Predicting Forest Owners’ Timber-Sales Satisfaction

Kalle Kärhä, Metsäteho Oy

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CONTENTS OF PRESENTATION

- Background
- Models to predict satisfaction features
- Conclusions
BACKGROUND I

- Problems with the availability of domestic roundwood are expected
- Forest owners should be motivated to sell timber
- The effects of positive timber-sales perceptions; e.g. satisfied forest owner recommends the timber buyer
- Timber selling perceptions and satisfaction have an essential role in timber procurement of forest industry

BACKGROUND II

- Relations of satisfaction features:
  - Background features > customer expectations
  - Expectations > perceived performance
  - Expectations & performance > satisfaction
  - Customer satisfaction > customer loyalty
- More information about the satisfaction of forest owners in their timber sales is needed
AIMS OF THE SURVEY

- To clarify the satisfaction levels of forest owners in timber-sales transactions
- To predict the satisfaction features

MATERIAL & METHODS

- Mail questionnaire
- Sample 1,400 forest owners
- Response rate 57%
- Determining the levels of satisfaction features:
  - Expectations (4 = Not at all important … 10 = Extremely important)
  - Perceived performance (4 = Terrible … 10 = Excellent)
  - Overall satisfaction (Very satisfied ... Very dissatisfied)
MATERIAL & METHODS

- Can you recommend the timber buyer organization? How many people you have told? What kind of message?
- How did the most recent transaction influence willingness to resell to the same organization?
- Discriminant analysis

GRADES FOR TIMBER BUYERS
TOP 5 OF THE MOST SATISFIED / THE MOST DISSATISFIED

Stemwood left as logging residues
Cross-cutting of stems
Tree damages in logging
Length of stumps
Price level

OVERALL SATISFACTION

Very satisfied 1%
Satisfied 22%
No satisfied, no dissatisfied 65%
Dissatisfied 11%
Very dissatisfied 1%
PREDICTING OVERALL SATISFACTION I
CDF_{Sat} = f(\text{back, perf})

Most significant determining variables:

- Background variables (Perceived performance in earlier transaction)
- Performance variables (Flexibility of company personnel, Reliability of personnel, Business-like attitude of personnel concerning complaints, Good quality of company as timber buyer)

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PREDICTING OVERALL SATISFACTION II
CDF_{Sat} = f(\text{back, perf})

✓ Success of analysis:

<table>
<thead>
<tr>
<th>Actual group</th>
<th>Predicted group</th>
<th>Predicted group</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Very) dissatisfied</td>
<td>4 (80,0%)</td>
<td>0</td>
</tr>
<tr>
<td>Neutral</td>
<td>4 (14,3%)</td>
<td>17 (60,7%)</td>
</tr>
<tr>
<td>(Very) satisfied</td>
<td>10 (4,6%)</td>
<td>24 (11,0%)</td>
</tr>
</tbody>
</table>
WILLINGNESS TO RECOMMEND

6 %
94 %

Yes, I can
No, I cannot

PREDICTING WILLINGNESS TO RECOMMEND

CDF_{Recommend} = f(perf)

Most significant determining variables:
- Performance variables (Understanding needs of timber seller, Feedback easy to give company)
PREDICTING WILLINGNESS TO RECOMMEND

CDF_{Recommend} = f(perf)

✓ Succes of analysis:

\[\text{Predicted group}\]

\[\text{Actual group} \quad \text{I cannot recommend} \quad \text{I can recommend}\]

\[\begin{array}{ll}
\text{I cannot recommend} & 17 (81,0\%) \quad 4 (19,0\%) \\
\text{I can recommend} & 38 (9,9\%) \quad 344 (90,1\%)
\end{array}\]
PREDICTING THE FORM OF MESSAGE I

\[ CDF_{\text{Message}} = f(\text{perf}) \]

- Most significant determining variables:
  - Performance variables (Good quality of company as timber buyer, Feedback easy to give company)

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PREDICTING THE FORM OF MESSAGE II

\[ CDF_{\text{Message}} = f(\text{perf}) \]

✓ Success of analysis:

<table>
<thead>
<tr>
<th>Actual group</th>
<th>No discussions</th>
<th>Negative</th>
<th>Positive &amp; negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>No discussions</td>
<td>12 (29.3%)</td>
<td>1 (2.4%)</td>
<td>9 (22.0%)</td>
<td>19 (46.3%)</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
<td>5 (71.4%)</td>
<td>2 (28.6%)</td>
<td>0</td>
</tr>
<tr>
<td>Positive &amp; negative</td>
<td>28 (34.6%)</td>
<td>5 (6.2%)</td>
<td>32 (39.5%)</td>
<td>16 (19.8%)</td>
</tr>
<tr>
<td>Positive</td>
<td>60 (22.5%)</td>
<td>6 (2.2%)</td>
<td>31 (11.6%)</td>
<td>170 (63.7%)</td>
</tr>
</tbody>
</table>

Metsäteho Oy
DID YOU COMPLAIN DIRECTLY TO COMPANY PERSONNEL?

54 %

46 %

I complain directly to personnel
I didn't complain directly

PREDICTING COMPLAINING

\[ CDF_{Comp} = f(\text{back, perf}) \]

Most significant determining variables:

- Background variables (Valid timber marketing contract between forest owner and company)
- Performance variables (Business-like attitude of personnel concerning complaints)
PREDICTING COMPLAINING

CDF_{Comp} = f(back, perf)

✓ Succes of analysis:

<table>
<thead>
<tr>
<th>Actual group</th>
<th>Predicted group</th>
</tr>
</thead>
<tbody>
<tr>
<td>I didn’t complain direct</td>
<td>I didn’t complain direct</td>
</tr>
<tr>
<td>I didn’t complain direct</td>
<td>46 (70.8%)</td>
</tr>
<tr>
<td>(29.2%)</td>
<td>19</td>
</tr>
<tr>
<td>I complain</td>
<td>23 (34.3%)</td>
</tr>
<tr>
<td></td>
<td>44 (65.7%)</td>
</tr>
</tbody>
</table>

WILLINGNESS TO RESELL TO THE SAME COMPANY

- Increasing markedly: 19%
- Increasing little: 27%
- No influence: 3%
- Decreasing little: 49%
- Decreasing markedly: 2%
PREDICTING WILLINGNESS TO RESELL I
CDF_{Resell} = f(\text{back}, \text{perf})

- Most significant determining variables:
  - Background variables ("Good quality of the company" as a motive to sell timber)
  - Performance variables (Understanding needs of timber seller, Reliability of personnel, Good quality of company as timber buyer)

PREDICTING WILLINGNESS TO RESELL II
CDF_{Resell} = f(\text{back}, \text{perf})

✓ Success of analysis:

<table>
<thead>
<tr>
<th>Actual group</th>
<th>Decreasing</th>
<th>No influence</th>
<th>Increasing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreasing</td>
<td>12 (66.7%)</td>
<td>6 (33.3%)</td>
<td>0</td>
</tr>
<tr>
<td>No influence</td>
<td>23 (14.6%)</td>
<td>76 (48.4%)</td>
<td>58 (36.9%)</td>
</tr>
<tr>
<td>Increasing</td>
<td>6 (3.4%)</td>
<td>39 (22.3%)</td>
<td>130 (74.3%)</td>
</tr>
</tbody>
</table>
CONCLUSIONS

- Finnish forest owners were mostly satisfied
- There are several service variables in the CD models (no e.g. price!)
- Easier feedback channels for timber sellers
- Better understanding of timber sellers, their needs and problems
- More satisfied and more loyal timber sellers