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# Communicating environmental performance: qualitative study on the perspectives of the Nordic wood industry

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## Abstract

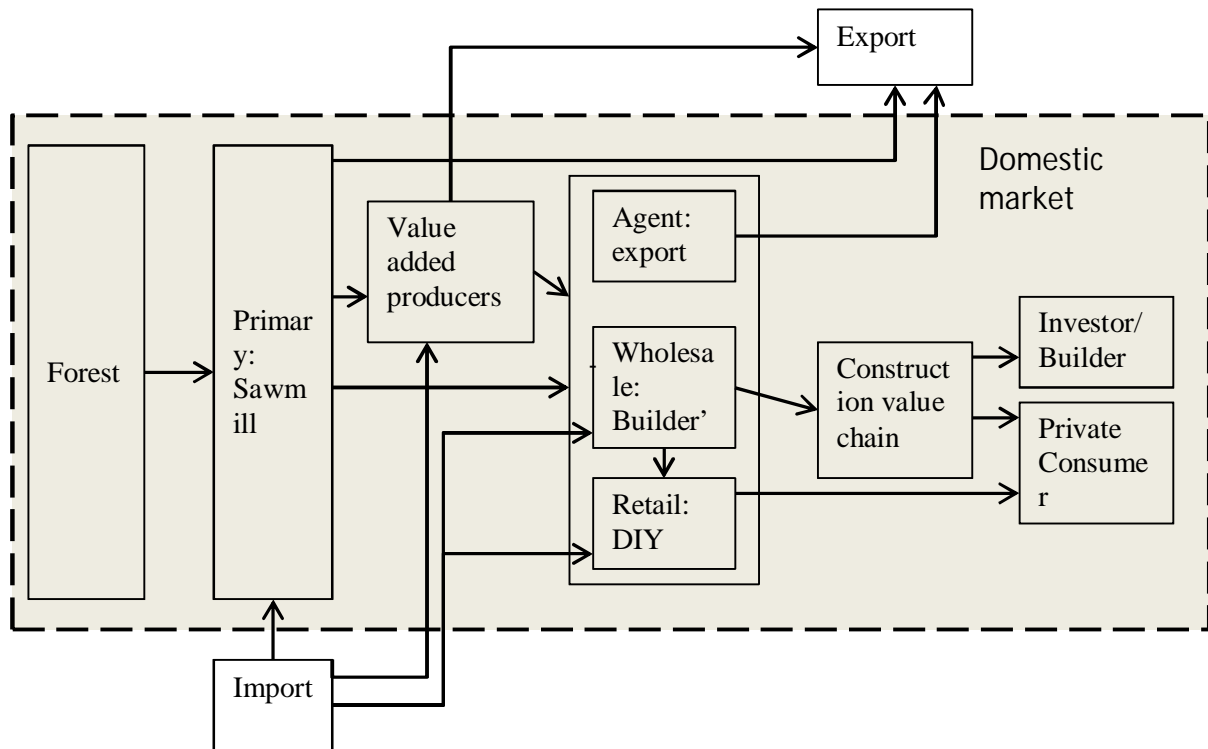
The purpose of this study is to explore how companies in the Finnish, Swedish and Norwegian wood products value-chains currently employ environmental performance measures (EPMs) in their communication and to study the existence of strategic element in the use of EPMs. The primary data for this study was collected by conducting 41 thematic interviews in 2011 in the three countries and was analyzed using theory-driven thematization. According to our results the most important EPMs in this context are forest certificates and the key stakeholders targeted are customers, suppliers and environmental authorities.

## 1 Introduction

Since the 1990s, the availability and use of environmental performance measures (EPMs) on wood products and production processes have become increasingly common in marketing products in environmentally sensitive European markets (see e.g. Toivonen et al. 2008). According to International Organization for Standardization (ISO) 14031 (ISO2007), environmental performance evaluation standard “defines environmental performance as the results obtained by an organization with regard to its activities that interact with the environment”. In this view, environmental performance extends beyond simple product-related environmental certificates. EPMs cover general environmental strategies in business, monitoring or auditing of operations, product development and design, certification of the chain of custody or modification of marketing functions.

The new EU Timber regulation that prohibits illegal timber in the EU market area will come into force in March 2013. Companies need to use a system of “due diligence” that makes sure that the timber they sell in the EU is harvested legally. According to the European Commission regulation (EU No 995/2010) operators should carry out a risk assessment and mitigate the risk in a manner proportionate to the risk identified, with a view to preventing illegally harvested timber and timber products from being placed on the internal market. As the forest certificates are inherently a way to show sustainable source of the wood in products, they are a way for uncertified companies to meet the requirements of the EU Timber regulation and this can expand the use of certified products.

The Nordic countries are important exporters of wood products, mainly to the European markets. Breaking into domestic and export markets, the value chain for wood can be divided into six stages (Fig. 1): 1) forestry and raw material supply, 2) primary processing (sawmills), 3) secondary processing (value-added producers), 4) wholesale, retail and export activities



**Fig. 1.** The Nordic wood product value chain, adapted from Nord (2005)

(builders' merchants, DIY stores (do-it-yourself -stores) or export agents), 5) construction (contractors and sub-contractors), which serves directly 6) end-users (developers, investors and private consumers). Information flowing (bidirectionally) through the value chain improves the functioning of the supply chain and creates value for environmentally conscious customers.

While the role of environmental issues is more generally recognised, and research on consumer perceptions, understanding and use of product-related environmental information in Nordic countries exists (c.f. Leire & Thidell, 2005), no multi-country studies analysing the use of the wider spectrum of EPMs have been conducted in B-to-B (business-to-business) context of woodworking industry. The purpose of this study is to fill this gap by examining 1) how companies in the Finnish, Swedish and Norwegian wood products industry currently employ EPMs in their communication, 2) is there strategic element involving in the use of EPMs and 3) whether the growing pressure towards environmental performance is driven by customers, competitors or other stakeholder groups ?

## 2 Theoretical background

A core question in the business literature regarding environmental performance is whether it results also in economic/financial performance (see e.g. Porter 1991, Hart 1995, Russo and Fouts 1997, on the sources of competitive advantage in wood industry, see also Lahntinen 2007). For example, with introduction of new green products or services, companies can more efficiently use a differentiation strategy to reach certain environmentally conscious market segments or improve their customer retention (e.g. Ambec and Lanoie 2008). Ecolabels, forest certificates and other environmental performance measures may help companies to legitimate their business behaviour and in some cases to gain competitive advantage. Investments in improving environmental performance can also create opportunities for reducing costs (eco-efficiency).

González-Benito and González-Benito (2005) carried out a detailed study on the effects of different environmental proactivity measures on business performance, and found that the measures must be disaggregated to reveal connections. In the study environmental measures were factorized into four categories: planning and organizational practices, logistic processes, product design and internal production management. When the factors were tested in regression models against different business performance measures, it was found that planning and organizational practices do not drive business performance.

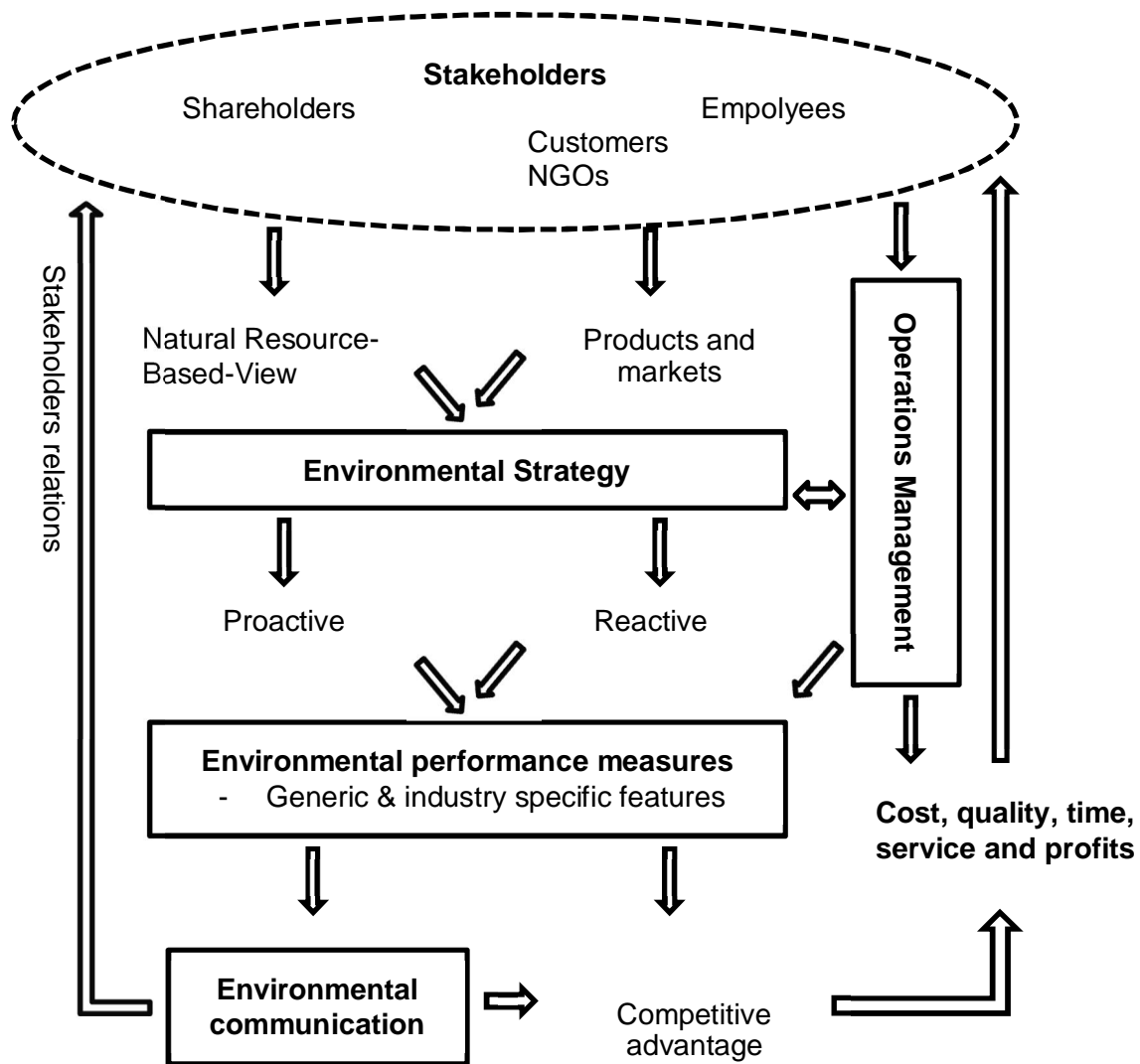
Among other key concepts is stakeholder theory of the firm (see e.g. Freeman 1984, Mitchell et al. 1997), which identifies groups that have an interest in companies' activities. Aside from the shareholders, employees and customers, local communities, regulators and, especially if environmental performance is concerned, environmental non-governmental organizations (ENGOS) are potential groups of key stakeholders. Strategically stakeholders' orientation has been viewed as a broad philosophy that includes ethics and social responsibility in managerial decisions (Ferrell et al. 2010). This broadening of customer orientation to focusing on multiple stakeholders has important implications for firms. Orientation to the diverse interests of stakeholder groups is central to strategic planning, and failure to address the interests of multiple stakeholder groups can negatively affect the company's reputation and eventually even its economic performance through decreased customer or employee retention.

Based on the literature we outline the following framework in Fig. 2 to illustrate the key components and their relationships in our empirical study. A reactive strategy occurs when companies make changes in its processes after some threat or opportunity has already occurred, whereas proactive strategy happens when companies act before they are under pressure to respond to some threats or new opportunities (Sharma and Vredenburg 1998, Vaccaro 2009).

### **3 Data and methods**

The primary data for this study of Finland, Sweden, and Norway was collected by conducting 41 thematic interviews in 2011 in the value chain. The selection of interviewees was purposively performed to involve different actors in the business relations, suppliers and buyers, large-scale and small-scale producers, retailing chains and industrial buyers. The sample also covers different business strategies from companies with a clear focus to companies that cater for the mass market. 38 interviews were with business managers while 3 interviews were conducted with organizations: the Programme for the Endorsement of Forest Certification (PEFC Finland), PEFC Norway and a wood industry association in Finland. The interviewees approached were persons with overall responsibility for and insight into the company's environmental marketing/purchasing procedures.

Interview guide was developed for this study and it can be found online in Rätty et al. (2012). The interviews were mostly conducted face to face, but in some cases they were held by telephone and in one case by email. All the interviews were carried out in the local language and lasted between thirty minutes and more than one hour. They were recorded in Finland and Sweden, and transcript summaries were written down. In Norway the interviewer used written notes. Furthermore, the answers to a set of key questions were assembled in a matrix format allowing easier pattern matching and comparisons across interviewees. The data was processed using content analysis and theory driven thematization (see e.g. Silverman 2000) and we provide some direct quotes from the interviews to increase reliability of analysis.



**Fig. 2.** Theoretical framework in the study (adapted from Jimenez and Lorente 2001, González-Benito and González-Benito 2005, Ambec and Lanoie 2008).

The choice between reactive and proactive environmental strategies, or the level of proactivity, shapes also the environmental communication. Communication can be targeted directly to the stakeholders, or it can appear as an integrated element of the firm's overall performance measurement system. Both ways of communication contribute to firm's competitive advantage, but apparently in different ways. Direct communication on EPMs contributes to compliance (or over-compliance) with formal or informal regulation, whereas environmental communication contributing to firm's performance appears as a proactive tool aside other tools of the operations managements (see e.g. González-Benito and González-Benito 2005).

**Table 1.** Number of companies in the study using EPMs (the number of companies that considered a measure as useful within parentheses).

	PEFC/FSC	Consumer labels	EMS	Green building	LCA/EPD	Other EPM	Total
<b>Primary</b>	10 (6)	1 (1)	9 (4)	1 (0)	5 (2)	1	11
<b>Value-added</b>	18 (13)	7 (8)	13 (8)	2 (1)	8 (3)	7	25
<b>Construction</b>	4 (3)	1 (1)	5 (1)	4 (0)	2 (1)	2	7
<b>Retail</b>	2 (3)	1 (1)	2 (1)	0 (0)	0 (0)	0	5
<b>Wholesale</b>	2 (1)	1 (0)	2 (1)	1 (0)	0 (1)	1	5
<b>Total*</b>	<b>25 (19)</b>	<b>7 (11)</b>	<b>20 (10)</b>	<b>6 (1)</b>	<b>10 (5)</b>	<b>9</b>	<b>38</b>

\*The last row presents the number of individual companies. Note that columns do not sum up to the total number as companies may belong to multiple segments.

Consumer labels: Nordic Ecolabel, EU Ecolabel, Green Seal, Blaue Engel, Planet Positive, Rainforest Alliance, RealWood

EMS: Environmental management systems ISO 14001 and EMAS

Green building: LEED, BREEAM, DGNB, Miljöbyggnad

EPD & LCA: Environmental Product Declarations, life cycle studies, footprints

## 4 Results

### 4.1 Use of EPMs

According to Table, the most commonly used EPMs in the Nordic wood industry companies were forest certificates (PEFC, occasionally also FSC). Forest certificates were considered by managers to be mandatory for market entry or to maintain markets, especially in exports and B2B markets. However, the share of chain-of-custody certified wood products in the markets is still low. Some interviewees also emphasized problems with multiple forest certifications and hoped to achieve cost and resource savings by integration of different systems.

The bigger sized companies have commonly implemented environmental management systems (ISO 14001) while the use of more demanding European Eco-Management and Audit Schemes (EMAS) was in 2011 relatively uncommon. Green building certificates are used by large constructors, but their perceived usefulness among respondents was found to be low. Life Cycle Assessment (LCA) measures, including Environmental Product Declarations (EPD), are not widely used. Consumer labels other than SFM are seldom used, and among them the Nordic Swan Ecolabel was mentioned most often. In the future, companies expected a growing use of product specific LCA tools and EPDs, as driven by the requirements of green building systems currently being implemented in the Nordic countries.

### 4.2 Perceptions on key stakeholder groups

The main drivers for use of EPMs were customer requirements (particularly in certain export markets), internal information needs, and strategic decisions to act responsibly. There are also increasing information needs from e.g. institutional builders in certain markets, chiefly the UK. Competitive pressures from producers of wooden or other products play a minor role. It seemed to be difficult for the interviewees to list the benefits their customers have gained from using environmentally friendly products. The benefits ranged from a general “improved image” to more specific ones such as improved market access, larger market share, customer retention and customer relations. There were no clear differences between the different types of companies in their view of the benefits gained by customers, but these results are not meant for generalization.

According to the interviews, the most important stakeholders mentioned were customers, suppliers and environmental authorities. Sometimes it was not completely certain whether the respondents were actually ranking different stakeholder groups from the perspective of environmental issues, or assessing the overall company's stakeholder groups. In the smaller companies, managers sometimes had trouble with the identification of the whole spectrum of stakeholders beyond suppliers and customers, a similar finding to that found by Li et al. (2010) regarding the CSR perceptions of Finnish SME sawmill managers. The following quotes represent some interesting differences in the answers regarding the importance of various stakeholder groups:

- Journalists, forest owners are not proactive and do not respond to market demands. This is not how environmental problems should be solved. (Timber and interior wood producer)
- Local environment (the community where the factory is situated), employees, customers. (Treated wood producer)
- The most important stakeholder groups in terms of environmental issues are authorities, communities, construction firms and end-users. (Private house producer)
- Hard to say, several stakeholders are equally important. End-consumers play a key role. So also do local administrations and politicians. And the owner/planner is very important. One may say it is these three categories are our main stakeholders. (Constructor and developer)
- The most important stakeholders are certifying organizations, auditing firms and NGOs. (Primary and value-added producer)

### **4.3 Communication and strategic proactiveness**

Fourteen companies can be classed as having an active approach to environmental communication. An illustrative example of this type of communication is given by a Finnish primary and value-added producer "We communicate the environmental friendliness of wood products, carbon footprints and the certificates we have in use. We want to direct the environmental communication towards end-consumers. This way we can also create pressure towards retailers." A passive approach was adopted by twelve companies and this is exemplified by a Swedish timber and joinery producer (: "Well, it depends. It's there on the product, and we use some of the information for those who are interested. But surely, no customer wants to have all the information." A neutral approach falling between these two approaches was used by ten companies, for example by a Finnish sawmill: "We use PEFC in every product, in the wrappings and in our brochures. We don't really communicate any other environmental aspects to buyers."

It was interesting to note that many of the interviewed managers thought that wood is inherently so environmentally friendly, and that this is a sufficient base for environmental communication. The environmental awareness of customers is believed to be rather low, but higher among industrial and public sector customers. Owners' or investors' interest in documentation is limited, however. Documentation from suppliers is required in the case of chain-of-custody certification only. Within the domain of environmental communication, ecological aspects, recyclability of wood, sustainability of forest management practices, and the origin of wood were most commonly emphasized issues, uniformly towards all identified customer groups.

In our interviews, as a measure of pro-activeness towards environmentally related strategic orientation, we inquired about managers' intentions to redirect consumers' needs and wants towards less material and energy consumption and fewer CO<sub>2</sub> emissions: less environmentally harmful consumption or any other related aspect. Based on the interviews, pro-activeness could be interpreted as being present most commonly in the group of Swedish companies (emphasized strongly in five



interviews), followed in the relative frequency by Finnish companies (about half could be considered as being proactive, including small and large firms) and then in three Norwegian companies, which expressed views that can be interpreted as being proactive.

These findings should not, however, be generalized beyond the sample since there was a high degree of heterogeneity in terms of the companies' core business areas, target markets and size. Also, many respondents quite frankly answered just "no", without any further elaboration of the underlying reasons, so based on the interview data it was difficult to see beyond this negative attitude. A more indirect example from a Finnish value-added producer also illustrates a lack of will to redirect customer needs actively: "The company is not that interested in redirecting customers' needs and wants toward less environmentally harmful consumption. We hope that the pressure to that comes from somewhere else.". However, more proactive examples were expressed for example by a Swedish value-added company "When we design and develop our products we always consider the environmental impacts. We design our product in a way that all parts are possible to recover." and a Norwegian industrial end-user company as follows: "Yes, we would like to influence customers: decrease use of packaging, adjust orders making it possible to minimize transport. Suppliers: EMS, for example choice of surface treatment."

## **5 Discussion and conclusions**

According to interviews done in wood-products value chain in three Nordic countries, the sustainable origin of wood and the ability to document the trustworthiness of company operations are the two most important characteristics of EPMS. The competitive or operational advantages of EMSs are not always easily identified or quantified, and genuinely proactive use of different measures was identified only in a few cases. Unlike what we assumed a priori, competitive pressure from non-wood materials was not generally perceived to act as a driver for improving and communicating environmental performance.

From the communication perspective, our results indicated that the Nordic wood industry needs hands-on help to raise the role of environmental performance measures in its market communication. This applies both in the heavily relationship-based business-to-business industrial markets and in the long chains towards final consumer markets in order to raise end-users' environmental awareness and target green marketing towards the most environmentally sensitive segments. As forest certification and EMS have developed to be minimum requirements in some key markets, companies seem to now lack efficient tools to demonstrate their environmental performance. LCA tools and EPDs are potential tools, but they are not yet widely identified as environmental performance measures.

In the future we can expect environmental issues to remain strongly on the wood industry research agendas due to the globally strong cry for sustainability. The future research should therefore focus, first, on providing more quantitatively oriented information on how companies could efficiently segment their industrial and consumer markets and, second, on getting a more qualitative understanding how different types of companies could plan and implement environmental communication more efficiently and effectively. In the end, what we would like to achieve is a sound progress in the way of developing stronger product and corporate brands based on corporate environmental and social sustainability in order to achieve higher brand loyalty and sustained profitability in this industry.

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