE</th>
<th>PERSONAL IMPACT BETTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>50%</strong> of all retail transactions including groceries will occur online</td>
<td>+17%</td>
<td>+6%</td>
</tr>
<tr>
<td><strong>Over 75%</strong> of all your purchases and financial transactions will be through your smart phone</td>
<td>+22%</td>
<td>+1%</td>
</tr>
</tbody>
</table>

*Net of Positive vs. Negative*
Increasingly Cashless

8 in 10 say likely to happen in 10 years...

Over 90% of their purchases of $100 dollars or less will not involve cash

28% AGREE

In the next 10 years

paper money and coins won’t exist anymore!

Net of Positive vs. Negative
## Online Will Kill Bricks and Mortar

### 3 in 4 say likely to happen in 10 years ...

<table>
<thead>
<tr>
<th>Impact</th>
<th>Canadian Impact Positive</th>
<th>Personal Impact Better</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be about <strong>half</strong> as many retail stores</td>
<td>-46%</td>
<td>-45%</td>
</tr>
<tr>
<td><strong>Half</strong> of the physical bank branch locations will no longer exists</td>
<td>-26%</td>
<td>-35%</td>
</tr>
</tbody>
</table>

*Net of Positive vs. Negative*
## Who is Responsible

<table>
<thead>
<tr>
<th>THEME*</th>
<th>GOVERNMENT</th>
<th>BUSINESSES</th>
<th>CITIZENS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricks &amp; Mortar</td>
<td>24%</td>
<td>50%</td>
<td>26%</td>
</tr>
<tr>
<td>Community</td>
<td>34%</td>
<td>13%</td>
<td>53%</td>
</tr>
<tr>
<td>Commerce &amp; Money</td>
<td>28%</td>
<td>26%</td>
<td>46%</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>17%</td>
<td>29%</td>
<td>54%</td>
</tr>
<tr>
<td>Autonomous Vehicles &amp; Drones</td>
<td>34%</td>
<td>38%</td>
<td>28%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>63%</td>
<td>19%</td>
<td>18%</td>
</tr>
<tr>
<td>Artificial Intelligence &amp; Robots</td>
<td>38%</td>
<td>35%</td>
<td>27%</td>
</tr>
<tr>
<td>Nano Sensors</td>
<td>58%</td>
<td>11%</td>
<td>31%</td>
</tr>
</tbody>
</table>

* Theme* results are averages for the individual scenarios asked for that theme

Expectations do not vary significantly between men and women.
13% have Participated in the Gig/Sharing Economy

Have you earned money for work, good, or services that has been facilitated by digital technology such as a smartphone app in the past 12 months? This could include money earned from technology apps such as Uber, Air B and B, Task Rabbit, Rover, Etsy, etc. This money earned could be your primary source of income or a secondary source of income that supplements other employment income. Base: All Respondents (n=1,002)

- 27% of 18 to 34 year olds vs. 2% of those over 55 years
- 20% of those earning between $60K and $100K vs 12% under $60K
- 16% of University Grads
41% say Gig Economy is a threat to Traditional Jobs, 59% say it Encourages Entrepreneurship and is Good for Society

The 'sharing' or 'gig' economy encourages entrepreneurial behaviour and is a positive thing for our society.

- 73% of 18 to 34 year olds
- 71% of university graduates
- 54% who are 55 years or over
- 50% those with high school education or less

The 'sharing' or 'gig' economy is a serious threat to jobs in traditional businesses and erode employment standards for workers.

As you may know, the 'sharing economy' or 'gig economy' refers to economic activity that uses digital technology involving the temporary exchange of goods, services, or labour for money between individuals. Which of the following is the closest to your point of view? Base: All Respondents (n=1,002)
Jury is still out on Regulating the Gig economy

The ‘sharing’ or ‘gig’ economy is risky to consumers and proper regulations must be in place to ensure consumer protection.

- Strongly Agree: 16%
- Somewhat Agree: 57%
- Net Agree: 73%

Regulations on traditional businesses should be relaxed so that they can compete with companies in the ‘sharing’ ‘gig’ economy.

- Strongly Agree: 11%
- Somewhat Agree: 53%
- Net Agree: 64%

The ‘sharing’ or ‘gig’ economy is nothing more than unregulated business and the government needs to act to shut it down.

- Strongly Agree: 8%
- Somewhat Agree: 35%
- Net Agree: 43%
What Jobs?
What Jobs?

- Advances in technology will create MASS UNEMPLOYMENT
- Technology is changing so quickly I’m having a HARD TIME KEEPING UP

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Most Support Taxing Machines that Replace People

If robots and 3D printing are capable of completely replacing some people there should be a technology tax placed on these products to pay for income support and training for displaced workers.

AGREE (Net) 62%

- Strongly Agree: 26%
- Somewhat Agree: 36%
Sectors On The...

Leading Edge Of New Technology

79% TELECOMMUNICATIONS
78% COMMUNICATIONS & INFORMATION TECH
70% BANKING, FINANCE & INSURANCE
65% AUTOMOTIVE
65% ENTERTAINMENT MEDIA

And The Trialing Edge...

33% FORESTRY
32% MINING
30% GOVERNMENT SERVICES
22% FISHING
16% SENIORS’ CARE

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### Sectors Expected To Create Good Paying Jobs In 10 Years

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATIONS &amp; INFORMATION</td>
<td>73%</td>
</tr>
<tr>
<td>TECH</td>
<td>68%</td>
</tr>
<tr>
<td>TELECOMMUNICATIONS</td>
<td></td>
</tr>
<tr>
<td>HEALTH CARE</td>
<td>57%</td>
</tr>
<tr>
<td>ENTERTAINMENT MEDIA</td>
<td>54%</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td>53%</td>
</tr>
</tbody>
</table>

### Sectors That Won’t...

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETAIL SECTOR</td>
<td>32%</td>
</tr>
<tr>
<td>AGRICULTURE</td>
<td>30%</td>
</tr>
<tr>
<td>MINING</td>
<td>27%</td>
</tr>
<tr>
<td>FORESTRY</td>
<td>26%</td>
</tr>
<tr>
<td>FISHING</td>
<td>19%</td>
</tr>
</tbody>
</table>
## Important Re: Technology Use/Purchase Decisions

When you think about the technologies that you may purchase or the new technologies like artificial intelligence and robots that companies you buy from may use to offer their services please indicate how important each of the following is in making your decisions to use/purchase these technologies.

Scale 1=Not At All Important to 7=Very Important. [Total Important = 7,6,5]

<table>
<thead>
<tr>
<th>PRODUCT ATTRIBUTES</th>
<th>GLOBAL TOTAL IMPORTANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>71%</td>
</tr>
<tr>
<td>Convenience</td>
<td>73%</td>
</tr>
<tr>
<td>Function</td>
<td>74%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COUNTRY ATTRIBUTES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Job Transition</td>
<td>58%</td>
</tr>
<tr>
<td>Protect Privacy</td>
<td>64%</td>
</tr>
<tr>
<td>Gender and Race Equity</td>
<td>57%</td>
</tr>
<tr>
<td>Protect Environment</td>
<td>59%</td>
</tr>
</tbody>
</table>

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*Tech Values for Global@dvisor April 2018*  
When you think about the technologies that you may purchase or the new technologies like artificial intelligence and robots that companies you buy from may use to offer their services please indicate how important each of the following is in making your decisions to use/purchase these technologies. Scale 1=Not At All Important to 7=Very Important. [Total Important = 7,6,5]  

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Top Countries: Ensures workers who lose their jobs due to technology are offered re-skilling/financial support

- Germany: 20%
- Sweden: 15%
- Canada: 14%
- US: 12%
- Great Britain: 11%
- Japan: 10%
- France: 9%
- Australia: 8%
- China: 8%
- Belgium: 6%
- None: 7%
- Don't Know: 41%

Now thinking about the items below please select the top 3 countries that you think best adhere to these values today?
Conclusions and Considerations
Future of Work: Political Implications

- The Future of Work requires cooperation, coordination and consistency vs. today’s increasingly polarized political environment
- General angst and concern for economic well-being will make governing more challenging
- Labour market transition may be added to the list of large social challenges that the public do not think governments can adequately address (i.e. health care and climate change)
Future of Work: Policy Implications

- A population without a lot of knowledge or confidence re: what to expect
- Increasingly divided by age
- Mass unemployment and difficult transition among older population (less mobile, less likely to re-skill etc.) who want to work longer
- Pressure on government support programs at a time of decreasing tax revenue = a “temporary tax” on data, automation, robots – anything that creates value but does not create employment?
THANK YOU!

Data is drawn from a representative, online survey among n=2000 Canadians, 18 years+, conducted in May 2017. The credibility interval for a sample of this size is +/- 2.5%, 95% of the time. This was supplemented by a series of online focus groups conducted in August, 2017. For more information about CanadaNext, please visit our website: https://www.ipsos.com/en-ca/knowledge/society/CanadaNext-2017

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