

# THE INFLUENCE OF BRAND REPUTATION.

## HOW MANUFACTURER BRAND REPUTATION INFLUENCES THE EVALUATION OF INTERFACES: A USER STUDY.

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### Background

- Validity and robustness of user studies is sometimes criticized as they might be subject to the influence of external factors such as participants' expertise, expectations or aesthetics of a product [1]
- One factor that could also influence the results of usability studies is the respective product's brand reputation [2]
- The assumption that brand reputation can influence usability and UX evaluations is explored to find out the robustness of user studies regarding this factor and to advance the understanding of the methodology for usability evaluations.

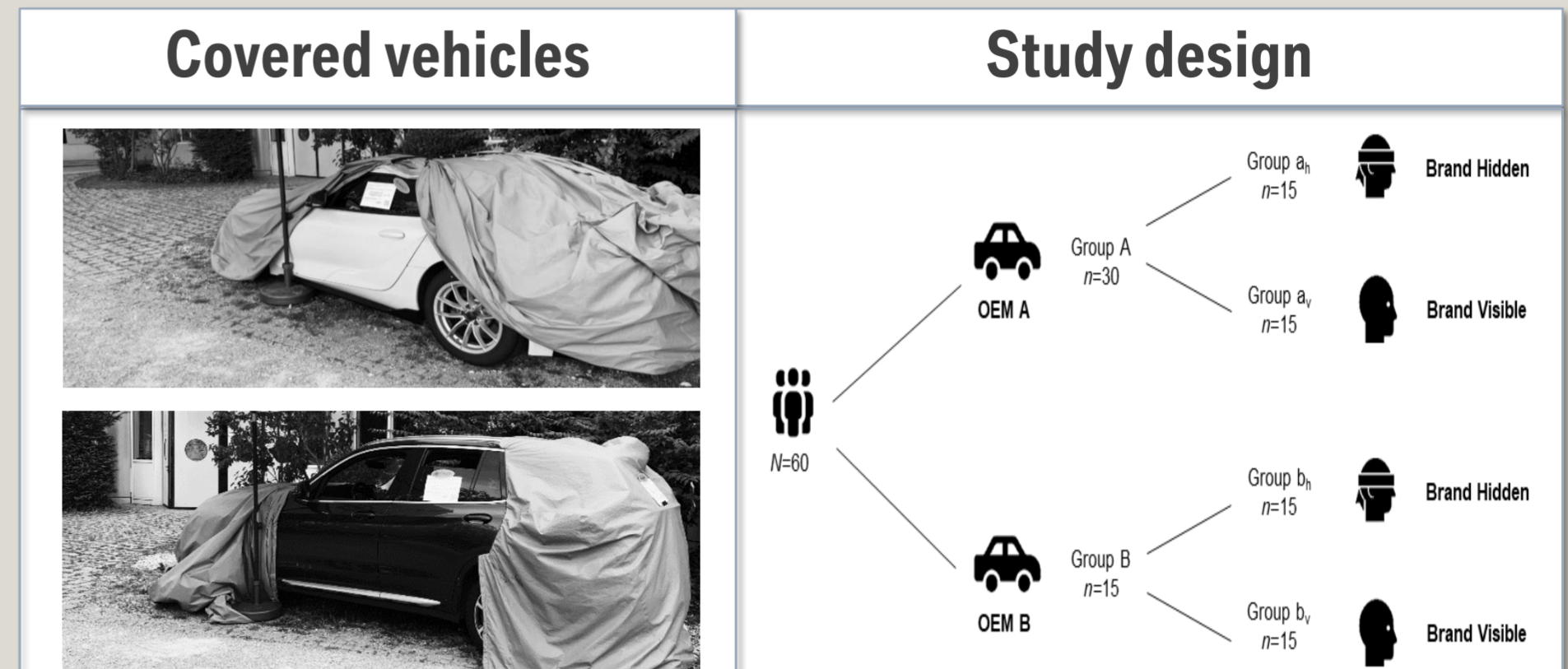
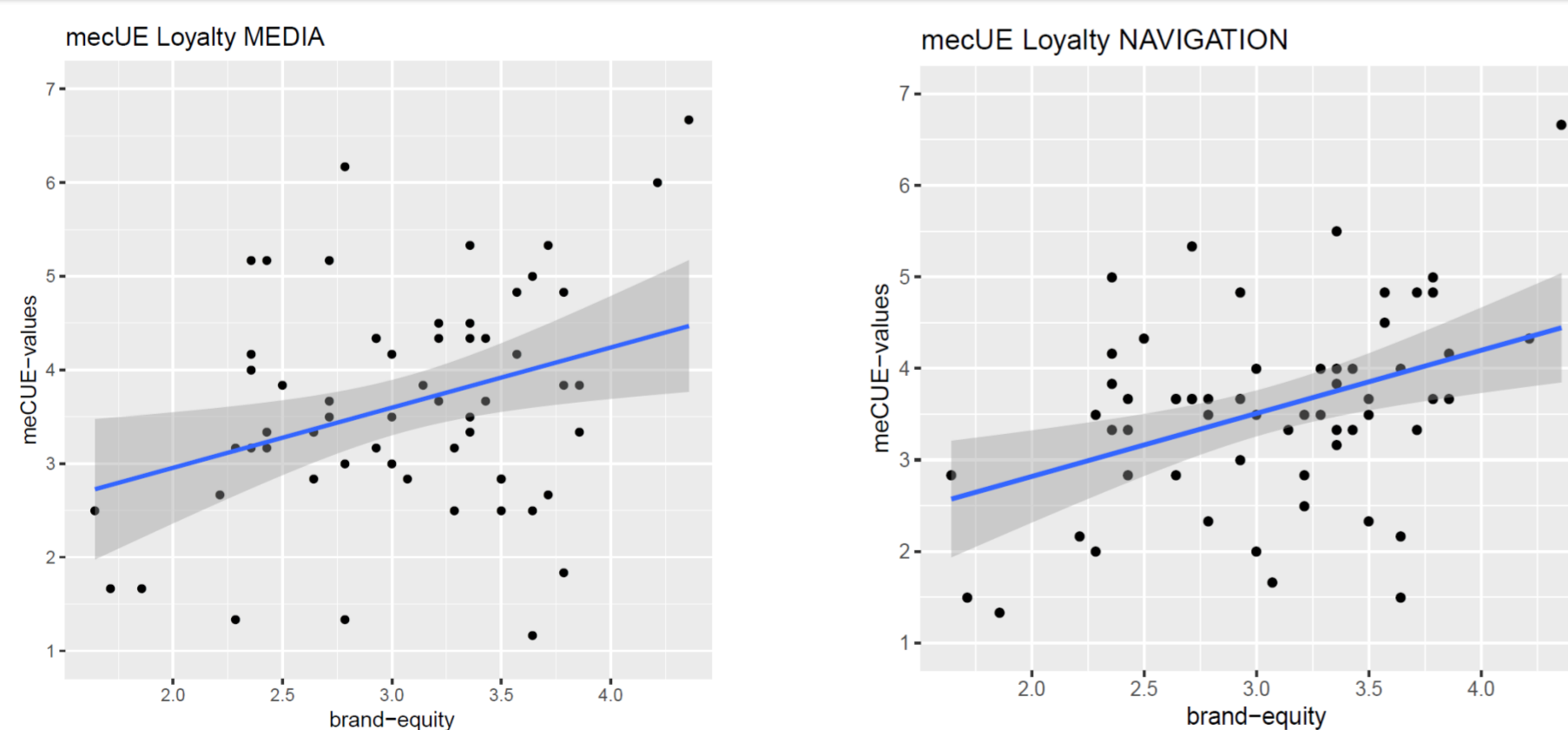
### Methods

- Study with N = 60 participants and two hidden vehicles
- The same infotainment system installed in two vehicles from different manufacturers were evaluated at standstill
- The participants completed a total of ten use cases twice
- Self reports: System Usability Scale, meCUE and brand-equity questionnaire

### Results and Discussion

- Perception of hedonic qualities (meCUE) and brand reputation were related in a way that increasing ratings of brand reputation could predict higher system ratings and vice versa. For pragmatic qualities (SUS), no relationship became evident
- The factors brand, visibility and module revealed no significant effect on SUS ratings for the two modules media and navigation
- No significant results for SUS ratings and brand-equity ratings. This led to the conclusion that the SUS is suitable for usability research due to its robustness against external factors and provides comparable results
- According to the positive slope of the linear regression lines, higher individual brand ratings led to better system ratings with the meCUE

### Linear relationship between brand-equity and meCUE module loyalty & intention values



### Dependent variable and respective scale

| Nr. | Description   | Scale           |
|-----|---|-----------------|
| 1   | Usability – SUS questionnaire                         | [1-5]           |
| 2   | User Experience – meCUE questionnaire Overall rating  | [1-7]<br>[0-10] |
| 3   | Manipulation check 1: participants' brand preferences | [1-6]           |
| 4   | Manipulation check 2: brand-equity questionnaire      | [1-5]           |
| 5   | Brand guess   | 4 categories    |

### Regression analysis for SUS values ~ brand-equity value

| SUS        |          | $\Delta R^2$ | B      | SE B   | $\beta$ | p    |
|------------|----------|--------------|--------|--------|---------|------|
| Media      | Model    | .017         |        |        |         | .316 |
|            | Constant |              | 59.766 | 12.631 | 4.732   | .000 |
|            | Brand    |              | 4.103  | 4.061  | 1.011   | .316 |
| Navigation | Model    | .003         |        |        |         | .670 |
|            | Constant |              | 63.184 | 11.362 | 5.561   | .000 |
|            | Brand    |              | 1.564  | 3.653  | 0.428   | .670 |

### Regression analysis of meCUE ~ brand-equity value

| meCUE Aesthetics |          | $\Delta R^2$ | B     | SE B  | $\beta$ | p    |
|------------------|----------|--------------|-------|-------|---------|------|
| Media            | Model    | .099         |       |       |         | .014 |
|                  | Constant |              | 1.636 | 0.669 | 2.446   | .018 |
|                  | Brand    |              | 0.543 | 0.215 | 2.526   | .014 |
| Navigation       | Model    | .151         |       |       |         | .002 |
|                  | Constant |              | 1.418 | 0.592 | 2.397   | .020 |
|                  | Brand    |              | 0.611 | 0.190 | 3.213   | .002 |

### Regression analysis of meCUE loyalty & intention values ~ brand-equity values for module media

| meCUE loyalty & intention |          | $\Delta R^2$ | B     | SE B  | $\beta$ | p    |
|---------------------------|----------|--------------|-------|-------|---------|------|
| Media                     | Model    | .107         |       |       |         | .012 |
|                           | Constant |              | 1.670 | 0.760 | 2.199   | .032 |
|                           | Brand    |              | 0.642 | 0.244 | 2.630   | .011 |
| Navigation                | Model    | .160         |       |       |         | .002 |
|                           | Constant |              | 1.440 | 0.645 | 2.232   | .030 |
|                           | Brand    |              | 0.690 | 0.207 | 3.325   | .002 |

[1] Forster, Y., Hergeth, S., Naujoks, F., & Krems, J. F. (2018). How Usability can Save the Day: Methodological Considerations for Making Automated Driving a Success Story. In B. Donmez, B. N. Walker, & K. Fröhlich (Chairs), Proceedings of the 10th International Conference on Automotive User Interfaces and Interactive Vehicular Applications, Toronto, CN.

[2] Kraus, J. M., Forster, Y., Hergeth, S., & Baumann, M. (2019). Two Routes to Trust Calibration: Effects of Reliability and Brand Information on Trust in Automation. International Journal of Mobile Human Computer Interaction, 11(3), 1–17.