BROOKINGS

<u>TechTank</u>

Brookings survey finds worries over AI impact on jobs and personal privacy, concern U.S. will fall behind China

<u>Darrell M. West</u>Monday, May 21, 2018

Advances in artificial intelligence (AI) are propelling development in many parts of the world. There are new applications in finance, healthcare, transportation, national security, criminal justice, and smart cities, among <u>other areas</u>. Yet as the same time, there are questions about <u>negative impacts on jobs and personal privacy</u>, if AI will make people's lives easier, whether the government should regulate AI, and how the United States is faring compared to other countries.

To examine attitudes towards AI, researchers at the Brookings Institution undertook an online national survey of 1,535 adult Internet users between May 9 and May 11, 2018. It was overseen May 9 to 11, 2018 by <u>Darrell M. West</u>, vice president of Governance Studies and director of the Center for Technology Innovation at the Brookings Institution and the author of <u>The Future of Work: Robots, AI, and Automation</u>. Responses were weighted using gender, age, and region to match the demographics of the national internet population as estimated by the U.S. Census Bureau's Current Population Survey.

Positivity

The survey asked a number of questions about artificial intelligence. As shown in the table below 14 percent were very positive about AI, 27 percent were somewhat positive, 23 percent were not very positive, and 36 didn't know or gave no answer. There were differences based on gender with men (18 percent) being more positive compared to women (10 percent). Older people were slightly less positive about AI than young adults.

	Very Positive	Somewhat Positive	Not Very Positive
Overall	14%	27%	23%
Gender			
-male	18	28	25
-female	10	26	21
Age			
-18-24	14	27	19
-25-34	16	27	22
-35-44	14	28	20
-45-54	12	28	25
-55-64	14	25	26
-65+	14	27	26
Region			
-Northeast	17	27	20
-Midwest	11	27	23
-South	14	26	24
-West	14	28	24

Optimism

Twelve percent said they were very optimistic about AI, 29 percent indicated they were somewhat optimistic, 27 percent were not very optimistic, and 32 percent didn't know or gave no answer. Males (16 percent) were more optimistic about AI than females (9 percent), while those living in the West (30 percent) were the least optimistic about AI.

	Very Optimistic	Somewhat Optimistic	Not Very Optimistic
Overall	12%	29%	27%
Gender			
-male	16	31	28
-female	9	27	27
Age			
-18-24	12	26	26
-25-34	14	31	25
-35-44	11	30	26
-45-54	11	31	27
-55-64	12	25	30
-65+	12	30	30
Region			
-Northeast	14	30	27
-Midwest	12	28	24
-South	11	29	28
-West	11	28	30

Worry

Twelve percent said they were very worried about AI, 27 percent indicated they were somewhat worried, 34 percent were not very worried, and 27 percent gave didn't know or gave no answer. Those in the Northeast (15 percent) were most likely to say they were very worried about AI.

	Very Worried	Somewhat Worried	Not Very Worried
Overall	12%	27%	34%
Gender			
-male	14	29	36
-female	9	25	33
Age			
-18-24	13	31	23
-25-34	12	23	41
-35-44	10	30	28
-45-54	11	25	36
-55-64	12	25	36
-65+	11	28	39
Region			
-Northeast	15	30	30
-Midwest	12	26	31
-South	9	26	37
-West	13	27	35

Workforce Impact

There has been considerable controversy over the workforce impact of AI and whether it will create new jobs or reduce the number of jobs. When asked about the employment impact, 12 percent indicated they thought artificial intelligence would create jobs, 13 percent believed it would have no effect on jobs, 38 percent said it would reduce jobs, and 37 percent didn't know or gave no answer. Men (42

percent) were more likely than women (34 percent) to say AI will reduce jobs. The group most likely to feel that way were people aged 25 to 34 years old as 43 percent of them felt that way.

	Create Jobs	No Effect on Jobs	Reduce Jobs
Overall	12%	13%	38%
Gender			
-male	15	15	42
-female	10	11	34
Age			
-18-24	14	11	37
-25-34	10	13	43
-35-44	11	16	38
-45-54	12	11	34
-55-64	15	14	39
-65+	12	15	36
Region			
-Northeast	14	14	38
-Midwest	10	12	38
-South	12	15	37
-West	13	11	40

Privacy

Only 5 percent said they expect artificial intelligence to increase personal privacy, 12 percent felt it would have no effect on personal privacy, 49 percent claim it would reduce personal privacy, and 34 percent didn't know or gave no answer. Males (54 percent) were more likely than women (44 percent) to believe AI would reduce privacy. The same was true for those aged 55 to 64 years old.

	Increase Privacy	No Effect on Privacy	Reduce Privacy
Overall	5%	12%	49%
Gender			
-male	7	14	54
-female	3	11	44
Age			
-18-24	7	10	45
-25-34	2	14	51
-35-44	6	13	51
-45-54	5	12	46
-55-64	6	8	55
-65+	6	15	45
Region			
-Northeast	6	10	50
-Midwest	4	12	49
-South	6	14	46
-West	4	12	51

Daily life

When asked how artificial intelligence would affect their day-to-day life, 34 percent said it would make their lives easier, 13 percent said harder, and 53 percent didn't know or gave no answer. Men (41 percent) were more likely to think AI would make their lives easier than women (28 percent), and those under the age of 35 were most likely to feel that way.

	Make Lives Easier	Make Lives Harder
Overall	34%	13%
Gender		
-male	41	15
-female	28	12
Age		
-18-24	37	12
-25-34	38	13
-35-44	27	12
-45-54	29	14
-55-64	30	18
-65+	33	13
Region		
-Northeast	33	13
-Midwest	34	12
-South	33	12
-West	37	17

Threat to humans

Thirty-two percent believe that artificial intelligence represents a threat to humanity, while 24 do not and 44 percent didn't know or gave no answer. Men (35 percent) were more likely than women (28 percent) to feel AI represented a threat. The same was true for those aged 18 to 24 and living in the West.

	Threat to Humans	No Threat to Humans
Overall	32%	24%
Gender		
-male	35	28
-female	28	20
Age		
-18-24	36	20
-25-34	33	25
-35-44	31	24
-45-54	31	25
-55-64	28	25
-65+	32	27
Region		
-Northeast	33	27
-Midwest	32	22
-South	29	23
-West	35	26

Government Regulation

The survey inquired about people's views about government regulation. Forty-two percent said they think the government should regulate artificial intelligence, 17 percent indicated they did not want it to regulate artificial intelligence, and 41 percent didn't know or gave no answer. Men (48 percent) were more likely than women (37 percent) to support government regulation. The same was true for those aged 35 to 44 years old and people living in the Northeast.

	Government Should Regulate	Government Should Not Regulate
Overall	42%	17%
Gender		
-male	48	19
-female	37	15
Age		
-18-24	43	15
-25-34	43	17
-35-44	47	16
-45-54	41	17
-55-64	41	18
-65+	40	21
Region		
-Northeast	47	17
-Midwest	43	15
-South	41	17
-West	41	19

International competition

Twenty-one percent believe the United States is the leading country when it comes to artificial intelligence. This is followed by 19 percent who think Japan, 15 percent who say China, 4 percent South Korea, 4 percent Russia, 2 percent Europe, and 35 percent didn't know or gave no answer.

Yet there are concerns that the United States may fall behind China, which has committed $150 billion towards its goal of becoming a world leader by 2030. When asked which nation would be the leader in 10 years, 21 percent say the

United States, followed by 20 percent who expect China, 14 percent Japan, 4 percent Russia, 3 percent South Korea, 3 percent Europe, and 35 percent didn't know or gave no answer.

Survey Questions and Answers

1. How positive are you about artificial intelligence?

- 14% very positive
- 27% somewhat positive
- 23% not very positive
- 36% don't know or no answer

2. How optimistic are you about artificial intelligence?

- 12% very optimistic
- 29% somewhat optimistic
- 27% not very optimistic
- 32% don't know or no answer

3. How worried are you about artificial intelligence?

- 12% very worried
- 27% somewhat worried
- 34% not very worried
- 27% don't know no answer

4. Do you expect artificial intelligence to:

- 12% create jobs
- 13% have no effect on jobs
- 38% reduce jobs

- 37% don't know or no answer

5. Do you expect artificial intelligence to:

- 5% increase personal privacy
- 12% have no effect on personal privacy
- 49% reduce personal privacy
- 34% don't know or no answer

6. Do you expect artificial intelligence to make your day-to-day life:

- 34% easier
- 13% harder
- 53% don't know or no answer

7. Do you think artificial intelligence represents a:

- 32% threat to human beings
- 24% no threat to human beings
- 44% don't know or no answer

8. Do you think government officials should:

- 42% regulate artificial intelligence
- 17% not regulate artificial intelligence
- 41% don't know or no answer

9. Which one is the leading country when it comes to artificial intelligence?

- 21% United States
- 19% Japan

- 15% China
- 4% South Korea
- 4% Russia
- 2% Europe
- 35% don't know or no answer (order was randomized)

10. In 10 years, which one will be the leading country when it comes to artificial intelligence?

- 21% United States
- 20% China
- 14% Japan
- 4% Russia
- 3% South Korea
- 3% Europe
- 35% don't know or no answer (order was randomized)

Gender:

- 53.8% male, 46.2% female in survey
- 47.9% male, 52.1% female in target population

Age:

- 8.8% 18-24, 14.9% 25-34, 18.2% 35-44, 20.8% 45-54, 19.0% 55-64, 18.2% 65+ in survey
- 13.9% 18-24, 19.4% 25-34, 17.8% 35-44, 18.3% 45-54, 16.4% 55-64, 14.2% 65+ in target population

Region:

- 16.4% Northeast, 25.0% Midwest, 36.0% South, 22.5% West in survey

- 18.0% Northeast, 22.0% Midwest, 36.4% South, 23.6% West in target population

Survey Methodology

This online survey polled 1,535 adult Internet users in the United States May 9-11, 2018 through the Google Surveys platform. Responses were weighted using gender, age, and region to match the demographics of the national internet population as estimated by the U.S. Census Bureau's Current Population Survey.

In the 2012 presidential election, Google Surveys was the second most accurate poll of national surveys as judged by polling expert Nate Silver. In addition, the Pew Research Center undertook a detailed assessment of Google Surveys and found them generally to be representative of the demographic profile of national internet users. In comparing Google Survey results to its own telephone polls on 43 different substantive issues, Pew researchers found a median difference of about three percentage points between Google online surveys and Pew telephone polls. A 2016 analysis of Google Surveys published in the peer-reviewed methodology journal *Political Analysis* by political scientists at Rice University replicated a number of research results and concluded "GCS [Google Consumer Surveys] is likely to be a useful platform for survey experimentalists."

This research was made possible by Google Surveys, which donated use of its online survey platform. The questions and findings are solely those of the researchers and not influenced by any donation. For more detailed information on the methodology, see the Google Surveys Whitepaper.