The Global Safety Database as an objective metadata platform for the worldwide analysis of road safety approaches on the way to Vision Zero.

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Motivation of the Global Safety Database

Purposes

The objectives of the Global Safety Database (GSD) are…

…the research, characterization, and objective evaluation of national and international data sources in the field of traffic and vehicle safety.

The GSD includes…

… a web-based meta database with a dynamic usability.

… an objective evaluation method on the data sources.
Researched countries for the GSD

Overview

Total number of data sources 101
Usage and access to the Global Safety Database

Live Demo

https://www.global-safety-database.com/
Summary

- The GSD is **dynamic** and can be extended through adding more data sources and more questions to include more stakeholders (e.g. legislative bodies, authorities, associations, universities, or consumer protection organizations).
- The GSD is **accessible to everyone** and **continuously improved** through the supervision of the steering committee.
- The GSD is an **essential tool** to foster the **worldwide harmonisation** of traffic accident databases through sharing expert knowledge.
THANK YOU FOR YOUR ATTENTION

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Conception of the meta database

Structure

- 15 data tables directly linked by one Source_ID per data source
- 237 variables are included
- Parameter coding
  - Available
  - Not available
- Codebook included
Conception of the meta database

Content

Researched countries by road accident databases

1. Australia  
2. Brazil  
3. China  
4. Croatia  
5. Czech Republic  
6. Denmark  
7. Finland  
8. France  
9. Germany  
10. Greece  
11. Hungary  
12. India  
13. Indonesia  
14. Ireland  
15. Italy  
16. Japan  
17. Lithuania  
18. Netherlands  
19. Nigeria  
20. Norway  
21. Poland  
22. Romania  
23. Russia  
24. South Africa  
25. Spain  
26. Sweden  
27. USA

Total number of data sources 101
Methodology of the objective evaluation

Background

For the development of a methodology to evaluate the meta database, a questionnaire from the German automotive industry on road safety challenges was created.

The questionnaire includes 130 questions

Each question is inventoried and coded in binary codes on the same variable set as the meta database.

It can be distinguished between visible (public) and non-visible (private) questions.
Methodology of the objective evaluation

Matching process

Example

<table>
<thead>
<tr>
<th>Question_ID</th>
<th>Variable_1</th>
<th>Variable_2</th>
<th>Variable_3</th>
<th>Variable_4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source_ID</th>
<th>Variable_1</th>
<th>Variable_2</th>
<th>Variable_3</th>
<th>Variable_4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Match
Methodology of the objective evaluation

Result matrix

The result is a dynamic matrix that indicates the percentage of the variables covered in each data source to answer the question.

<table>
<thead>
<tr>
<th>Question_ID</th>
<th>Source_ID 1</th>
<th>Source_ID 2</th>
<th>Source_ID 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2/3 = 66%</td>
<td>3/3 = 100%</td>
<td>2/3 = 66%</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Governance of the Global Safety Database

Organisational chart

- Meta Database
- Matching Algorithm
- Questionnaire
- Result Matrix

Developer + Host

- Support
- Direct access

Steering Committee

- Review

Changelog

Users

- Appointment of experts to SC
- Direct access
- Changes

Anyone can request access to the GSD (free of charge)

Global Safety Database (GSD)