Understanding how the First Exposure to Advanced Driver Assistance Systems Can Impact a Driver’s Interest to Purchase the Technology

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Key Research Objectives

Evaluate how a driver’s first exposure with advanced driver assistance systems (ADAS) impacts his or her knowledge, perceptions, attitudes, and levels of trust of various ADAS.

Hypothesis

Individuals who experience a demonstration drive are more likely to have a higher interest in purchasing vehicles with the ADAS, relative to those respondents who only read the owner’s manual.

Participants

- 120 drivers age 30 - 55 years (median 41.4, SD 8.20), balanced by gender and condition
- Valid driver’s license for at least 3 years
- Drive at least 90 minutes per week
- No prior experience with ACC, PPA, BSM
- Compensated $5

Study Protocol

1. Owner’s Manual
2. Demonstration Drive
3. Demonstration Drive & Owner’s Manual
4. Owner’s Manual & Demonstration Drive

Findings

The findings below detail a how driver’s interest to purchase ADAS system functions changed after an initial exposure to the technology. These odds ratios say that participants who experienced this condition have X-times the odds of giving a higher post-study rating on interest to purchase a system that does that function relative to those in the owner’s manual learning condition.

<table>
<thead>
<tr>
<th>Description of ADAS functionality</th>
<th>Wald Chi-Square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clears my vehicle into a parallel parking space (PPA)</td>
<td>10.15</td>
<td>0.001</td>
</tr>
<tr>
<td>Keeps my vehicle in the lane if I begin to drift out of it (LKA)</td>
<td>22.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Warnings me of vehicles in my blind spot (BSM)</td>
<td>15.8</td>
<td>0.001</td>
</tr>
<tr>
<td>Adjusts my speed while I’m following a vehicle (ACC)</td>
<td>22.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Brakes my vehicle to a complete stop while I’m following another vehicle (ACC stop-and-go)</td>
<td>20.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Accelerates my vehicle from a stop while I’m following another vehicle (ACC stop-and-go)</td>
<td>20.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Assists me when I cross traffic approaching while I am backing out of a parking space (RCTA)</td>
<td>7.34</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Conclusion

These findings suggest how a driver first experiences ADAS technologies can impact his or her interest in purchasing an ADAS-equipped vehicle. In addition to the clear implications for the automotive industry in terms of marketing ADAS, these results help inform those interested in training drivers about ADAS. Consumers who are not only knowledgeable about ADAS technologies (McDonald et al., 2017) but have also observed the use of ADAS in real driving may be more likely to seek out vehicles with those technologies when purchasing their next vehicle. Better consumer education can potentially impact the subsequent adoption of these life-saving vehicle technologies.

Acknowledgements

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