Automated Vehicles - Label and Behavioral Intentions (#156691)

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Author(s)
Justin Ho (Harvard Business School) - jho@hbs.edu
Julian De Freitas (Marketing Unit, Harvard Business School) - jdefreitas@hbs.edu

1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
In a previous study, we found that autonomous vehicles (AVs) as 'Autopilot' leads to higher perceived automation and liability of an AV firm for accidents that occur while the software is engaged, as compared to framing the software as 'Copilot'-even when the true capability of the systems-Level 2 automation-is revealed. We also found that the effect of these marketing labels on ascriptions of liability were mediated by perceived automation.
In this study, we test if the label of the autonomous vehicle ('Autopilot' vs. 'Copilot') leads to differences in actual and anticipated behavior when operating the vehicle. We predict that since 'Autopilot' leads to higher perceived automation, participants are more likely to be willing to engage in activities such as texting, watching videos on a smartphone etc. when operating an 'Autopilot' as compared to a 'Copilot'. We also predict that participants will take a longer time before taking control of the vehicle when operating an 'Autopilot' as compared to 'Copilot'.

3) Describe the key dependent variable(s) specifying how they will be measured.
The dependent variables are (1) perceived level of automation, (2) the willingness to engage in activities other than driving while operating the AV, (3) when the participants will take control of the AV in a busy intersection, and (4) the risk aversion in driving.
We will measure perceived level of automation on a 6-point scale with endpoints, 1 – Level 1 automation (not automated at all) and 6 – Level 6 automation (fully automated).
We will measure the willingness to engage in activities other than driving with 4 questions on a 100-point scale with endpoints, 0 – completely disagree that the participant will engage in the activity and 100 – completely agree that the participant will engage in the activity.
We will measure the time it takes for participants to take control of the vehicle with 1 question, where they will be shown a video of an AV operating in a busy road. We will record the time it takes for the participants to click the "Take Control" button from the time they started the video.
We will measure the risk aversion in driving with 8 questions on a 100-point scale with endpoints, 0 – completely disagree that the participant is concerned about personal (others') risks in traffic accidents and 100 – completely agree that the participant is concerned about personal (others') risks in traffic accidents.

4) How many and which conditions will participants be assigned to?
Participants will be randomly assigned to answer questions about the AV labeled either Autopilot or Copilot.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
If the Cronbach's alpha among the four items measuring willingness to engage is greater than 0.7, they will be averaged to form a single construct of willingness to engage. Likewise for the 8 items measuring risk aversion.
We will conduct t-tests comparing the DV (willingness to engage in activities and response time in taking control of the vehicle) between the 'Autopilot' and 'Copilot' conditions.
For each DV, we will also run a simple mediation analysis with perceived automation as the mediator, and label condition as the independent variable.
As an exploratory analysis, we will re-run this model with the 'b' path of the model moderated by risk aversion in driving. We will also re-run this model with the 'b' path of the model moderated by self-reported familiarity of autonomous vehicles.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude participants who fail any 1 of our 3 comprehension check questions incorrectly.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will collect responses from 2000 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Only participants who pass two attention checks at the beginning of the survey will be eligible. We will include some demographic questions but nothing identifiable (age, gender, whether they have a drivers' license). We will also ask participants how familiar they are with AVs on a 100-point scale with endpoints, 0- Very little and 100- A lot.