Rider Assist Technologies: Popular Types, Motivations for Use, and Information Sources Consulted by Users

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Background

- Advance driver assist systems (ADAS) were only available in luxury cars. They are now, however, making their way into most car models, but not into motorcycles.
- The lack of safety systems in motorcycles is now beginning to receive attention.
- These Intelligent Transport Systems (ITS) are meant to increase traffic safety, but very few have been made specifically for motorcycles (Ambak, Atiq, & Ismail, 2009) though they could easily be adapted, e.g., adaptive cruise control, traction warning, weather warnings, curve speed warnings, active headlights, night vision, emergency brake indicators, and driver fatigue monitoring.
- With motorcycles being the most common and popular transportation source in most Asian countries, it is very important to protect the rider (Ambak et al., 2009).

Method

- Participants completed the study on Amazon's® Mechanical Turk ® (MTurk) platform by completing the online survey and were paid $0.25.
- Participants responses' were not considered for analysis if they did not report owning a motorcycle from a list of modes of transportation, if they were not a current rider, and if they completed the survey in under four minutes.

Results

- A total of 540 participants completed the online survey.
- After cleaning and screening, 175 respondents met the inclusion criteria (Mean age = 31.2 years, n = 63 Female, n = 108 Male, n = 4 did not report).

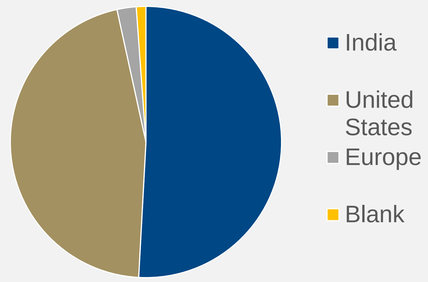

Figure 1. Self-reported current residence.

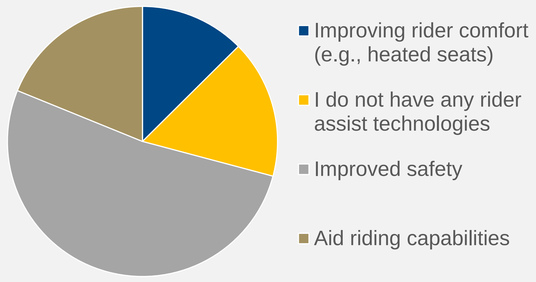

Figure 2. Self-reported reason for assistive technology use.

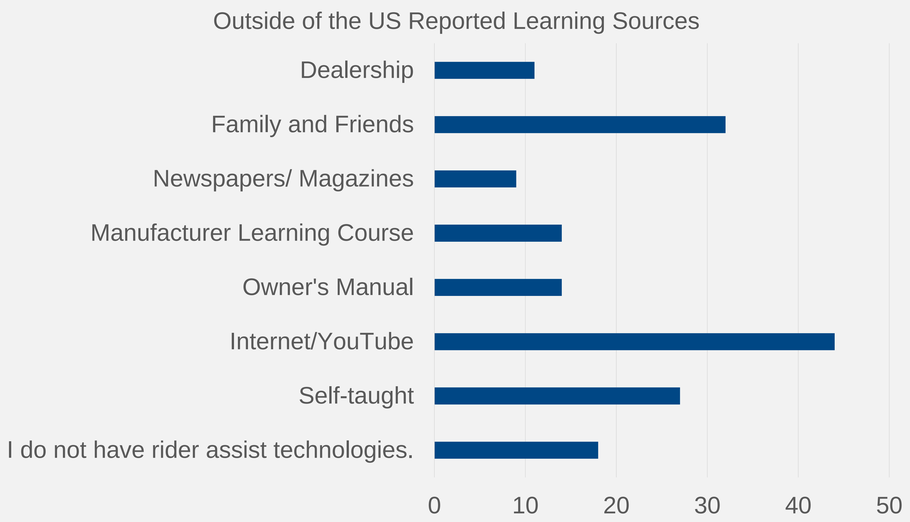

Figure 3. Respondents who live outside of the United States reported learning methods for rider assist technologies.

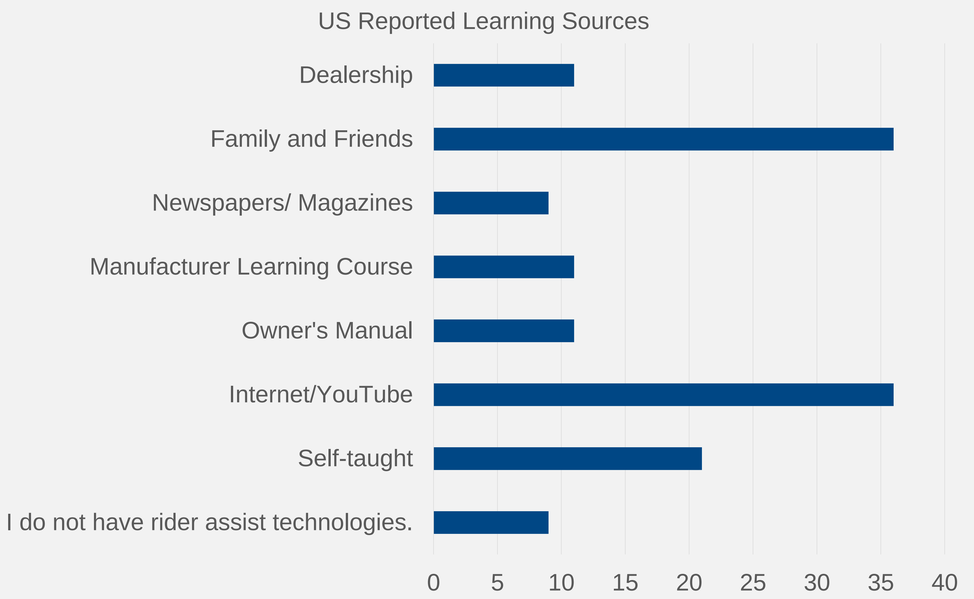

Figure 4. Respondents who live in the United States reported learning methods for rider assist technologies.

Results Cont'd

- Participants reported owning a motorcycle most commonly for both leisure and commuting (n = 77) followed by leisure only (n = 68), commute only (n = 27) and other (n = 3) and that they do the majority of their riding on urban city roads (n = 58), followed by country roads (n = 48), highway (n = 37) and suburban roads (n = 31).
- For those respondents who own a motorcycle with advanced technologies, the primary reason for usage was improved safety (n = 91) followed by aiding riding capabilities (n = 33) and improving riding comfort (n = 22).
- In regard to learning how to use these advanced technologies, using the internet and YouTube was the most frequently reported method (n = 91), followed by friends and family (n = 68), self-taught (n = 48), manufacturer learning course (n = 25), the dealership (n = 22), and newspapers/magazines (n = 18).

Discussion

- Prior research shows that owners of advanced in-vehicle technology learn about their systems from other sources rather than authoritative sources.
- Our findings show that motorcycle riders also rely on informal sources to learn about their rider assist technologies.
- Motorcycle riders are more susceptible to critical injuries when involved in an accident or collision so it should remain a priority of the manufacturers.

Future Research

- In the Fall of 2019 we plan to run the study again on MTurk, but with tighter participation restrictions.
- A screener survey will be used to ensure participants are motorcycle owners.
- Participants must have completed 100 Human intelligence Tasks (HITS) or more and have a 98% approval rating or higher.

*References available upon request.