Analysis of Preferences for the Use of a Bicycling Sharing System in Athens

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Objective

The analysis of the parameters influencing the use of a bicycle sharing system in Athens

Methodological steps

- Literature review
- On-line survey
- Data processing
- Statistical analysis
- Results
- Conclusions
- Further research
The ways that a BSS can benefit a modern city are (Bike-share Planning Guide, 2013):

- Reduction in the level of congestion, and air quality improvement
- Increased accessibility, to areas where otherwise would be difficult to approach
- Increased convenience in covering the distance from the stop/station to the final destination
- Improvement of bicycle’s public image
- An alternative way of travelling in the city by car or by public transport.
- Healthier individuals
• The on-line survey data were collected from a sample of 252 participants.

• The **online survey** was spread via pages of social network, personal e-mail, and personal contact at central areas of the Municipality of Athens.

**Sample criteria**

• Goal-oriented
• Law of Inertia of Large Numbers
• Accurate representative of the universe
• Proportional
• Random selection

**Age distribution**

- 18-24: 35%
- 25-34: 42%
- 35-55: 22%
- >55: 1%

**Gender distribution**

- Male: 53%
- Female: 47%
Data processing

Questions analysed
• Stated behaviour choices
• Gender
• Age
• Education
• Occupation
• Income
• Family
• Flexible working hours

Statistical analysis
• Descriptive statistics
• Logistic regression models
Model results

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>BSS</th>
<th>Car</th>
<th>Public Transport</th>
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<tbody>
<tr>
<td></td>
<td>βi</td>
<td>Wald</td>
<td>e_i</td>
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<tr>
<td>DISCRETE VARIABLES</td>
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<tr>
<td>Cost</td>
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<td>-1.36</td>
<td>-0.025</td>
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</table>

Summary statistics
R²=0,368
Likelihood ratio test is \( L_{rt} = 2.059,13 \)
Conclusions

The probability of choosing a Bicycle Sharing System is highly affected by

- **Time**
  Increased travel time affects negatively the probability of choosing a BSS

- **Cost**
  Increased cost affects negatively the probability of choosing a BSS

- **Travel comfort**
  The absence of bicycle lanes affects negatively the probability of choosing a BSS

- **Gender**
  Men prefer a BSS

- **Age**
  Young people aged 18-24 years old prefer a BSS
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