Forest Owner Objectives as Predictors of Changing Customer Value: survey analysis from Finland

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Outline

- Background
- Motivation
- Aim of the study
- Data & Methods
- Results
- Conclusions
Background

- 20,3 million ha productive forest land
- 740 000 non-industrial private forest (NIPF) owners (>2 ha forests)
- Every 7th Finn owns forest
- 345 000 forest entities
  - Average estate size 30 ha (>2 ha)
Background

- Forest owners’ decisions about their forests affect
  - e.g. wood supply, biodiversity, landscape and recreational values, regional economies
  → The forest sector and national economic development in Finland
- Important for the forest industry as a raw material suppliers
  - 80% of the industry’s raw material from private forests
- Their forestry decision-making is crucial to utilization of forest resources
  - Behavior and decision-making have been widely covered research themes
Motivation

▪ The structural change in the private forest ownership
  ▪ Urbanisation, ageing, decreasing dependence on forest revenues, changing ownership objectives
  ▪ Next generation of forest owners
    ➔ Changes in services demand
    ➔ Need for different types of services increases

▪ From timber buying companies’ point of view
  ▪ Increasing share of the forest owners don’t sell wood to the companies
A wide variety of services
- Provided by private firms or law-based organizations

→ Focus on timber production
Ownership objectives have been studied from many viewpoints

Classifications into specific groups

- A comparison between earlier studies in the United States and European countries has shown that forest owners are inclined to fall within the five groups: The economists, multi-objective owners, recreationists, self-employed, and passive owners (Boon et al. 2004)

Grouping based on ownership’s objectives in Finland (Kuuluvainen et al. 1996, Karppinen 1998, Favada et al, 2009, Hänninen et al. 2011)

- Multiobjective owners 30%, recreationists 24%, self-employed owners 20%, investors 16%, indifferent owners 10%
Aim of the study

- More in-depth understanding of forest owners’ objectives
  - How service offerings are failing to meet the changing objectives of forest owners?
  - How forest owners valuations have changed and how these changes could be understood?
Data & Methods

- Population 300,000 Finnish private forest owners
  - Addresses from the address register of the forest owner supplement of the *Maaseudun tulevaisuus* magazine
- Systematic random sampling
- Questionnaires to 2047 private forest owners in December 2011, one reminder postcard
- 557 responses
  → response rate 28%
Questions included

- **22 objective statements** (Kuuluvainen et al. 2006, Favada et al. 2009)
  
  ”How important do you consider the following objectives of forest ownership?” (Importance scale: 1 = I can’t say, 2 = completely irrelevant, 3 = quite irrelevant, 4 = quite important, 5 = extremely important)

- **Forest owners’ background variables**
  - Gender, age, education, residential environment, forest area

- **Factor analysis** (Maximum likelihood, Varimax rotation)

- **Analysis of variance**
<table>
<thead>
<tr>
<th>1</th>
<th>My forest is part of my leisure time or residential environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>My forest offers me the opportunity of picking berries and mushrooms</td>
</tr>
<tr>
<td>3</td>
<td>Forest owning offers me the possibility to hunt</td>
</tr>
<tr>
<td>4</td>
<td>My forest offers me the opportunity for outdoor recreation (e.g. walking, jogging, hiking)</td>
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<tr>
<td>5</td>
<td>My forest offers me the opportunity to do silvicultural work (providing functional exercise at the same time)</td>
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<tr>
<td>6</td>
<td>My forest offers me regular income for consumption</td>
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<tr>
<td>7</td>
<td>My forest is a financial asset for major purchases (house, car, agricultural buildings and machinery)</td>
</tr>
<tr>
<td>8</td>
<td>My forest offers me labor income (Labor income and employment)</td>
</tr>
<tr>
<td>9</td>
<td>I gain household timber from my forest</td>
</tr>
<tr>
<td>10</td>
<td>My forest offers me the opportunity to maintain and treasure biodiversity (diverse flora and fauna)</td>
</tr>
<tr>
<td>11</td>
<td>My forest offers me aesthetic experiences</td>
</tr>
<tr>
<td>12</td>
<td>My forest is an object of nature conservation</td>
</tr>
<tr>
<td>13</td>
<td>My forest property improves my credit rating</td>
</tr>
<tr>
<td>14</td>
<td>My forest offers economic security for my senior years</td>
</tr>
<tr>
<td>15</td>
<td>My forest offers security against exceptional situations</td>
</tr>
<tr>
<td>16</td>
<td>My forest property is an asset for hedging against inflation</td>
</tr>
<tr>
<td>17</td>
<td>My forest comprises a bequest for my heirs</td>
</tr>
<tr>
<td>18</td>
<td>Forestland ownership has intrinsic value for me (e.g. family estate)</td>
</tr>
<tr>
<td>19</td>
<td>My forest is a site for enjoying silence and meditation</td>
</tr>
<tr>
<td>20</td>
<td>I am connected to my native region through my forest</td>
</tr>
<tr>
<td>21</td>
<td>My forest is an investment object</td>
</tr>
<tr>
<td>22</td>
<td>The price level rise of summer cottages and recreational buildings raises the value of my forests</td>
</tr>
</tbody>
</table>
Results
Socio-demographic characteristics of respondents

Gender

- Male: 78%
- Female: 22%

Education

- No degree: 16%
- Vocational school: 38%
- Higher vocational diploma: 28%
- University degree, academic: 18%

Residential area

- Countryside: 51%
- Village or small town: 22%
- Town/city (>20,000 inhabitants): 28%

Age

- Under 40: 4%
- 40-59: 36%
- Over 60: 60%

Forest area

- Under 5 ha: 3%
- 5-9.9 ha: 8%
- 10-19.9 ha: 19%
- 20-49.9 ha: 19%
- 50-99.9 ha: 15%
- Over 100 ha: 15%
Factor analysis → four dimensions of objectives

<table>
<thead>
<tr>
<th>Variable/objective</th>
<th>FACTOR 1</th>
<th>FACTOR 2</th>
<th>FACTOR 3</th>
<th>FACTOR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recreation and free time</td>
<td>Sense of economic security</td>
<td>Aesthetics and nature protection</td>
<td>Source of income</td>
</tr>
<tr>
<td>2 Picking berries and mushrooms</td>
<td>0,727</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Residential environment</td>
<td>0,674</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Outdoor recreation</td>
<td>0,648</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9 Household timber</td>
<td>0,489</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Silvicultural works</td>
<td>0,430</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Security for old age</td>
<td>0,709</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Security against exceptional situations</td>
<td>0,656</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Hedging against inflation</td>
<td>0,552</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 Investment object</td>
<td>0,504</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 Inheritance</td>
<td>0,462</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13 Credit rating</td>
<td>0,435</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Aesthetic experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Biodiversity</td>
<td>0,318</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Nature conservation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Financial asset for major purchases</td>
<td></td>
<td></td>
<td></td>
<td>0,649</td>
</tr>
<tr>
<td>6 Regular income</td>
<td></td>
<td></td>
<td></td>
<td>0,597</td>
</tr>
<tr>
<td>8 Labor income</td>
<td></td>
<td></td>
<td></td>
<td>0,549</td>
</tr>
</tbody>
</table>

Explain variance % 12,3 12,7 7,1 8,6

Factor scores
- Composite measures → Information about an individual's placement on the factors

Source of income
- Recreation and free time
- Sense of economic security
- Aesthetics and nature protection
Gender

Results are presented as factor score mean profiles of different background variables.

Service offerings focused on around this dimension.

Statistically significant differences between male and female:
- Source of income: p=0.000
- Sense of economic security: p=0.044
- Recreation and leisure time
- Aesthetics and nature protection

Male
Female
Academically educated unreachable?

Source of income

Recreation and leisure time

Sense of economic security

Aesthetics and nature protection

No degree
Vocational school
Higher vocational diploma
University degree, academic

Statistically significant differences between vocational school and academically educated
p=0.002
p=0.014
Well-functioning vs. non-functioning markets

Statistically significant differences between forest owners living in the countryside and in a city:
- p=0.000
- p=0.004
Conclusions

- Four dimensional structure behind forest owners’ objectives
- Timber production and trade don’t engage attention of all owners
- If emphasizing timber production in communication
  → doesn’t necessarily make all forest owners to become interested in their forests

- Services to varying needs of forest owners → Identification of genuinely customer driven service offerings

- If these owner groups’ objectives and valuations aren’t taken into account
  → losing of potential customers
Conclusions

- Questions remain for further research…
  - How to reach or communicate with these forest owners?
  - How to create value to them?
Thank you!
References