Relative Position Values in Yahoo! Auctions

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The Experiment

- Pick a fairly large set of keywords, as the union of a few sets of related keywords.
- Get the biddings for each keyword.
- Find the value of each slot for each keyword, according to GSP.
- Normalize the values of each keyword, so that the maximum bid for every keyword is 1. This gives us the relative value of each slot.
The Experiment

- Find the average value $\mu$ of each slot over all keywords.
- Find their standard deviation $\sigma$.
- Find the same values for each cluster of keywords.
Details

- Picked 8 clusters of keywords, related to the words “car”, “hotel”, “loan”, “education”, “books”, “insurance”, “laptop” and “rent”, respectively.

- Only keywords with at least 5 bidders are chosen. About 300 keywords selected in all. About 30-50 keywords chosen from each cluster.
### Average Relative Prices

<table>
<thead>
<tr>
<th>Slot</th>
<th>Average Relative Price</th>
<th>% Decrease</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slot 1</td>
<td>1.000</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Slot 2</td>
<td>0.852</td>
<td>14.8</td>
<td>0.178</td>
</tr>
<tr>
<td>Slot 3</td>
<td>0.757</td>
<td>11.2</td>
<td>0.207</td>
</tr>
<tr>
<td>Slot 4</td>
<td>0.682</td>
<td>9.9</td>
<td>0.218</td>
</tr>
<tr>
<td>Slot 5</td>
<td>0.620</td>
<td>9.0</td>
<td>0.219</td>
</tr>
</tbody>
</table>
Results: Averages of clusters
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- The relative slot prices for the clusters of loan, insurance and rent are above the average, while those for car, hotel, education, books and laptop are below average.