

# Transferring methods and knowledge from the healthcare sector to the automotive industry to increase perceived quality and satisfaction.

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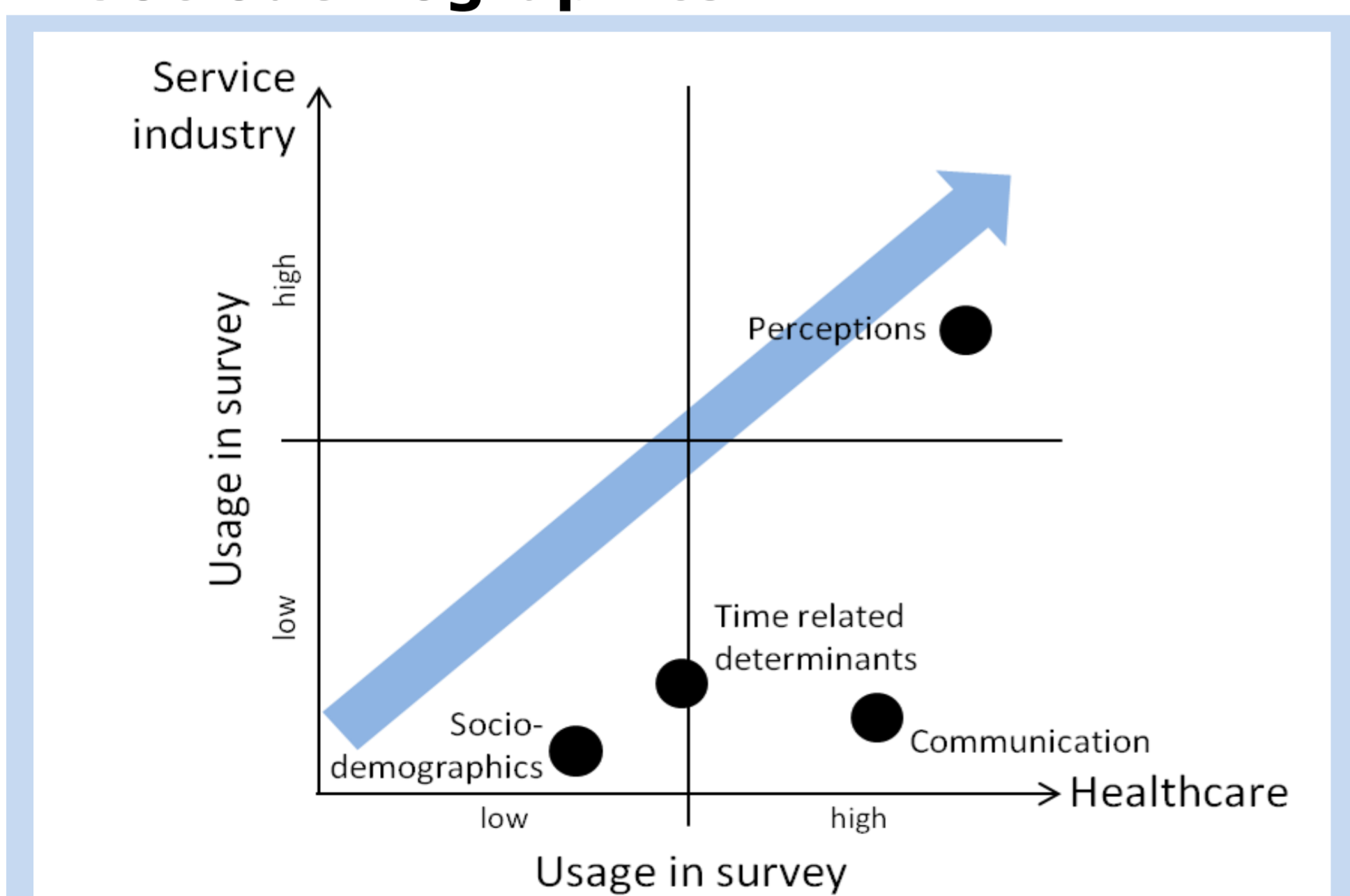
## Goal

Customer satisfaction measurement in automotive is trailing patient satisfaction determination in healthcare services in terms of methodology. Methods for measurement of customer perceived satisfaction and quality need to be derived by transferring knowledge from the medical to the industrial sector.

## Background

Service industries, automotive in this case, and medical departments show high similarities in determining satisfaction of their consumers. The satisfaction construct consists of four segments:

- **Perceptions**  
Process / person related determinants
- **Communication**  
Staff → consumers / consumers → staff
- **Time related determinants**  
Perceived and actual measures (e.g. waiting time)
- **Sociodemographics**



**Figure 1:** Attention of the segments in satisfaction surveys based on literature review.

## References

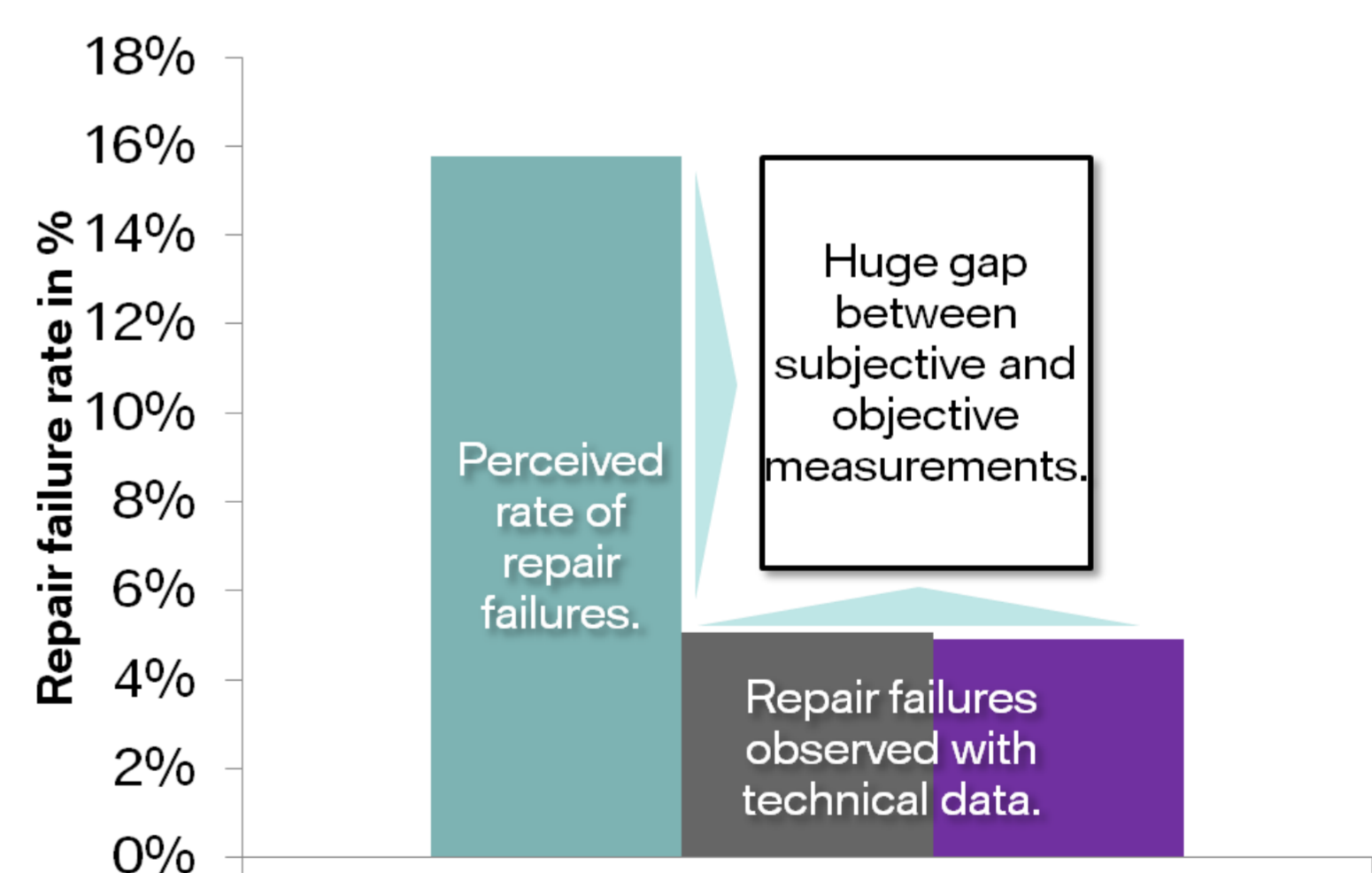
- [1] Boudreaux, E.D. et al., JEM 26: p. 13-26, (2004)
- [2] Meinzer, S. et al., 1st QAA, p. 17-27 (2010)
- [3] Kohl, J. et al., 15th CSMR, p. 305-308 (2011)
- [4] Rao, M.C. et al., BMJ, 333: p. 19, (2006)
- [5] Rhee, K.J. et al., JEM, 14: p. 679-683, (1996)

## Adaptation

- Findings of the medical sector can be used to improve the quality of automotive surveys.
- Four segments are highly present in patient satisfaction surveys [1] this isn't the case in the automotive industry (Fig. 1).
- Missing determinants in automotive surveys can be identified and added to guarantee reliable results.

## Next Steps

- Combination of objective (technical) and subjective (customer) data to reduce the gap between the two measurements (Fig. 2).
- Objective data is continuously available [2, 3].
- Benefit already known in medical area [4]
- Classification model to predict satisfied and dissatisfied customers.



### Healthcare

Perceived quality of treatment is recommended to use for determining patient satisfaction [5].

### Automotive

Perceived quality of repairs show different rates compared to objective measurement.

**Figure 2:** Comparison of perceived and actual repair quality measurement in the automotive industry.

## Conclusion

To increase perceived quality and satisfaction in the automotive industry, surveys can be improved based on the findings of the healthcare sector. Algorithms can be used to identify and treat dissatisfied customers individually.