

Majority of Canadians say embracing AI is important or somewhat important for the prosperity of Canada; are not confident or somewhat not confident in the ability of the government of Canada to protect Canadian's privacy in a world with more data created by AI

Deloitte AI May | Summary


Conducted by Nanos for Deloitte Canada, June 2019

Submission 2019-1455



Deloitte.






A majority of Canadians are somewhat not confident or not confident in the ability of the Government of Canada to protect the personal data privacy of Canadians in a world with more data created using AI

A majority of Canadians say embracing AI is important or somewhat important for the prosperity of Canada but are not confident or somewhat not confident in the ability of the government of Canada to protect the privacy of Canadians in a world with more data created by AI. Over half are not comfortable or somewhat not comfortable with the increasing role that AI will be playing in their personal lives over the next decade.

- **Canadians most frequently mention improved efficiency/productivity as a benefit that Artificial Intelligence and Machine Learning will deliver for the Canadian economy** – Asked what they think the benefits that Artificial Intelligence and Machine Learning will deliver for the Canadian economy, just under two in ten Canadians mention improved efficiency/productivity (19%), followed by little to no benefit (nine per cent), allows for better decision making/analysis/research (eight per cent), new sector/jobs (seven per cent) and fewer repetitive/dangerous jobs that will need to be done by humans (five per cent). Twenty-three per cent are unsure.
- **Job loss is most frequently mentioned as a concern Canadians have about a world with more Artificial Intelligence and Machine Learning** – Asked what concerns they might have about a world with more Artificial Intelligence and Machine Learning, nearly one in four Canadians mention job loss (24%), followed by personal privacy/security issues (11%), ethical issues/dehumanization and loss of control over AI (eight per cent each), and over dependency on technology (seven per cent).
- **Canadians more often say they are somewhat not comfortable or not comfortable with the increasing role that Artificial Intelligence and Machine Learning will be playing in their personal life over the next decade** – More than one in two Canadians say they are somewhat not comfortable (29%) or not comfortable (22%) with the increasing role that Artificial Intelligence and Machine Learning will be playing in their personal life, while more than three in seven Canadians say they are comfortable (11%) or somewhat comfortable (34%), and four per cent are unsure. Residents of Quebec are more likely to say they are comfortable (14%) or somewhat comfortable (44%) while residents of the Prairies were less likely to say so (six per cent say they are comfortable and 31% say somewhat comfortable).



A majority of Canadians say embracing AI is important or somewhat important for the prosperity of Canada

- **More than seven in ten Canadians are somewhat not confident or not confident in the ability of the Government of Canada to protect the personal data privacy of Canadians in a world with more data created using Artificial Intelligence and Machine Learning** – A majority of Canadians say they are somewhat not confident (35%) or not confident (38%) in the ability of the Government of Canada to protect the personal data privacy of Canadians. Two per cent are confident while 22 per cent are somewhat confident. Three per cent are unsure. Quebec residents were more likely to report being confident (four per cent) or somewhat confident (33%) than the rest of Canada.
- **Three in four Canadians say that embracing Artificial Intelligence and Machine Learning is important or somewhat important for prosperity in Canada over the next decade** – When asked about the importance of embracing Artificial Intelligence and Machine Learning for prosperity in Canada over the next decade, a majority of Canadians say it is important (29%) or somewhat important (46%) while less than two in ten say it is somewhat not important (10%) or not important (eight per cent). Seven per cent are unsure.

Nanos conducted an RDD dual frame (land- and cell-lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st and June 4th, 2019. The margin of error for a random survey of 1,000 Canadians is ± 3.1 percentage points, 19 times out of 20.

This study was commissioned by Deloitte Canada and the research was conducted by Nanos Research.

Benefits of AI and Machine Learning for the economy

Top mentions	Frequency (n=1000)
Improved efficiency/productivity	18.8%
Little to no benefit/nothing	8.5%
Allows for better decision making/analysis/research	8.3%
New sector/jobs	6.7%
Fewer repetitive/dangerous jobs that will need to be done by humans	4.9%
Medical/industrial/scientific improvements	4.8%
Chance for Canada to be industry leader	3.7%
Will keep Canada competitive with rest of world	3.3%
Cost efficiencies	3.2%
Improve our quality of life	2.8%

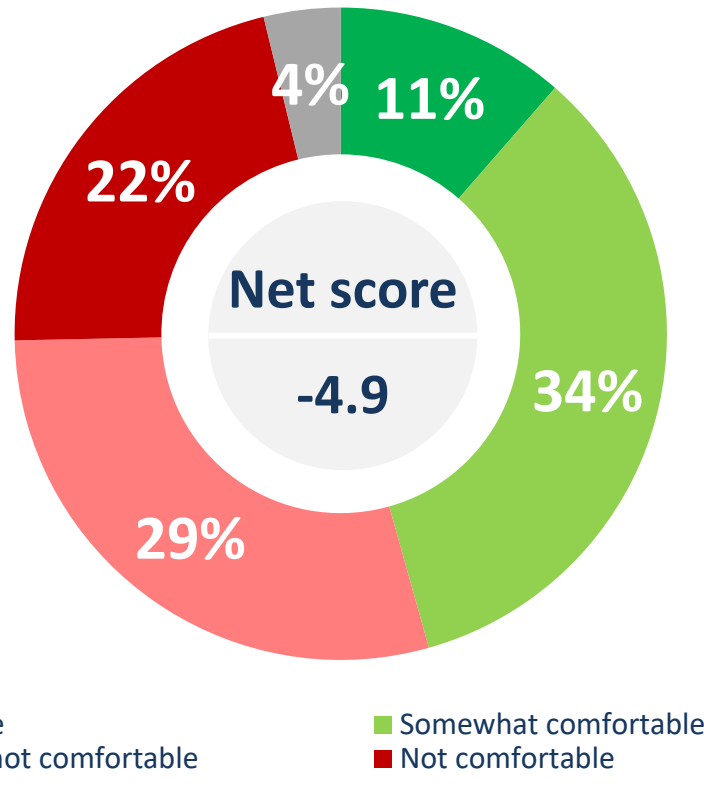
QUESTION – What do you think are the benefits you believe Artificial Intelligence and Machine Learning will deliver for the Canadian economy? [Open]

Concerns regarding AI and Machine Learning

Top mentions	Frequency (n=1000)
Job loss	24.4%
Personal privacy/security issues	11.4%
Ethical issues/dehumanization	7.9%
Loss of control over AI	7.6%
Over dependency on technology	7.4%
None/no concerns	6.2%
Misuse of technology	5.4%
Lack of regulations	4.9%
Malfunctions/programming errors/biased coding	4.7%

QUESTION – What are the concerns you might have about a world with more Artificial Intelligence and Machine Learning? [Open]

Level of comfort with role played by AI in personal life

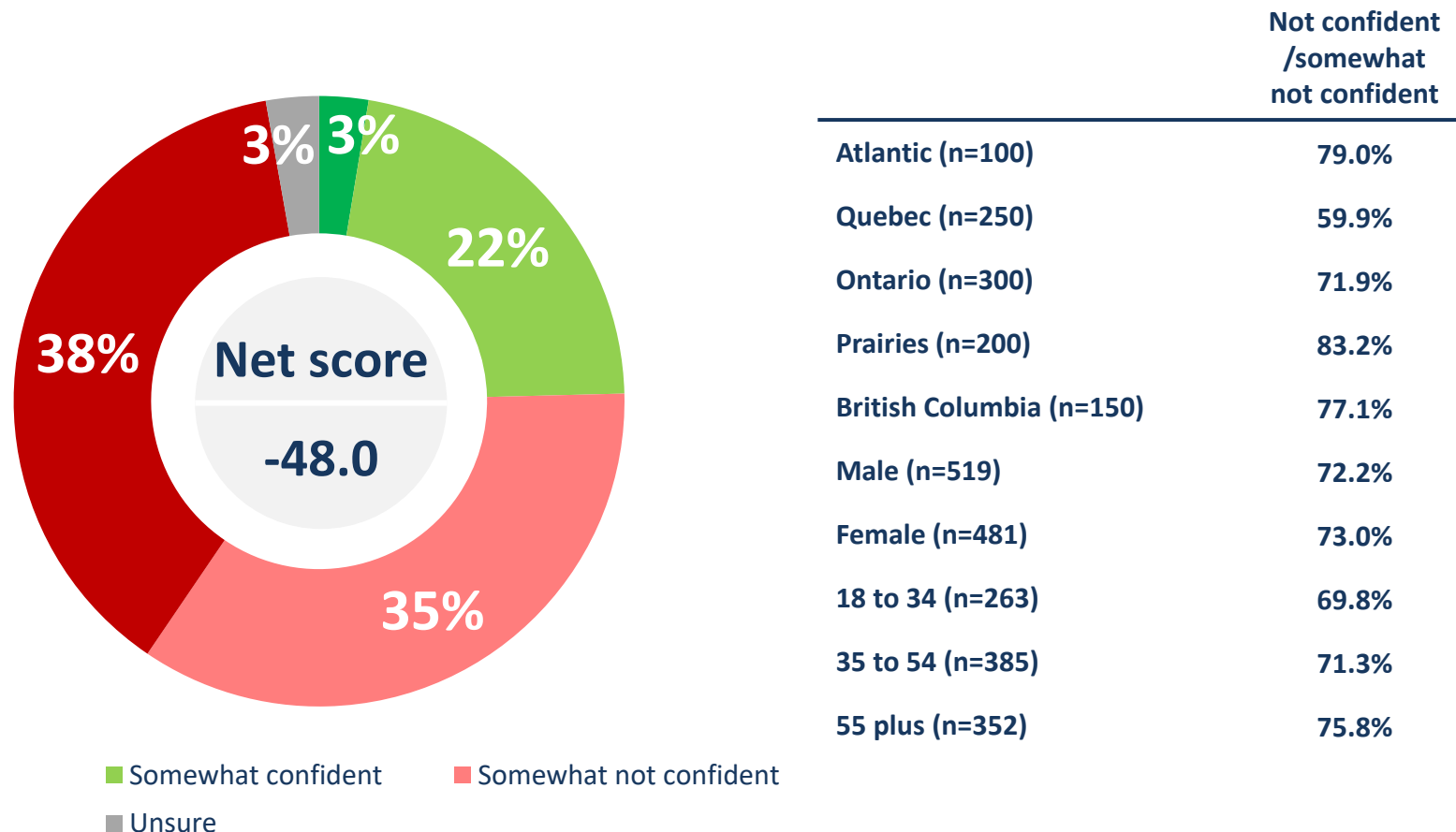


	Not comfortable / somewhat not comfortable
Atlantic (n=100)	61.0%
Quebec (n=250)	39.2%
Ontario (n=300)	52.4%
Prairies (n=200)	58.9%
British Columbia (n=150)	48.0%
Male (n=519)	43.5%
Female (n=481)	57.3%
18 to 34 (n=263)	44.9%
35 to 54 (n=385)	50.1%
55 plus (n=352)	54.9%

*Weighted to the true population proportion.

*Charts may not add up to 100 due to rounding.

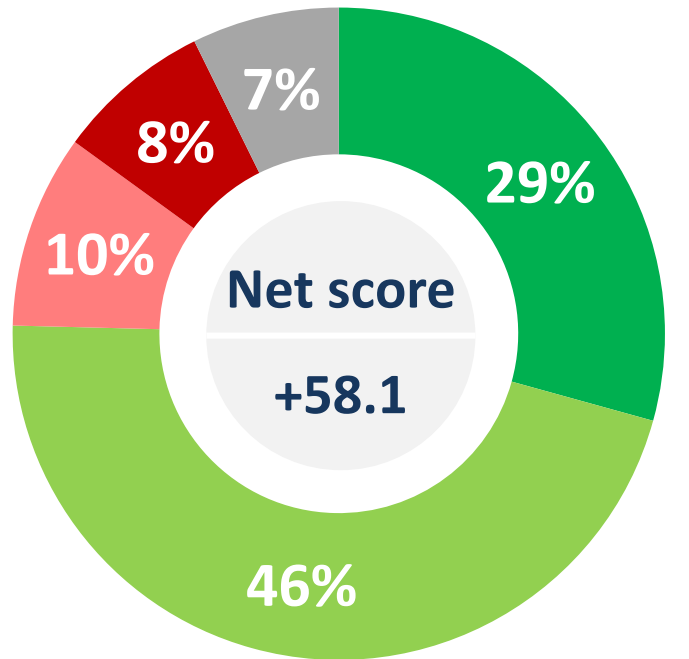
QUESTION – Are you comfortable, somewhat comfortable, somewhat not comfortable or not comfortable with the increasing role that Artificial Intelligence and Machine Learning will be playing in your personal life over the next decade?



*Weighted to the true population proportion.
*Charts may not add up to 100 due to rounding.

QUESTION – Are you confident, somewhat confident, somewhat not confident or not confident in the ability of the Government of Canada to protect the personal data privacy of Canadians in a world with more data created using Artificial Intelligence and Machine Learning?

Importance of embracing AI for prosperity over the next decade



■ Important
■ Somewhat not important
■ Unsure
■ Somewhat important
■ Not important

	Important / Somewhat important
Atlantic (n=100)	65.5%
Quebec (n=250)	79.2%
Ontario (n=300)	76.5%
Prairies (n=200)	73.3%
British Columbia (n=150)	76.6%
Male (n=519)	81.0%
Female (n=481)	70.1%
18 to 34 (n=263)	80.2%
35 to 54 (n=385)	74.2%
55 plus (n=352)	73.2%

*Weighted to the true population proportion.
*Charts may not add up to 100 due to rounding.

QUESTION – Would you say that embracing Artificial Intelligence and Machine Learning is important, somewhat important, somewhat not important or not important for prosperity in Canada over the next decade?



Nanos conducted an RDD dual frame (land- and cell-lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st to June 4th, 2019 as part of an omnibus survey. Participants were randomly recruited by telephone using live agents and administered a survey online. The results were statistically checked and weighted by age and gender using the latest Census information and the sample is geographically stratified to be representative of Canada.

Individuals were randomly called using random digit dialling with a maximum of five call backs.

The margin of error for this survey is ± 3.1 percentage points, 19 times out of 20.

The research was commissioned by Deloitte Canada and was conducted by Nanos Research.

Note: Charts may not add up to 100 due to rounding.

TECHNICAL NOTE

Element	Description
Organization who commissioned the research	Deloitte Canada
Final Sample Size	1,000 Randomly selected individuals.
Margin of Error	±3.1 percentage points, 19 times out of 20.
Mode of Survey	RDD dual frame (land- and cell-lines) hybrid telephone and online omnibus survey
Sampling Method Base	The sample included both land- and cell-lines RDD (Random Digit Dialed) across Canada.
Demographics (Captured)	Atlantic Canada, Quebec, Ontario, Prairies, British Columbia; Men and Women; 18 years and older. Six digit postal code was used to validate geography.
Fieldwork/Validation	Individuals were recruited using live interviews with live supervision to validate work, the research questions were administered online
Number of Calls	Maximum of five call backs.
Time of Calls	Individuals were called between 12-5:30 pm and 6:30-9:30pm local time for the respondent.
Field Dates	May 31 st to June 4 th , 2019.
Language of Survey	The survey was conducted in both English and French.
Standards	This report exceeds the standards set forth by CRIC, ESOMAR and AAPOR.

Element	Description
Weighting of Data	The results were weighted by age and gender using the latest Census information (2016) and the sample is geographically stratified to ensure a distribution across all regions of Canada. See tables for full weighting disclosure
Screening	Screening ensured potential respondents did not work in the market research industry, in the advertising industry, in the media or a political party prior to administering the survey to ensure the integrity of the data.
Excluded Demographics	Individuals younger than 18 years old; individuals without land or cell lines, and individuals without internet access could not participate.
Stratification	By age and gender using the latest Census information (2016) and the sample is geographically stratified to be representative of Canada. Smaller areas such as Atlantic Canada were marginally oversampled to allow for a minimum regional sample.
Estimated Response Rate	11 percent, consistent with industry norms.
Question Order	Question order in the preceding report reflects the order in which they appeared in the original questionnaire.
Question Content	This was module four of an omnibus survey. Previous modules were about politics, business and Canada-China relations.
Question Wording	The questions in the preceding report are written exactly as they were asked to individuals.
Survey Company	Nanos Research
Contact	Contact Nanos Research for more information or with any concerns or questions. http://www.nanos.co Telephone:(613) 234-4666 ext. 237 Email: info@nanosresearch.com .



As one of North America's premier market and public opinion research firms, we put strategic intelligence into the hands of decision makers. The majority of our work is for private sector and public facing organizations and ranges from market studies, managing reputation through to leveraging data intelligence. Nanos Research offers a vertically integrated full service quantitative and qualitative research practice to attain the highest standards and the greatest control over the research process.

www.nanos.co



A public relations consultancy for executives and organizations with images to create, issues to manage, relationships to build, and reputations to protect in a digitally disrupted era. We serve senior leaders with PR counsel that is both strategic and social, informed by a deep understanding of analytics, content, communities, media, sustainability and technology. www.signaleadership.com

nanos dimap analytika



dimap

This international joint venture between [dimap](http://www.dimap.com) and [Nanos](http://www.nanos.co) brings together top research and data experts from North American and Europe to deliver exceptional data intelligence to clients. The team offers data intelligence services ranging from demographic and sentiment microtargeting; consumer sentiment identification and decision conversion; and, data analytics and profiling for consumer persuasion.

www.nanosdimap.com

NANOS RUTHERFORD McKAY & Co.

NRM is an affiliate of Nanos Research and Rutherford McKay Associates. Our service offerings are based on decades of professional experience and extensive research and include public acceptance and engagement, communications audits, and narrative development. www.nrmpublicaffairs.com





2019-1455 – Deloitte – Artificial Intelligence June – STAT SHEET

			Region					Gender		Age			
			Canada 2019-05	Atlantic	Quebec	Ontario	Prairies	British Columbia	Male	Female	18 to 34	34 to 54	55 plus
Question - What do you think are the benefits you believe Artificial Intelligence and Machine Learning will deliver for the Canadian economy? [OPEN]	Total	Unwgt N	1000	100	250	300	200	150	519	481	263	385	352
		Wgt N	1000	100	250	300	200	150	491	509	271	340	389
	Improved efficiency/productivity	%	18.8	16.9	15.8	20.7	18.9	21.0	23.3	14.5	24.3	18.8	14.9
	New sector/jobs	%	6.7	8.7	5.3	7.5	6.7	5.9	7.2	6.2	9.8	4.8	6.1
	Allows for better decision making/analysis/research	%	8.3	2.3	6.3	9.2	10.0	11.4	7.9	8.7	8.8	8.8	7.5
	Will keep Canada competitive with rest of world	%	3.3	4.7	4.6	2.8	1.3	4.0	2.8	3.9	3.0	3.4	3.5
	Will give us more leisure time/time for personal pursuits	%	1.0	0.0	0.9	1.9	0.9	0.0	1.0	1.0	0.8	2.1	0.0
	Fewer repetitive/dangerous jobs that will need to be done by humans	%	4.9	4.3	3.1	4.6	5.6	8.1	5.6	4.2	5.8	5.4	3.8
	Chance for Canada to be industry leader	%	3.7	2.5	6.6	3.0	2.6	2.5	3.0	4.4	3.0	3.6	4.2
	Improve our quality of life	%	2.8	3.1	2.9	3.5	1.9	2.2	2.5	3.2	3.4	2.2	2.9
	Medical/industrial/scientific improvements	%	4.8	5.5	4.1	5.8	3.2	5.9	4.5	5.1	4.5	4.5	5.3
	Little to no benefit/nothing	%	8.5	12.7	5.4	8.1	11.7	7.7	8.1	9.0	5.7	6.1	12.7
	Cost efficiencies	%	3.2	2.3	4.0	2.6	2.3	5.1	4.4	2.1	3.9	3.4	2.6
	Help shortstaffed workforces	%	1.7	0.7	5.6	0.3	0.4	0.0	1.9	1.4	1.1	2.9	1.0
	Potential loss of jobs	%	2.0	2.4	1.6	1.7	3.6	1.1	1.6	2.5	0.7	2.9	2.2
Can improve the economy	%	2.1	2.4	3.8	1.4	1.9	0.5	1.7	2.4	1.5	2.7	2.0	
Incorporate into training/education	%	0.9	0.7	1.8	0.8	0.0	1.3	0.2	1.7	0.8	0.4	1.5	
Other	%	4.5	3.9	6.2	3.3	4.6	4.2	5.0	4.0	2.8	3.8	6.3	
Unsure	%	22.7	26.9	21.9	22.8	24.3	19.2	19.6	25.8	20.1	24.1	23.4	

Nanos conducted an RDD dual frame (land- and cell- lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st and June 4th, 2019. The margin of error this survey is ± 3.1 percentage points, 19 times out of 20.

www.nanos.co



2019-1455 – Deloitte – Artificial Intelligence June – STAT SHEET

			Region					Gender			Age		
			Canada 2019-05	Atlantic	Quebec	Ontario	Prairies	British Columbia	Male	Female	18 to 34	34 to 54	55 plus
Question - What are the concerns you might have about a world with more Artificial Intelligence and Machine Learning? [OPEN]	Total	Unwgt N	1000	100	250	300	200	150	519	481	263	385	352
		Wgt N	1000	100	250	300	200	150	491	509	271	340	389
	Job loss	%	24.4	27.2	18.9	26.3	25.5	26.9	22.7	26.2	34.8	24.6	17.1
	Personal privacy/security issues	%	11.4	10.2	12.5	11.6	10.7	11.1	12.3	10.6	9.8	12.2	11.8
	None/no concerns	%	6.2	7.4	7.5	5.1	6.0	5.8	8.2	4.3	8.4	7.0	4.0
	Ethical issues/dehumanization	%	7.9	9.8	11.5	6.4	5.4	7.1	6.2	9.6	5.7	8.6	8.9
	Misuse of technology	%	5.4	3.9	3.8	6.8	5.5	6.1	5.3	5.5	2.6	6.2	6.6
	Safety concerns/national security	%	0.6	1.6	0.0	0.4	0.5	1.3	0.4	0.7	1.2	0.3	0.4
	Malfunctions/programming errors/biased coding	%	4.7	3.1	5.7	5.1	5.3	2.6	3.8	5.6	4.3	4.8	5.0
	Over dependency on technology	%	7.4	5.4	7.1	8.6	8.2	6.0	5.7	9.0	5.8	6.9	9.0
	Loss of control over AI	%	7.6	7.5	4.8	8.2	11.7	5.3	8.8	6.4	7.3	7.7	7.6
	Lack of regulations	%	4.9	3.6	3.3	4.3	6.2	7.8	5.4	4.4	2.7	3.7	7.5
	Weaponizing AI/Warfare	%	1.2	0.0	1.4	0.2	1.0	3.5	1.6	0.8	1.1	1.0	1.3
	Loss of freedom/decision making	%	3.2	2.8	5.1	2.4	2.8	2.7	4.2	2.3	2.7	3.7	3.2
	Other	%	6.2	7.6	9.0	4.9	3.8	6.6	6.6	5.9	5.1	3.9	9.0
Unsure	%	8.8	9.9	9.4	9.7	7.3	7.2	8.8	8.8	8.4	9.4	8.5	

Nanos conducted an RDD dual frame (land- and cell- lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st and June 4th, 2019. The margin of error this survey is ± 3.1 percentage points, 19 times out of 20.

www.nanos.co



2019-1455 – Deloitte – Artificial Intelligence June – STAT SHEET

			Region					Gender		Age			
			Canada 2019-05	Atlantic	Quebec	Ontario	Prairies	British Columbia	Male	Female	18 to 34	34 to 54	55 plus
Question - Are you comfortable, somewhat comfortable, somewhat not comfortable or not comfortable with the increasing role that Artificial Intelligence and Machine Learning will be playing in your personal life over the next decade?	Total	Unwgt N	1000	100	250	300	200	150	519	481	263	385	352
		Wgt N	1000	100	250	300	200	150	491	509	271	340	389
	Comfortable	%	11.4	10.5	14.4	11.5	5.9	14.4	15.2	7.8	15.7	10.8	9.0
	Somewhat comfortable	%	34.2	26.6	43.7	31.4	30.7	34.0	37.7	30.9	36.7	34.6	32.2
	Somewhat not comfortable	%	29.0	37.0	21.6	30.7	31.5	29.6	24.6	33.3	28.8	28.2	29.9
	Not comfortable	%	21.5	24.0	17.6	21.7	27.4	18.4	18.9	24.0	16.1	21.9	25.0
	Unsure	%	3.8	2.0	2.8	4.7	4.6	3.7	3.6	4.0	2.7	4.4	4.0

			Region						Gender		Age		
			Canada 2019-05	Atlantic	Quebec	Ontario	Prairies	British Columbia	Male	Female	18 to 34	34 to 54	55 plus
Question - Are you confident, somewhat confident, somewhat not confident or not confident in the ability of the Government of Canada to protect the personal data privacy of Canadians in a world with more data created using Artificial Intelligence and Machine Learning?	Total	Unwgt N	1000	100	250	300	200	150	519	481	263	385	352
		Wgt N	1000	100	250	300	200	150	491	509	271	340	389
	Confident	%	2.6	2.7	4.2	2.1	1.3	2.2	2.8	2.3	3.1	2.9	1.8
	Somewhat confident	%	22.0	16.7	32.9	22.0	13.9	18.2	22.7	21.3	25.3	22.9	18.9
	Somewhat not confident	%	34.9	31.7	42.1	31.0	30.9	38.2	31.6	38.1	35.3	34.0	35.5
	Not confident	%	37.7	47.3	17.8	40.9	52.3	38.9	40.6	34.9	34.5	37.3	40.3
	Unsure	%	2.8	1.5	2.9	4.1	1.6	2.6	2.3	3.3	1.9	2.9	3.4

Nanos conducted an RDD dual frame (land- and cell- lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st and June 4th, 2019. The margin of error this survey is ± 3.1 percentage points, 19 times out of 20.

www.nanos.co



2019-1455 – Deloitte – Artificial Intelligence June – STAT SHEET

			Region						Gender		Age		
			Canada 2019-05	Atlantic	Quebec	Ontario	Prairies	British Columbia	Male	Female	18 to 34	34 to 54	55 plus
Question - Would you say that embracing Artificial Intelligence and Machine Learning is important, somewhat important, somewhat not important or not important for prosperity in Canada over the next decade?	Total	Unwgt N	1000	100	250	300	200	150	519	481	263	385	352
		Wgt N	1000	100	250	300	200	150	491	509	271	340	389
	Important	%	29.3	30.4	32.0	30.8	22.8	29.8	38.3	20.6	29.0	28.6	30.1
	Somewhat important	%	46.1	35.1	47.2	45.7	50.5	46.8	42.7	49.5	51.2	45.6	43.1
	Somewhat not important	%	9.6	11.7	8.0	10.0	11.8	7.3	8.3	11.0	7.5	11.1	9.9
	Not important	%	7.7	11.2	4.8	7.6	9.9	7.3	7.7	7.6	5.8	8.4	8.3
	Unsure	%	7.3	11.7	8.0	5.9	5.0	8.8	3.0	11.3	6.5	6.3	8.6

Nanos conducted an RDD dual frame (land- and cell- lines) hybrid telephone and online random survey of 1,000 Canadians, 18 years of age or older, between May 31st and June 4th, 2019. The margin of error this survey is ± 3.1 percentage points, 19 times out of 20.

www.nanos.co