Perception of Drivers and Barriers in the Adoption of Cargo Cycles by Private and Public Organizations in Germany: Insights into Europe’s Largest Cargo Cycle Testing Scheme

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APPRAOCH
Installation of Europe’s largest cargo cycle testing scheme for stimulation and research

- Fleet: 150 cargo cycles, 23 different models available Germany-wide
- Offering: 800+ slots for 3-months-testing-periods until end of 2019
- Target group: private and public organizations of all industries
- Targeted stage of adoption: “interested, but hesitant”
- Objective: understanding the gap between potential and actual use
- Data acquisition: surveys, smartphone app and GPS trackers

SAMPLE DESCRIPTIVE STATISTICS (n=701)
Organizations of all types, sizes, and business sectors applied for testing cargo cycles during first year

<table>
<thead>
<tr>
<th>Type of organization</th>
<th>Sample</th>
<th>Turnover</th>
<th>Sample Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed, freelance</td>
<td>51.1%</td>
<td>0-2 M€</td>
<td>88.0% 80.9%</td>
</tr>
<tr>
<td>Private company</td>
<td>19.7%</td>
<td>2-10 M€</td>
<td>5.8% 15.5%</td>
</tr>
<tr>
<td>Public institution</td>
<td>14.0%</td>
<td>10-50 M€</td>
<td>2.9% 2.9%</td>
</tr>
<tr>
<td>NGO or association</td>
<td>9.6%</td>
<td>50+ M€</td>
<td>3.4% 0.7%</td>
</tr>
<tr>
<td>Other</td>
<td>5.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Business sectors (WZ 2008)

- P Education
- I Accommodation & Food Services
- C Manufacturing
- M Professional, Scientific & Technical Activities
- F Construction
- Q Human Health & Social Work Activities
- S Other Service Act.
- H Transportation & Storage
- N Administrative & Support Service Act.
- G Wholesale & Retail Trade
- J Information & Communication
- R Arts & Entertainment

FLEET DECISION-MAKING
At this stage, mostly organizations with autocratic fleet decision-making seem favorable for cargo cycle adoption

<table>
<thead>
<tr>
<th>Formalization</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Hierarchic</td>
<td>15.3%</td>
</tr>
<tr>
<td>Low</td>
<td>Bureaucratic</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

Typology based on Nesbitt & Sperling 2001

CONCLUSION AND OUTLOOK
The testing scheme will continue until end of 2019, combining campaign and research agenda

Widespread interest in cargo cycles is noticeable, but:

- How will testing impact the perception of drivers and barriers?
- Will testing lead to a real implementation of cargo cycles among private and public organizations in Germany?
- What substitution potential can actually be lifted by cargo cycles?

Stay tuned, our analyses will show!

RANKING OF ORGANIZATIONAL MOTIVATIONS
Interest in cargo cycles is mostly sparked by ecological considerations, economic motivations are secondary

1. Environmental Protection 4.70
2. Being a role model 4.50
3. Expectation to act sustainably 3.86
4. Economic potential 3.76
5. Alternatives for driving bans 2.61

RANKING OF DRIVERS
Applicants see greatest advantages in operations (parking, range) and soft issues (image, health)

1. Flexible parking and (un)loading 4.40
2. Promote company image 4.35
3. Sufficient electric range 4.32
4. Promote health of drivers 4.27
5. Cheaper than cars 4.17
6. Lower maintenance cost 4.14
7. Fun for employees 4.07
8. Reach corporate environmental goals 4.06
9. Reach access-restricted areas 3.98
10. Reliable journey time 3.87
11. Faster than car 3.54

RANKING OF BARRIERS
Applicants are most skeptical about weather restrictions, implementation costs and bicycle infrastructure

1. Bad weather restricts usability 2.87
2. Costly implementation 2.63
3. Bad cycle infrastructure 2.61
4. Risk of theft 2.37
5. Insufficient payload 2.23
6. Vulnerability in traffic 2.13
7. Lack of service network 2.08
8. Can't cover business area 1.94
9. Complicated implementation 1.85
10. Lack of acceptance among employees 1.70
11. Using cargo cycles is dangerous 1.68
12. Risk of damaging goods 1.64

References and Annotations
- WZ 2008: German Classification of Economic Activities, Edition 2008 by the Federal Statistical Office Germany
- Project title: ich entlaste Städte (“Taking the load off cities”), project website: www.lastenradtest.de