Autonomous Vehicles Survey Data Assignment

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Instructions

Explore the Autonomous Vehicles Consumer Survey data to develop answers to each of the questions for the two objectives starting on the next page.

The questions on the next two pages also contain hints to guide you through the data analysis. You must submit your answers via the Canvas assignment here.

I am not looking for 'right' answers per se, but with the hints, it will be difficult to get anything 'wrong', so I will mainly be grading for completion. The main purpose is to familiarize you with the data and the dashboard so that you are informed for our class discussion.

If you are well-versed in data analysis and data science, below are some options that can give you greater freedom. Otherwise, please skip to the next page for step-by-step instructions on answering the questions to complete the assignment.

For those who want to explore the raw data without the aid of the custom dashboards, please download the data and questionnaire directly below:

> Raw Data (.csv, link to Canvas "Files" -> Autonomous Vehicles Data Assignment -> AVSurvey.csv)
> Here you'll find a .csv file that you can open in Excel or any statistical software package to analyze on your own. The headers each correspond to a survey question that can be found below.

> Survey Questionnaire (.docx, link to Canvas "Files" -> Autonomous Vehicles Data Assignment -> AV_survey_questions.docx)
> Here you'll find a Word version of a Qualtrics survey that all respondents filled out. The questions and answer options are presented in full, and before each question, you'll see the corresponding header name that is in the raw data above.

For those who want to explore the survey data in a point-and-click format with greater freedom:

> https://cbstechstrategy.shinyapps.io/DashboardSummary/
> This mode allows you to see summary statistics (for example, mean, SD, distribution) almost any variable from the survey.

> https://cbstechstrategy.shinyapps.io/sandbox/
> This mode allows you to see the bivariate relationships between almost any variable from the survey.

Objective 1: Determine a strategy for scaling autonomous vehicles.

1.1 Do consumers' have a higher WTP for private rides driven by a human or autonomously?

https://cbstechstrategy.shinyapps.io/DashboardSummary/
(hint: Try selecting "WTP for 10-min private ride driven autonomously" on the top left. The select "WTP for 10-min private ride driven by a human" on the top right. How do the mean values compare?)

1.2 How do consumers' WTP for rides driven autonomously vary by their own tech savviness?

https://cbstechstrategy.shinyapps.io/DashboardWTP/
(hint: Try selecting "WTP for 10-min private ride driven autonomously" on the top left box for "WTP variable". Then, select "(Disagree vs. Agree) I like to try new technologies before others" for "group by". You can ignore the right side, or you can explore some other combinations of variables, if you'd like.)

1.3 How do customers' WTP for AV-based rides vary by their gender or age group?

https://cbstechstrategy.shinyapps.io/DashboardWTP/
(hint: Use the same approach as in **1.2**, but select "Gender" for the "group by" box on the left, and "Age Group" for the "group by" box on the right)

1.4 Which companies do consumers prefer to be the leaders in the AV industry? How do consumers' preferences change if they are very tech savvy vs. not very tech savvy?

https://cbstechstrategy.shinyapps.io/DashboardCompanyRanks/
(hint: For the first question, when you click on the link above, you'll see the average rank value that respondents assigned to the eight AV companies they were presented. A lower average rank value means for a given company means that it is more preferred among consumers.

For the second question, under "Filter by Disagree vs. Agree for 'I like to try new technologies before others'", try including only those who "Strongly agree" or "Agree" with the statement. Then try only including those who "Strongly disagree" or "Disagree" with the statement.)

1.5 What kind of initial scaling strategy do the data support? Which customer segments would you prioritize first? What form of autonomous vehicles service would you offer? (please answer with 2-4 sentences)

Objective 2: Understand consumers' concerns about Autonomous Vehicles.

2.1 Are people more concerned by AVs' decision-making in ethical dilemmas or AVs' ability to keep passengers safe?

https://cbstechstrategy.shinyapps.io/DashboardSummary/
(hint: For the left plot, select "Confidence in AV to make right choice in ethical dilemma". For the right plot, select "Confidence in AV to keep passenger safe". Note that these values tell you about the survey respondents' "confidence", not their "concern".)

2.2 How do consumers' WTP change as with their confidence in the capacity of AV to keep them safe? And how does it change with their confidence in AV to make the right choice in ethical dilemmas?

https://cbstechstrategy.shinyapps.io/DashboardWTP/
(hint: Try selecting "WTP for 10-min private ride driven autonomously" on the top left box for "WTP variable". Then, select "Confidence in AV to keep passenger safe" for "group by". Use the same "WTP variable" for the right hand side plot, but change "group by" to "Confidence in AV to make right choice in ethical dilemma".)

2.3 Who do consumers generally think should regulate the AV industry?

https://cbstechstrategy.shinyapps.io/DashboardSummary/
(hint: On the left, select "Who should regulate AV companies". You can ignore the right.)

2.4 How do consumers think blame should be distributed if an accident were caused by an AV?

https://cbstechstrategy.shinyapps.io/DashboardSummary/
(hint: In the left hand plot, select "(0-100) If AV causes accident, amount of blame programmer deserves". What is the mean value? Then select "(0-100) If AV causes accident, amount of blame AV company deserves". What is the mean value? Finally, select "(0-100) If AV causes accident, amount of blame government deserves". What is the mean value?)

2.5 How would you characterize consumers' concerns about autonomous vehicles? How might the ethical concerns voiced by survey respondents conflict with the strategy you identified in Objective 1? (please answer with 2-4 sentences)