

# AI & Machine Learning Disruption Timeline Survey Results

**MIT** MANAGEMENT  
SLOAN SCHOOL



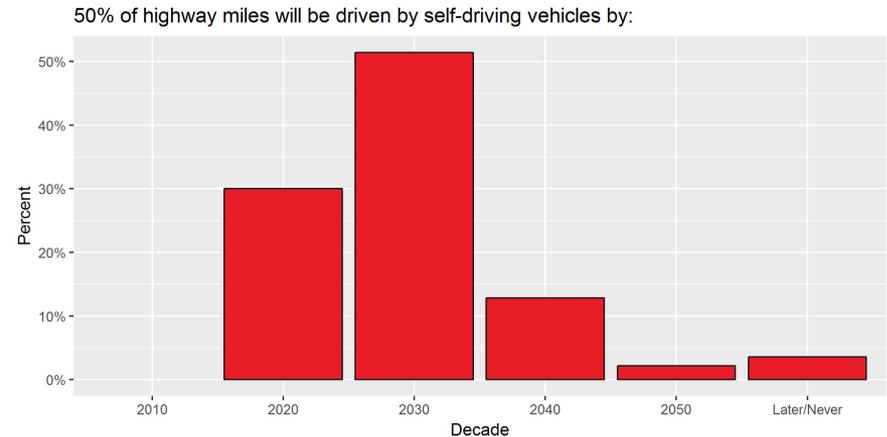
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INITIATIVE ON THE  
DIGITAL ECONOMY

# Survey Summary

- **16 Questions on AI, Machine Learning, and Technology predictions**
- **Number of responses: 140**
- **Average Time: 7 minutes**
  - with standard deviation 13 minutes

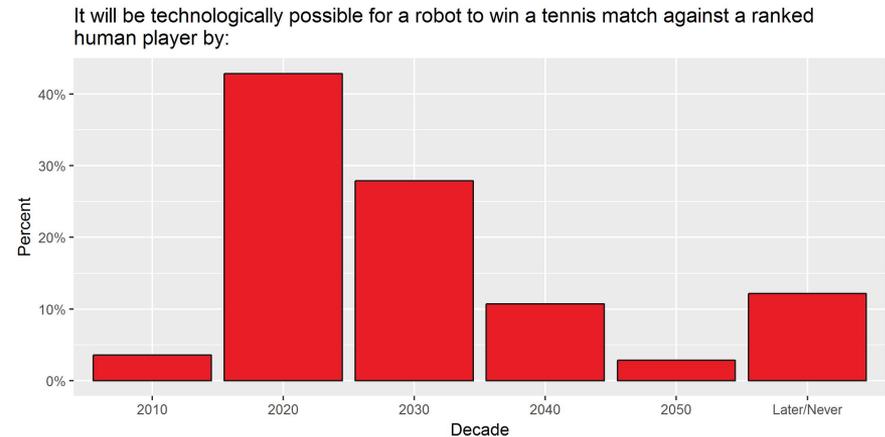
# Q1: 50% of highway miles will be driven by self-driving vehicles by:

- **Mean: 2032**
- **SD: 7 years**
- **95% CI: [2018, 2046]**
- **Median: 2030**
- **5 Later/Never**



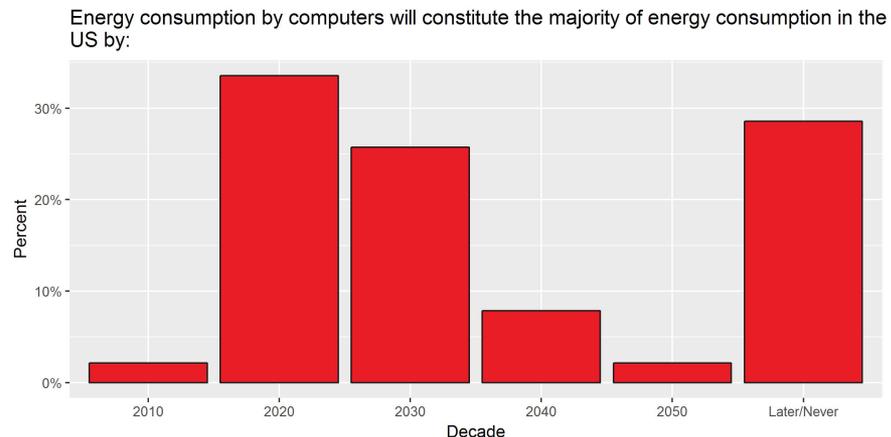
# Q2: It will be technologically possible for a robot to win a tennis match against a ranked human player by:

- **Mean: 2030**
- **SD: 8 years**
- **95% CI: [2014, 2046]**
- **Median: 2028**
- **17 Later/Never**



# Q3: Energy consumption by computers will constitute the majority of energy consumption in the US by:

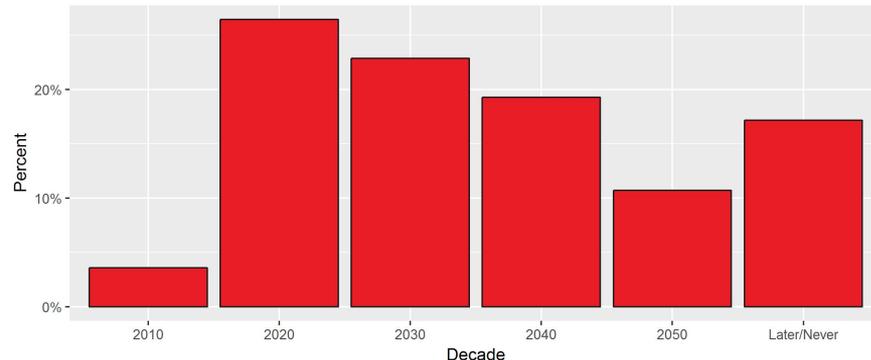
- **Mean: 2030**
- **SD: 8 years**
- **95% CI: [2015, 2045]**
- **Median: 2030**
- **40 Later/Never**



# Q4: It will be technologically feasible for a machine, using a mixture of AI and 3D printing, to assemble a perfect copy of itself in the presence of unrefined planetary materials alone by:

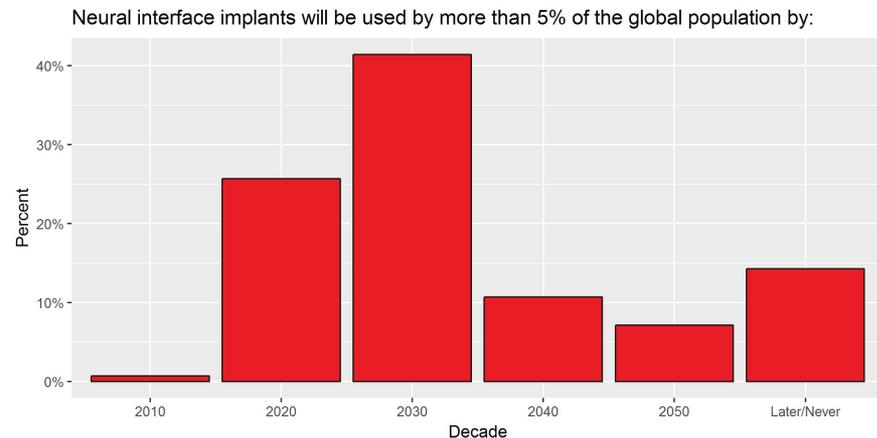
- **Mean: 2034**
- **SD: 10 years**
- **95% CI: [2014, 2054]**
- **Median: 2033**
- **Believed to happen 3<sup>rd</sup> to last/never**
- **Largest opinion disagreement**

It will be technologically feasible for a machine, using a mixture of AI and 3D printing, to assemble a perfect copy of itself in the presence of unrefined planetary materials alone by:



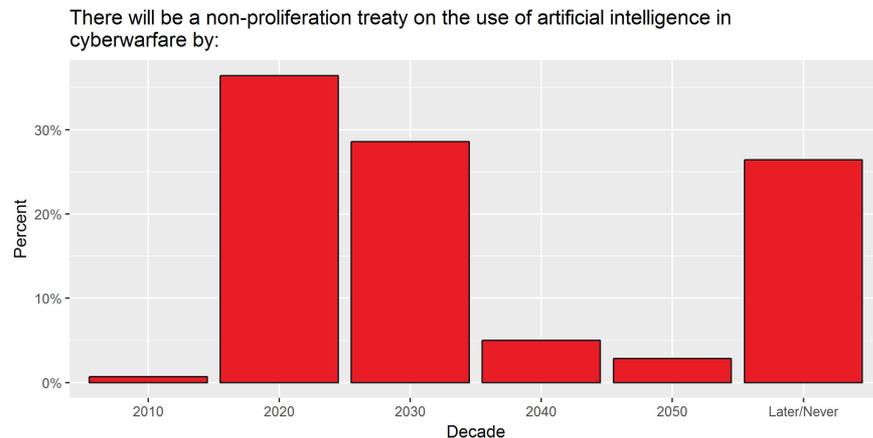
# Q5: Neural interface implants will be used by more than 5% of the global population by:

- **Mean: 2033**
- **SD: 8 years**
- **95% CI: [2018, 2049]**
- **Median: 2031**
- **20 Later/Never**



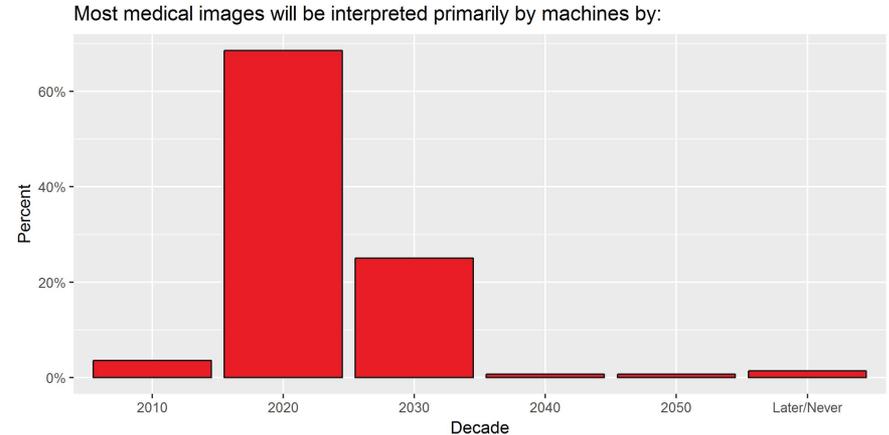
# Q6: There will be a non-proliferation treaty on the use of artificial intelligence in cyberwarfare by:

- **Mean: 2030**
- **SD: 7 years**
- **95% CI: [2016, 2043]**
- **Median: 2029**
- **37 Later/Never**



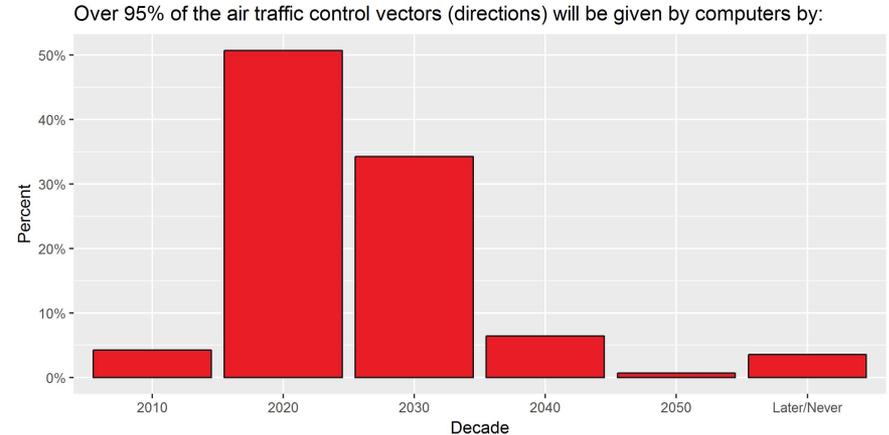
# Q7: Most medical images will be interpreted primarily by machines by:

- **Mean: 2026**
- **SD: 6 years**
- **95% CI: [2015, 2037]**
- **Median: 2024**
- **Believed to happen third**
- **3<sup>rd</sup> lowest opinion disagreement**



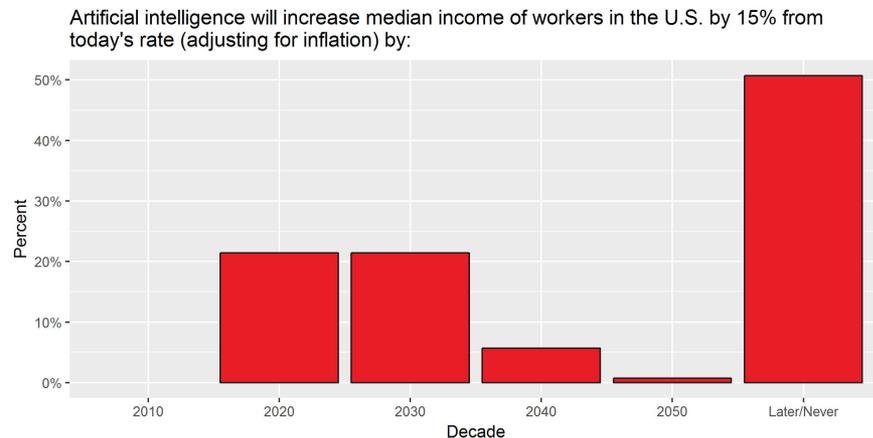
# Q8: Over 95% of the air traffic control vectors (directions) will be given by computers by:

- **Mean: 2028**
- **SD: 7 years**
- **95% CI: [2015, 2041]**
- **Median: 2027**
- **5 Later/Never**



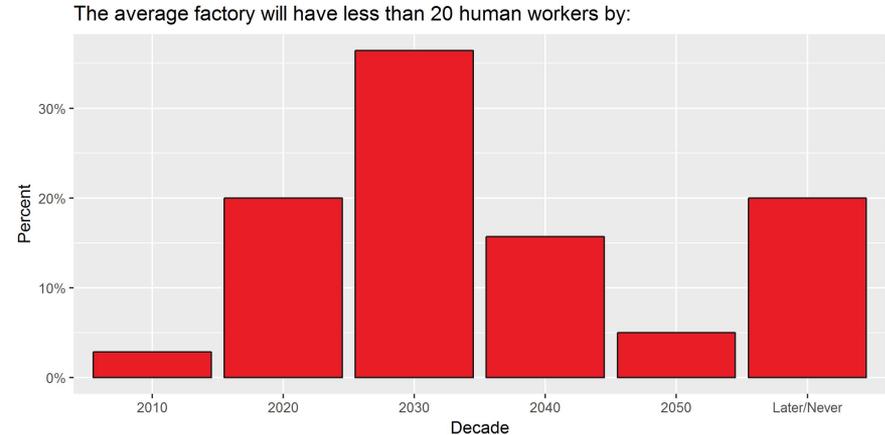
# Q9: Artificial intelligence will increase median income of workers in the U.S. by 15% from today's rate (adjusting for inflation) by:

- **Mean: 2031**
- **SD: 6 years**
- **95% CI: [2019, 2043]**
- **Median: 2030**
- **Largest Number of Later/Never (71)**



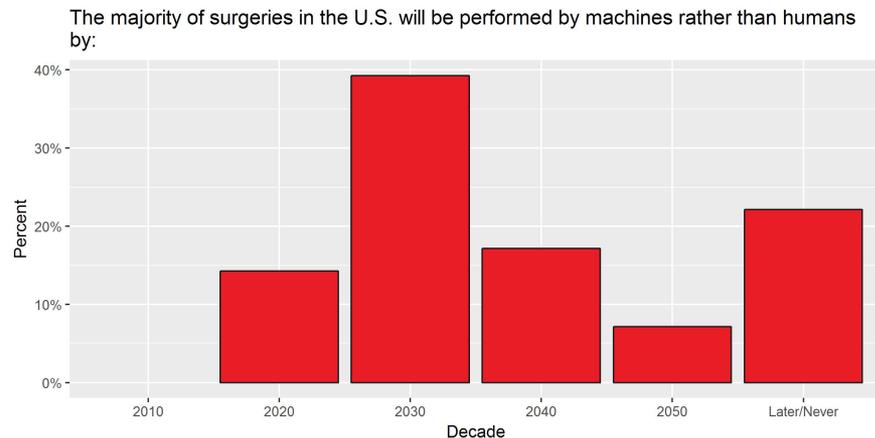
# Q10: The average factory will have less than 20 human workers by:

- **Mean: 2034**
- **SD: 8 years**
- **95% CI: [2018, 2049]**
- **Median: 2033**
- **Believed to happened 2<sup>nd</sup> to last/never**
- **3<sup>rd</sup> largest opinion disagreement**



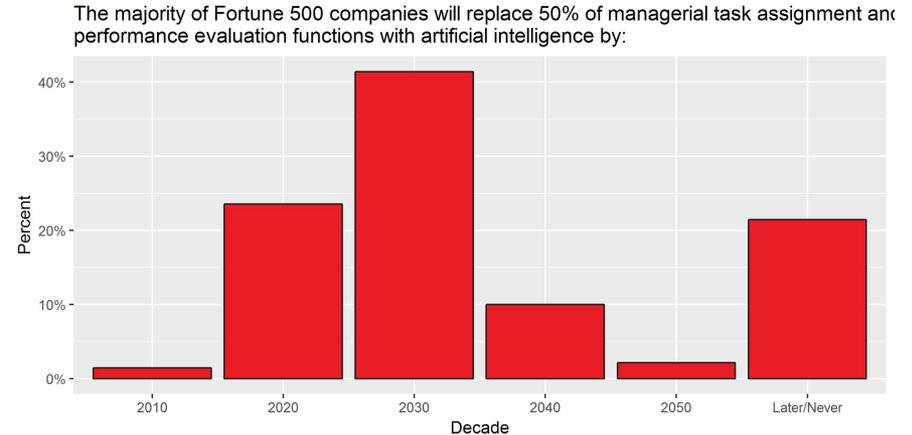
# Q11: The majority of surgeries in the U.S. will be performed by machines rather than humans by:

- **Mean: 2036**
- **SD: 8 years**
- **95% CI: [2021, 2051]**
- **Median: 2036**
- **Believed to happen last/never**
- **2<sup>nd</sup> largest opinion disagreement**



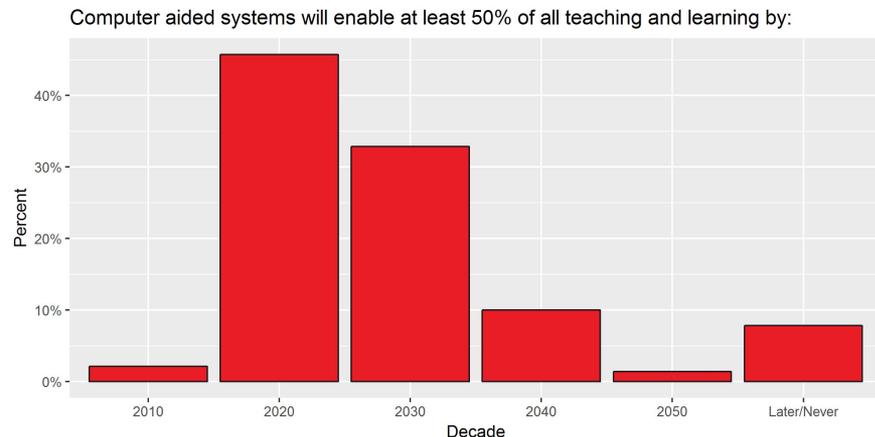
# Q12: The majority of Fortune 500 companies will replace 50% of managerial task assignment and performance evaluation functions with artificial intelligence by:

- **Mean: 2032**
- **SD: 7 years**
- **95% CI: [2018, 2047]**
- **Median: 2031**
- **30 Later/Never**



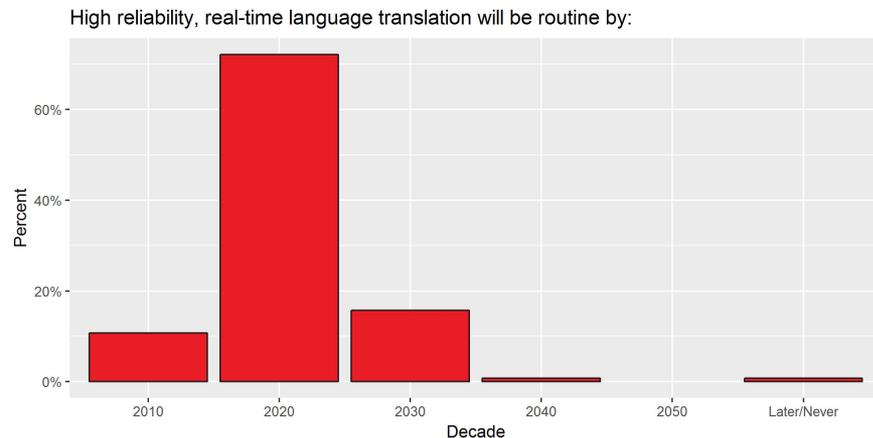
# Q13: Computer aided systems will enable at least 50% of all teaching and learning by:

- **Mean: 2030**
- **SD: 7 years**
- **95% CI: [2016, 2044]**
- **Median: 2029**
- **11 Later/Never**



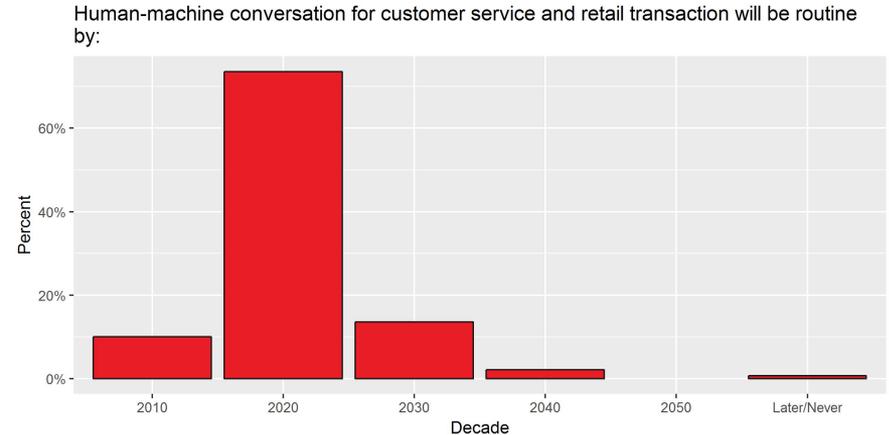
# Q14: High reliability, real-time language translation will be routine by:

- **Mean: 2024**
- **SD: 5 years**
- **95% CI: [2016, 2033]**
- **Median: 2024**
- **Believed to happen 1<sup>st</sup>**
- **Lowest opinion disagreement**



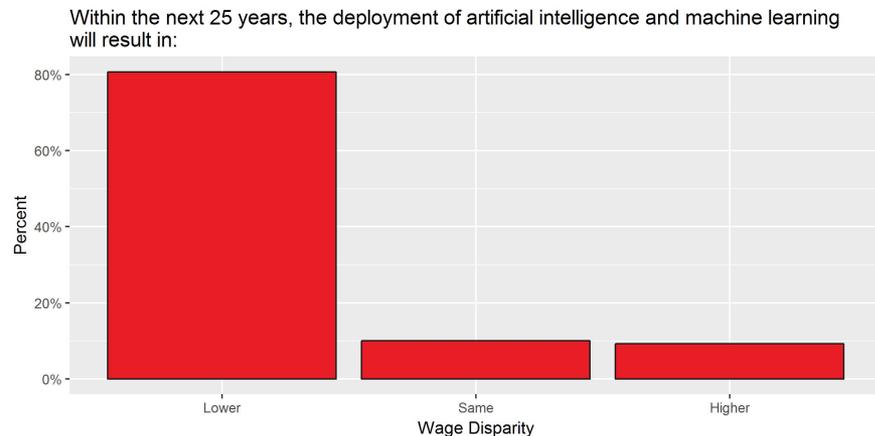
# Q15: Human-machine conversation for customer service and retail transaction will be routine by:

- **Mean: 2025**
- **SD: 5 years**
- **95% CI: [2014, 2035]**
- **Median: 2023**
- **Believed to happen 2<sup>nd</sup>**
- **2<sup>nd</sup> lowest opinion disagreement**



# Q16: Within the next 25 years, the deployment of artificial intelligence and machine learning will result in:

- **Mean: 2034**
- **SD: 11 years**
- **95% CI: [2013, 2055]**
- **Median: 2034**



# Summary

- **Consensus on**
  - language barriers falling: both human-to-human and human-to-machine
  - Inequality reduction
- **Disagreement and doubt on**
  - physical AI abilities (reproduction, surgery)
  - Income effects (believed to be negative)

Special thanks to **Sebastian Steffen**,  
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and analyzing the survey data.

