

Investigating Car Drivers' Information Demand After Safety and Security Critical Incidents

Lea Gröber, Matthias Fassel, Abhilash Gupta, and Katharina Krombholz [1]

AUTONOMOUS DRIVING GONE WRONG

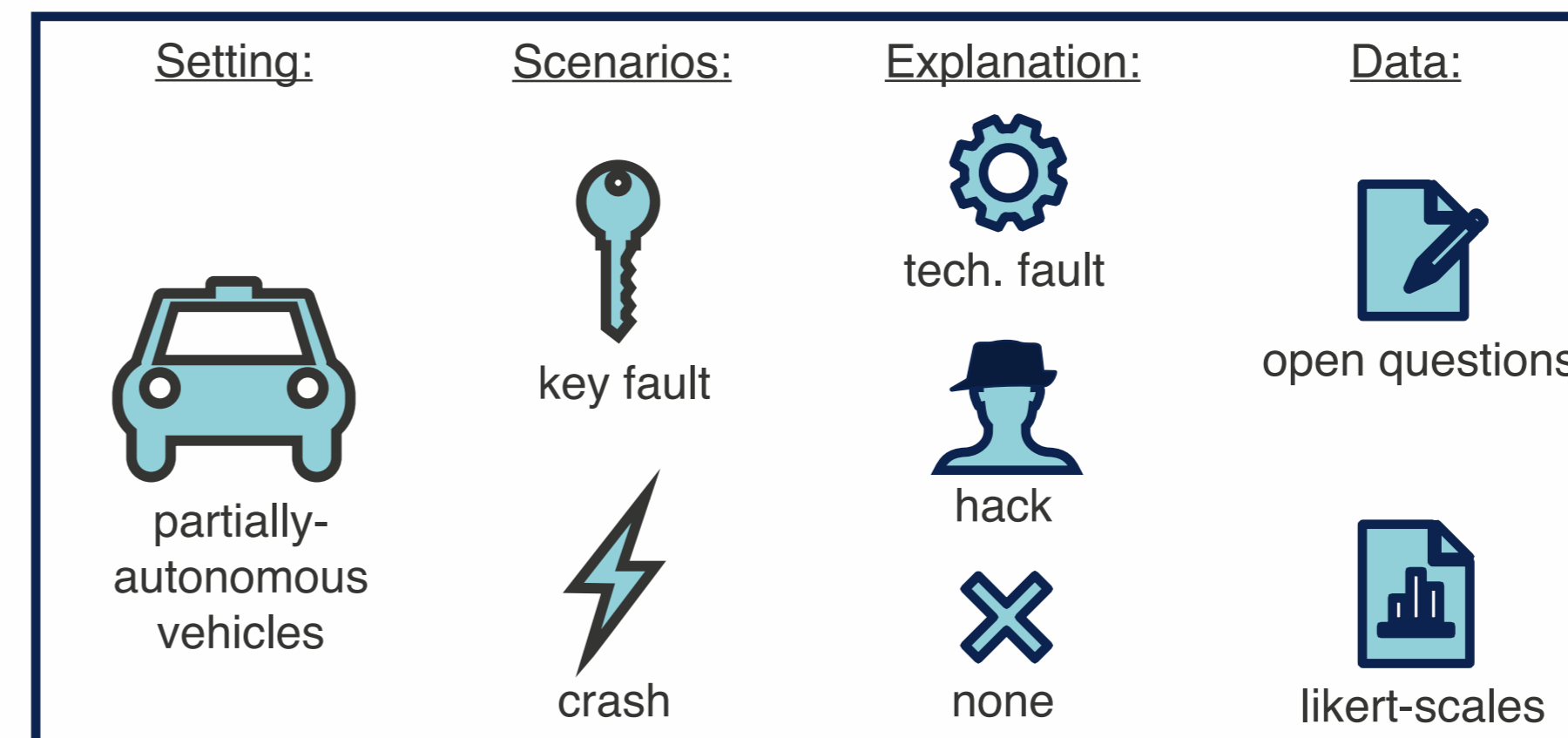


- RQ1: Which information do drivers demand after safety- and security-critical incidents?
- RQ2: Which factors moderate information demand after critical incidents?
- RQ3: Which error sources for safety- and security-critical incidents do drivers think of?

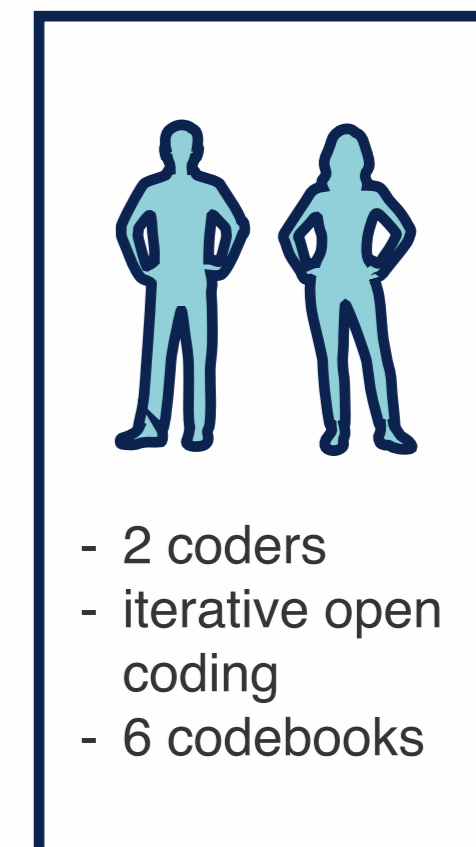
* dash cam video of TESLA crashing through construction barrels while driver fell asleep [2]

METHODOLOGY

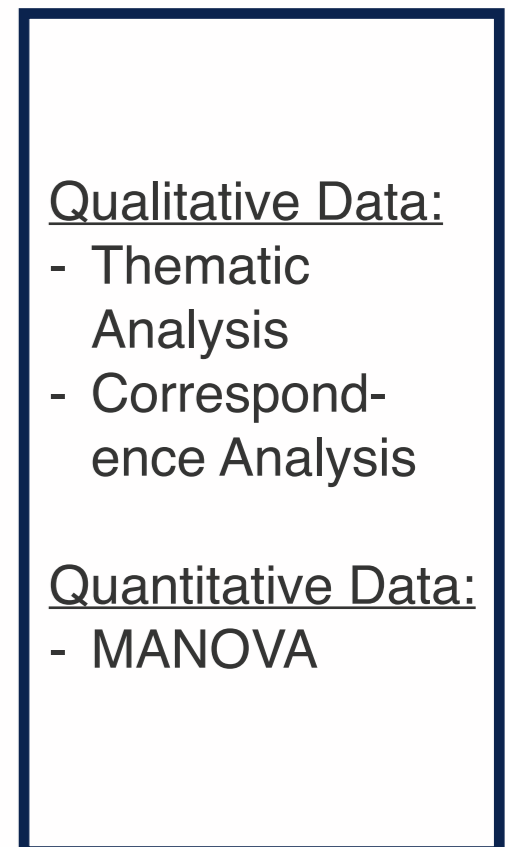
(1) MTurk Survey; N=60; 2 Scenarios; 3 Conditions



(2) Coding

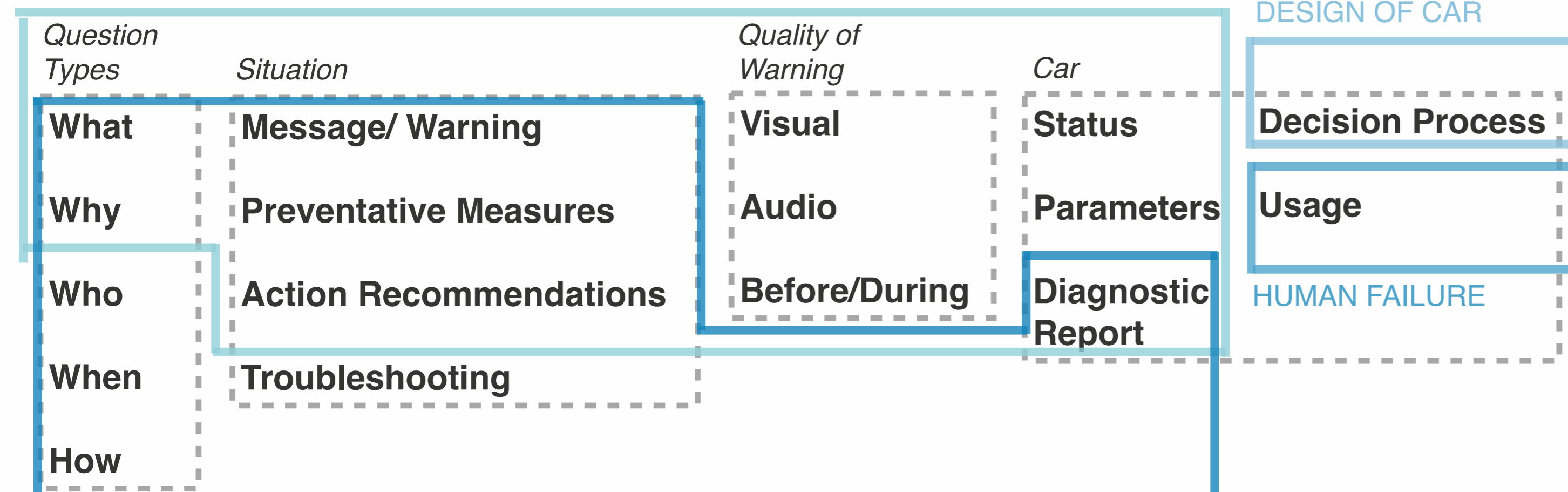


(3) Analysis



RESULTS: INFORMATION DEMAND

TECHNICAL MALFUNCTION



MALICIOUS INTRUSION

RESULTS: MODERATING FACTORS

Correspondence Analysis of Moderating Factors:

- Technical Malfunction (TM)
- Malicious Intrusion (MI)
- Design of Car (Design)
- Human Failure (Human)
- Highly Crit. Situations (HiCrit)
- Less Crit. Situations (LessCrit)
- Positive Impression (Pos)
- Neutral Impression (Neut)
- Negative Impression (Neg)

and "Information Demand" Codes

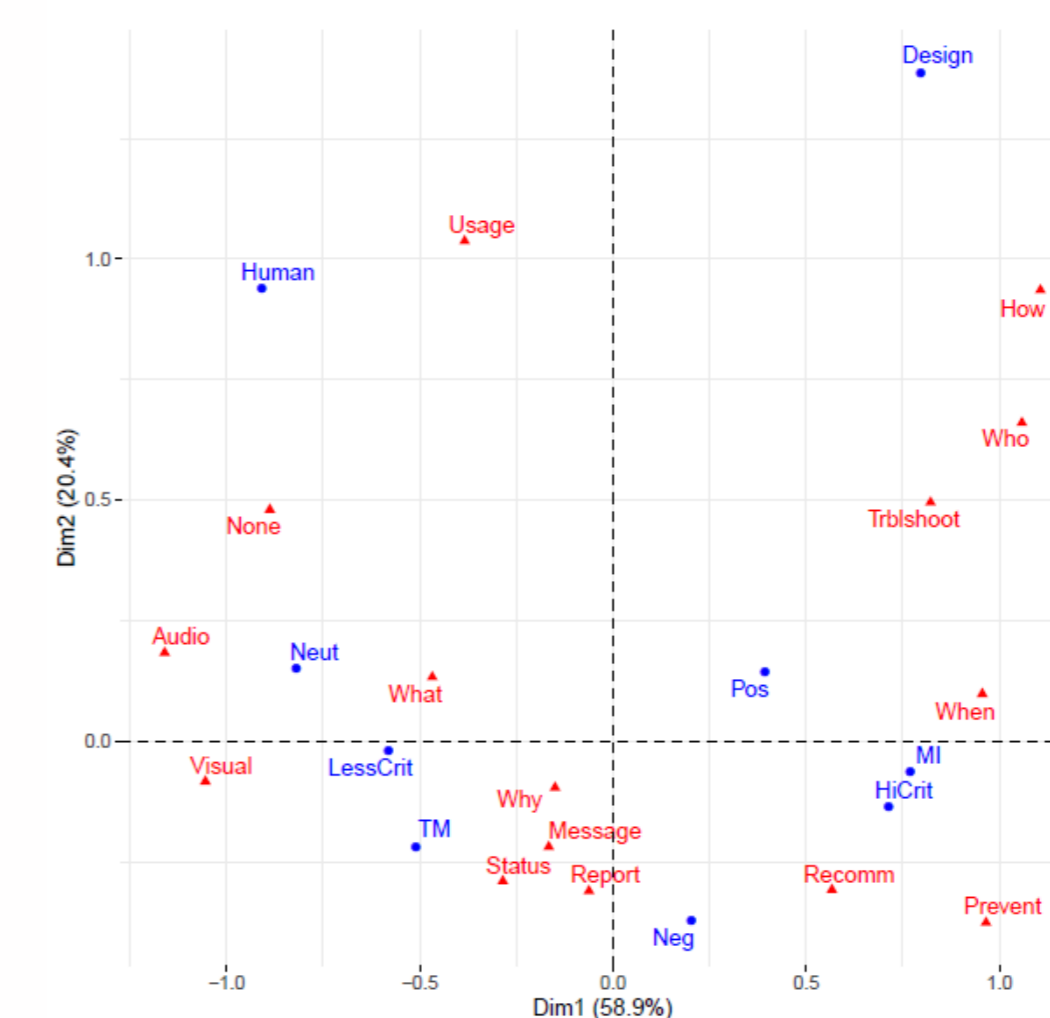


Fig. 3. Key scenario

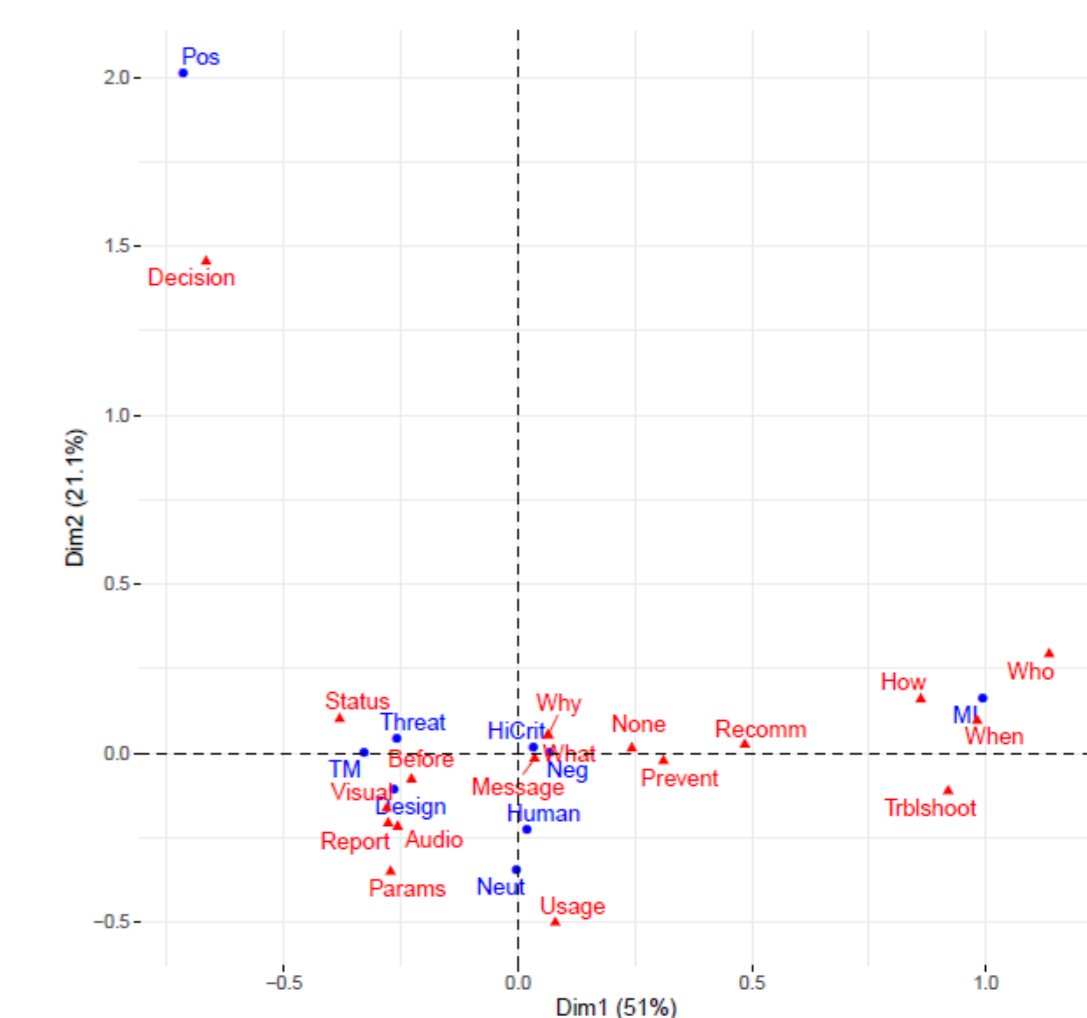


Fig. 4. Crash scenario

[1] Investigating car drivers' information demand after safety and security critical incidents, Lea Gröber, Matthias Fassel, Abhilash Gupta, and Katharina Krombholz. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, pages 1–17

[2] YouTube. 2020. "AReallyBadDay: Tesla Crash into Construction Barrels". <https://www.youtube.com/watch?v=i9r4nS5EjIQ> Accessed: 2020-09-17