Innovation and Entrepreneurship in Forestry in Central Europe: Forest Owners and Forest Managers as Innovators

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Description: Analysis of the actual situation of innovation in forestry in Central Europe and its determinants.

Methods and range: Three surveys in eight countries of the EFI PC INNOFORCE consortium (Austria, Czech Rep., Germany, Hungary, Italy/Trento, Slovakia, Slovenia and Switzerland): 1) Comprehensive forest holdings survey (1,417 responses, excluding CH), institutional system survey (165 responses, excluding DE and CH) and case study analysis (32 cases, excluding HU and IT).

Far-reaching changes are taking place in the social, political and economic systems in Europe that also affect Europe's forestry sector. The future of those who live from forestry will depend on how enterprises and public agencies react to these changes. Innovation and entrepreneurship are widely recognised as the main driving forces for economic growth, competitiveness and employment creation. According to the research results, however, especially smaller forest owners hardly follow entrepreneurial goals on their forest property and radical innovations in the sector are very rare.

Innovation

Innovation in general denotes successful introductions of novelties. Modern innovation literature distinguishes at least two main categories of innovation, i.e. product innovation (goods, services) and process innovation (technological, organisational). In the context of INNOFORCE research, innovation is defined as discontinuous intentional change in the inputs, processes or outputs of an enterprise. This includes changes, which are radical or incremental. Authors, including Rogers (1995) and Schumpeter (1939), distinguish different phases in an innovation process from idea development to the diffusion of an innovation. In forestry, innovations that are new to the sector are hardly found; most innovations are only new to the single firms, i.e. diffusion.

Frame conditions not favourable

Central Europe is characterised by a high fragmentation of forest ownership. The average size of private property is very small (around 11 ha), whereas the average size of public property is larger than 500 ha. However, 98% of forest holdings in the region are in private hands, managing about half of the total forest area. A large majority of forest owners in the region does no longer work full-time in forest management. Usually income from forests is not the main income source for forest holdings. Therefore, the innovation climate is not very favourable in the forest sector in Central Europe.

Level of innovation activity quite low - activity of larger holdings high

The innovation activity of forest holdings in Central Europe in general is quite low. On average, nine per cent of the forest holdings have introduced one or more product or process innovations in the last three years. However, there is a significant difference between small and large holdings (Figure 1). Focusing on the forest holdings larger than 500 ha, more than half implemented innovations during this period, which resembles activities of an average manufacturing small and medium size enterprise (SME) in the EU.

Figure 1: Percentage of innovative forest holdings by forest holding size

10% 70% 64% 60% 48% 44% 42% 10% 14% 18% 11% 3% 10%

DE AT CZ IT (TN) SK HU SI

< 500ha > 500ha
Focus on organisational and service innovation
All innovations are incremental. So far, forest holdings have focused on implementing organisational innovations (e.g. outsourcing, co-operation) and service innovations (e.g. recreational, environmental). Almost 70 per cent of the successful innovations are associated with these two areas. Wood and non-wood product as well as technological innovations (e.g. improved machinery, infrastructure), constitute comparatively less active areas (Figure 2).

**Key findings:**
- Frame conditions in forestry are in many respects not supportive of innovations.
- There is little innovation activity in the sector, especially in small forest holdings.
- Most innovations are incremental and usually not new to the market.
- Customers and consumers play virtually no role as a source of improvements of products and services.
- There is virtually no start-up activity in the sector.
- However, forest owners in many countries have, at least verbally, an entrepreneurial orientation.
- There is more service-related innovation than product innovation.
- Innovative forest managers underlined the role and benefit of good information – ahead of financial support - as highly supportive of implementing an innovation.
- Most often, impediments concern issues of financing innovations and the internal organisation of how to run operations.

**Figure 2: Successful innovations in Central Europe**

**Co-operations very supportive**
When asked about fostering factors, innovative forest managers stated that co-operation proved to be most important, vertically with suppliers or costumers, and horizontally with other forest holdings. The availability of information and financial and educational services was named next as highly supportive.

<table>
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<tr>
<th>Organisational innovations (e.g. outsourcing, co-operation, internal reorganisation)</th>
<th>Wood &amp; non-wood product innovations</th>
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<tr>
<td>14%</td>
<td>18%</td>
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<tr>
<td>Process innovations</td>
<td>Service innovations (e.g. recreation, leasing, environmental, B-2-B)</td>
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<tr>
<td>39%</td>
<td>29%</td>
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| Technological innovations (e.g. machinery, infrastructure) | 0%

**Figure 3: Most important fostering factors as seen by innovative forest holdings in Central Europe**
In contrast, the most important impeding factors seem to be located at firm and personal levels, namely sales risk, problems of financing innovations and difficulties in implementing changes in the internal organisation. The importance of the quality and attitudes of employees or co-workers was specifically emphasised to be a crucial aspect.

**Related publication:**

**Cited sources:**

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