Pellervon taloudellisen tutkimuslaitoksen työpapereita

Pellervo Economic Research Institute Working Papers

N:o 54 (April 2002)

THE GERMAN WOOD PRODUCT MARKETS
Importance of supplier characteristics – Prospective consumption

Erno Järvinen
Ritva Toivonen
Raija-Riitta Enroth

ISBN 952-5299-51-1
ISSN 1455-4623

Erno JÄRVINEN - Ritva TOIVONEN - Raija-Riitta ENROTH. 2002. THE GERMAN WOOD PRODUCT MARKETS. Importance of supplier characteristics – Prospective consumption. Pellervo Economic Research Institute Working Papers No. 54. 44 p. ISBN 952-5299-51-1, ISSN 1455-4623
ABSTRACT: This survey-based study focuses on critical supplier characteristics when the German construction material retailer / wholesaler companies select suppliers for their wood products. It also describes the expected development of consumption of wood products in Germany during the next five years. The data comprises interviews with 75 companies or business units trading wood products. The interviewed companies represent 75% of the value of the total German construction material trade. The results indicate that high product quality, reliability of the supplier, price level and fast delivery schedules are the most important characteristics when the respondents choose suppliers for wood products. None of the supplier countries analysed in this study (Germany, Austria, Finland, Sweden and Canada) performed perfectly with regard to the most critical supplier characteristics. However, German and Austrian suppliers in particular were considered to perform quite well. Finnish producers mostly did moderately well, but regarding product quality the Finnish producers performed well, and as well the German producers. The respondents generally believe that consumption of wood products will increase during the next five years. The strongest growth is expected to occur in flooring materials, wooden houses, wood-based panels and pre-fabricated products.
Key words: *Supplier characteristics, wood products, consumption, markets, Germany*

Erno JÄRVINEN - Ritva TOIVONEN - Raija-Riitta ENROTH. 2002. PUUTUOTTEIDEN MARKKINAT SAKSASSA. Toimittajayritysten ominaisuuksien merkitys – Kulutuksen kehitysnäkymät. Pellervon taloudellisen tutkimuslaitoksen työpapereita n:o. 54. 44 s. ISBN 952-5299-51-1, ISSN 1455-4623
TIIVISTELMÄ: Tämä survey-tutkimus selvittää niitä puutuoteyrityksien ominaisuuksia, jotka ovat tärkeimpiä saksalaisten puutuotteita myyvien yritysten valitessa tavarantoimittajia. Tämä tieto auttaa suomalaisyrityksiä arvioimaan omaa kilpailuasemaansa ja havaitsemaan erityisiä kehittämiskohteita markkinoinnissaan. Lisäksi selvitetään saksalaisyritysten käsityksiä puutuotteiden kysyntänäkymistä. Tutkimuksen aineiston muodostaa 75 saksalaisen, puutuotteita myyvän yrityksen/liiketoimintayksikön haastattelut. Haastateltujen yritysten yhteenlaskettu liikevaihto kattaa noin 75 % Saksan vuotuisesta rakennustarvikekaupan arvosta. Tulokset osoittavat, että tuotteiden korkea laatu, toimittajayrityksen luotettavuus, vakaat sekä edulliset hinnat ja nopeat toimitusajat ovat kaikkein tärkeimpiä kriteereitä, kun tavarantoimittajia puutuotteille valitaan. Mikään tutkituista maista (Saksa, Itävalta, Suomi, Ruotsi ja Kanada) ei suoriutunut täydellisesti näiden kriteerien suhteen, mutta saksalaisyritykset saivat parhaimmat arvioinnit. Suomalaisten katsottiin suoriutuvan kriteereistä kohtuullisesti; tuotteiden laadun suhteen suomalaisyritykset saivat hyvän arvosanan ja nousivat samalle tasolle saksalaisten kanssa. Yritykset uskovat, että puutuotteiden kulutus tulee kasvamaan seuraavien viiden vuoden aikana. Suurinta kasvua odotetaan lattiamateriaaleissa, puutaloissa, puulevyissä ja tuotekomponenteissa.
Avainsanat: *Toimittajayritysten ominaisuudet, puutuotteet, kulutus, markkinat, Saksa*

TABLE OF CONTENTS:

LIST OF FIGURES:

LIST OF TABLES:

1. BACKGROUND

1.1. INTRODUCTION

The demand for sawn wood has been forecasted to experience a period of very modest growth from 1995 until the year 2010 (FAO 1997). Overall, the average annual growth rate is expected to be less than one per cent during the period. In Europe, the growth is expected to be a little over one per cent. At the same time, various wood based substitute products are forecasted to have higher growth rates. For example, the annual growth rate of demand for particleboard is expected to be 2.0% by the year 2010 (FAO 1997). This indicates strong competition and low profitability in the wood product business.

However, the forecasts have been based on historical data reflecting the connection between the usage of wood and growth of economies, and the traditional ways of using wood in different societies. The difference between long-term average forecasted and actual growth rates are reflected in Table 1. It shows that the use of sawn wood has been growing strongly in the EU region, in contrast to the forecasts so far. However, the use of sawn wood has even decreased world-wide. Naturally, these figures may still change considerably before the year 2010. Nevertheless, the difference between the demand for wood based panes and sawn wood is well illustrated by Table 1; the demand for panels is growing much more rapidly than the demand for sawn wood.

Table 1. *Apparent consumption of sawn wood and wood-based panels in the EU region and in the World, 1997-2000.*

	Consumption 1000 m^3				Change 1997 to 2000	
EU (15)	**1997**	**1998**	**1999**	**2000**	**Volume m^3**	**%**
Sawn wood[1]	82 046	89 206	88 779	93 958	11 912	14.5 %
Wood-based panels[2]	37 770	40 744	42 373	45 213	7 443	19.7 %
Total	119 816	129 950	131 152	139 171	19 355	
	Consumption 1000 m^3				**Change 1997 to 2000**	
World	**1997**	**1998**	**1999**	**2000**	**Volume m^3**	**%**
Sawn wood[1]	432 055	423 313	409 067	419 046	-13 009	-3.0 %
Wood-based panels[2]	155 861	156 984	168 506	174 710	18 849	12.1 %
Total	587 916	580 298	577 573	593 756	5 840	

[1] Excluding sleepers

[2] Excluding veneer sheets

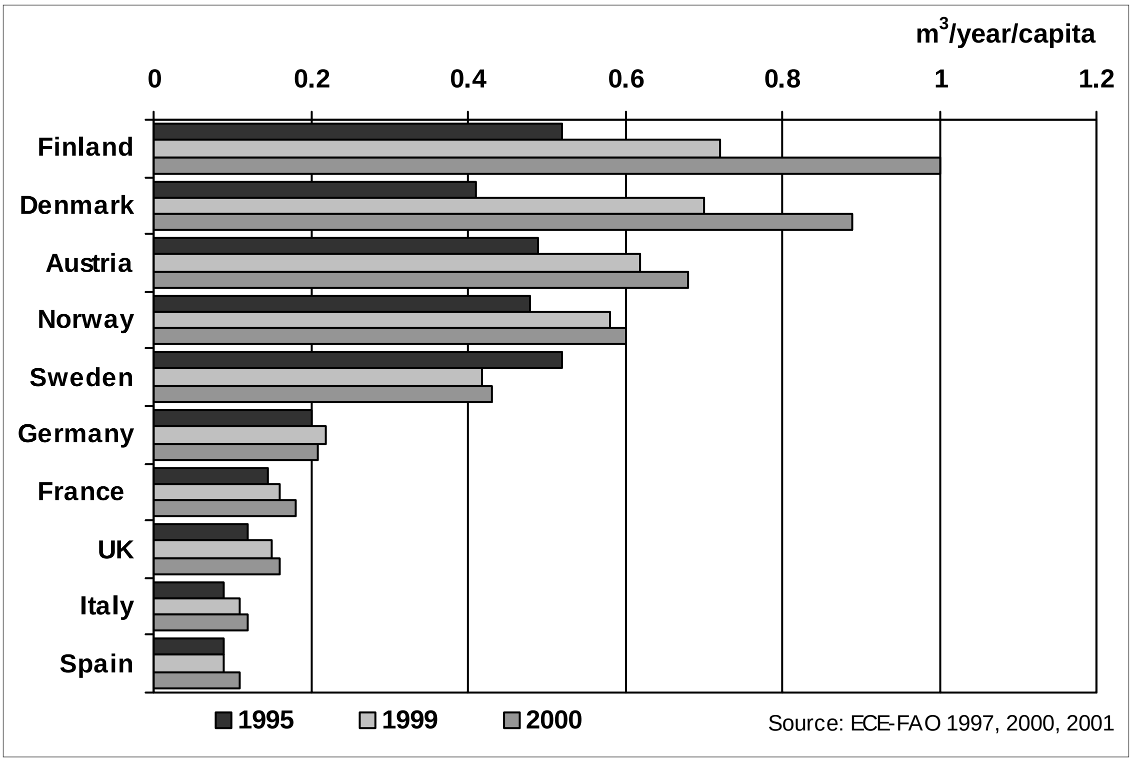
Source: UNECE/FAO TIMBER database, 2001

Changes in wood use habits may cause some difference between the forecasted and actual figures. Sawn wood and other wood-based products are mostly used in construction, directly or as various components, trusses, doors, windows, floorings and other similar products. Transportation, packaging, and furniture manufacturing are the other large sectors in which wood is used.

A slight change in favour of wood in a country with a large construction volume may significantly add to the demand for wood from the forecasted figures. In Europe, the most important single country in this respect is Germany, with its large population and construction volume. However, even large changes in favour of wood in countries with a relatively small population and construction sector may have only a slight impact on the demand for wood products on a global or European level.

During the 1990s, wood increased quite strongly in favour in many countries (see Figure 1). However, these were mostly countries with an already strong tradition of using wood and a fairly small total consumption. An example of these countries is Finland, where the per capita consumption of wood has increased considerably. By contrast, wood has increased little in favour in densely populated countries where building has been traditionally based on concrete and bricks, such as Germany and the United Kingdom.

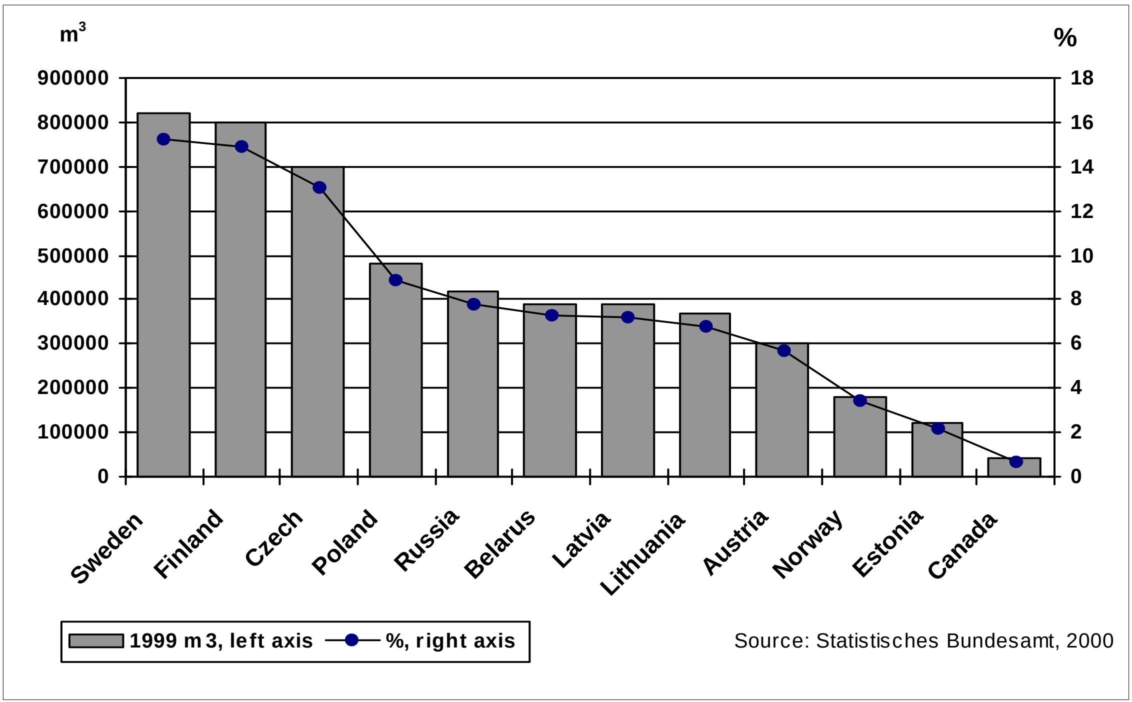
Figure 1. *The apparent consumption of softwood sawn timber per capita in selected countries in 1995, 1999 and 2000.*



A further factor that may cause a difference between forecasts and reality is the change from new construction to repair and maintenance. This development is brought along by the low birth rates and increasing economic well-being in Europe and in the whole Western world.

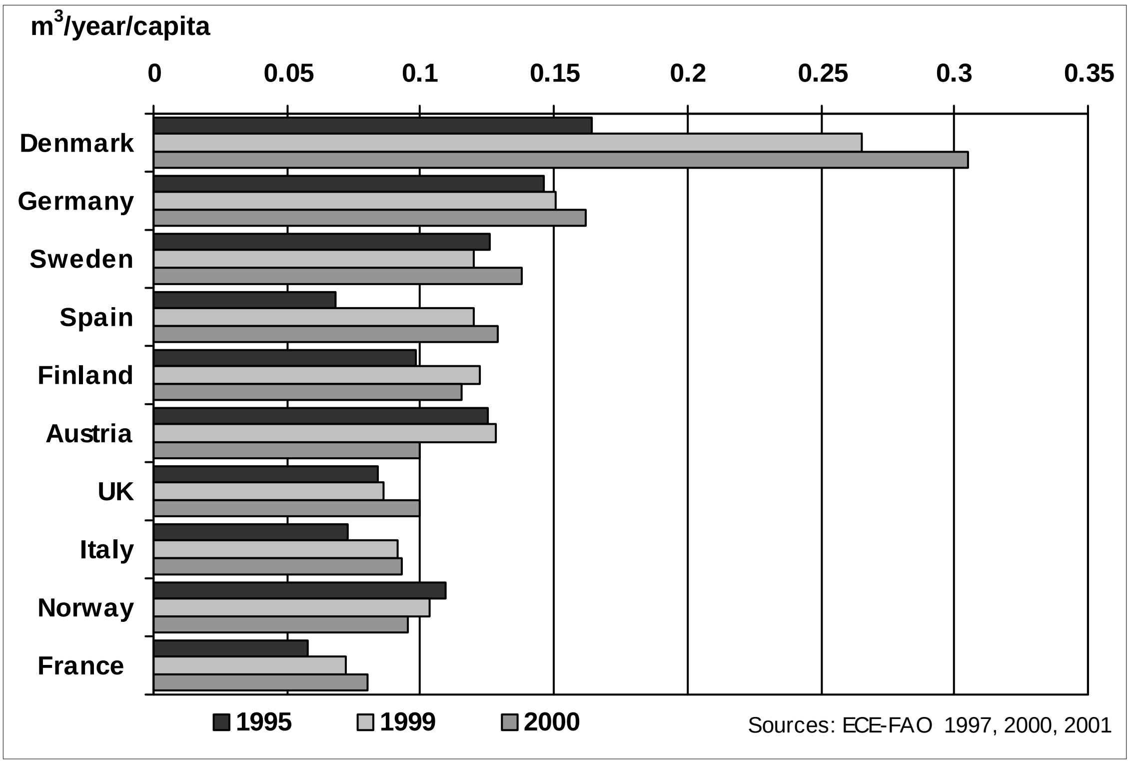
Figure 2 illustrates the development of softwood sawn timber imports to Germany from various export countries. Germany imported approximately 5.4 million cubic metres softwood sawn timber in 1999, which covers around one third of the annual consumption. Sweden and Finland are the two most important exporters: in combination they account for about one-third of the total German imports.

Figure 2. *Export of softwood sawn timber from various countries to Germany in 1999.*



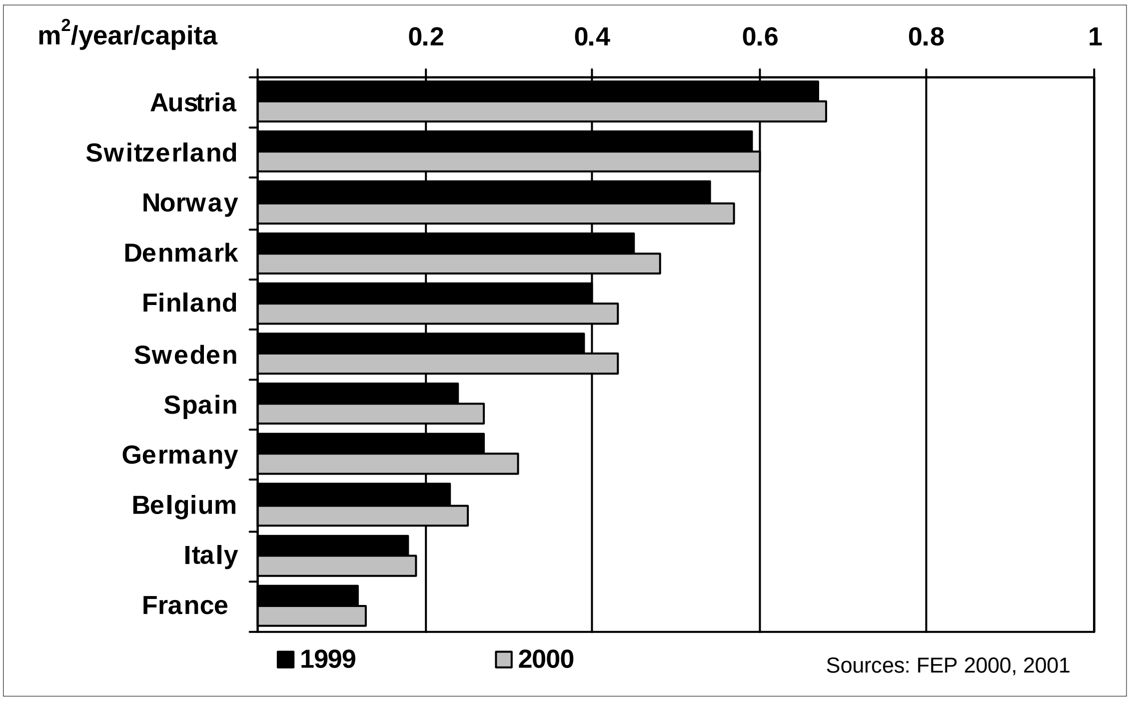
The apparent per capita consumption of various wood-based panels in selected countries is shown in Figure 3. As for sawn timber, consumption in densely populated West European countries (France, Italy, Spain and the UK) is lower than in sparsely populated West European countries. Certain wood products increased in favour in some European countries during the latter part of 1990s. These include wooden flooring materials, the use and market share of which have been growing (see Figure 4).

Figure 3. *The apparent per capita consumption of wood-based panels (plywood, particle board and fibreboard) in selected countries in 1995, 1999 and 2000.*



The total consumption of parquet in Europe was 80.6 million m^2 in 2000 (cf. 74.4 million m^2 in 1999). Figure 4 shows that the apparent per capita parquet consumption has slightly increased in each of the countries analysed. The proportions of various flooring materials from the total European flooring material consumption in 1999 are presented in Appendix 1.

Figure 4. *The apparent per capita consumption of parquet in 1999 and 2000 in selected countries.*



In summary, the wood products industry has at least two potential ways to survive or even improve its position on the construction material markets: either to start building cheaper wood-based substitute products instead of sawn goods, or to start diversifying and further processing their commodities to better match the changes in the construction sector. However, even these methods will be unsuccessful if the overall demand for wood stagnates or even decreases. Thus it is important to analyse as accurately as possible the future development in the demand for wood.

As importantly, companies can successfully compete on the markets only if they fulfil all the needs of the customers and not only provide the physical core product. The products need to be competitive, but the overall service, transportation and communication also need to appeal the customers. Therefore, it is necessary to clarify which supplier characteristics the customers find important and how the Finnish suppliers perform on the markets. Since Germany is the most important construction market in Europe, and an important export destination for wood products from Finland and other Scandinavian countries, it is a suitable basis for a pilot study.

1.2. PURPOSE AND IMPLEMENTATION OF THE STUDY

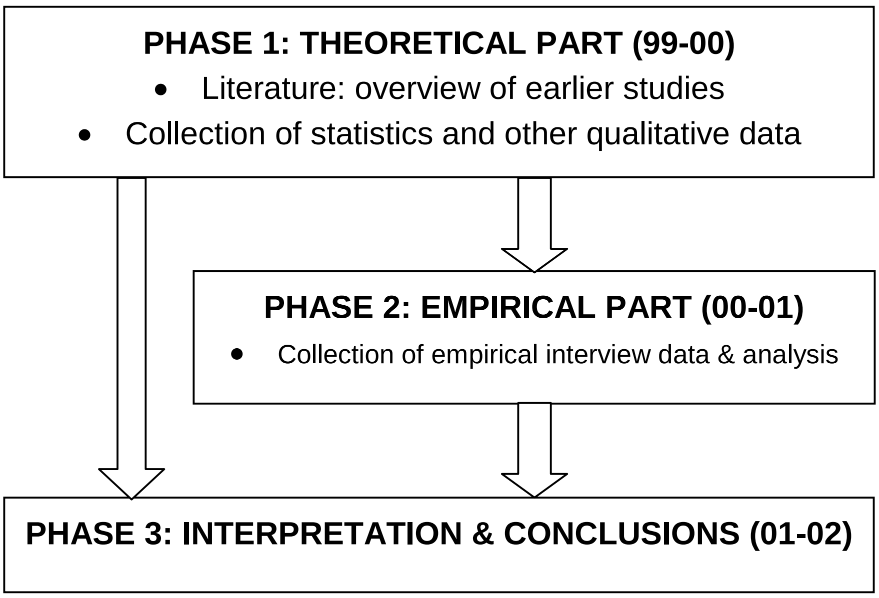
The purpose of this survey-study is to analyse the importance of supplier characteristics on the building material markets in Germany. A further aim is to analyse the prospective development in the consumption of wood products.

The study addresses the following specific questions:

- Which are the most critical supplier characteristics when German construction material traders purchase wood products?
- How do wood product suppliers from various countries perform regarding the critical supplier characteristics and in marketing communication from the German customers' point of view?
- How do German companies selling construction materials expect the markets for wood products to develop during the next few years?

This study focuses on retailer and wholesaler companies trading construction materials in Germany. The study is aimed to support the development of wood products and related services in customer contacts, particularly on the German markets. The practical implementation of the study is presented in Figure 5 below.

Figure 5. *Implementation and the timetable of the study.*



This study was conducted in three phases (see Figure 5):

1. In Phase 1, issues related to wood product markets and supplier characteristics were studied using secondary material (literature, earlier studies, statistics).

2. In Phase 2, a questionnaire was formulated based on the theoretical ingredients (see Appendix 6), and the empirical data was collected (see Chapter 2.1) and then statistically analyzed.

3. In Phase 3, interpretation of the analyses was based on the theoretical background and the empirical results of the study.

1.3. THEORETICAL BACKGROUND

1.3.1. Information supporting customer oriented marketing planning

Marketing adapts a company to the environment in which it operates. The adaptation process is dynamic: It is based on continuous gathering and evaluating of information about the environment and the company itself. Countless matters need attending to in this process, but customer information is without doubt among the most important. The main customers of the wood product industry are companies trading and/or further processing wood products, i.e. industrial organisations.

The forest industry is increasingly facing the challenges of globalisation in its marketing environment: Customer companies are expanding geographically, and urging wood product suppliers to follow them. Economic fluctuations are expected to become increasingly short-term and sharper, and competition is getting harder.

In this increasingly complicated and changing environment, marketing intelligence is an important function supporting successful marketing planning. For example, it helps the forest industry to continuously anticipate the changing needs of customers and trends on the markets, and helps to measure the competitive gap to competitors (see Figure 6).

In this study, a model is applied that combines the models of the marketing planning process and the information environment of marketing planning, both developed by Juslin (1994). The marketing planning process within a company or a business-unit consists of four elements or phases that are hierarchical and linked: strategies, structures, functions and action plans (see Figure 6). This planning process also links the company to its environment through having marketing information as input, and providing communication and products as output. However, the marketing planning process also requires information about the company itself, for example how the company performs of the markets.

The marketing environment and related marketing information can be classified into two main categories: the macro- and microenvironment, as shown in Figure 7 (Juslin & Neuvonen 1997). The macro environment can be further classified into three main elements: demand, supply and other factors, such as legislation and norms. The microenvironment is also divided into three elements: customers, competitors and distribution systems. Information on the macro environment helps a company to anticipate and adapt to long-term changes in its operating environment. Information on the microenvironment is needed on a daily basis, and it helps the company to also adapt to competition in the short-term.

Figure 6. *The frame of reference in this study: Marketing planning process and marketing information environment.*

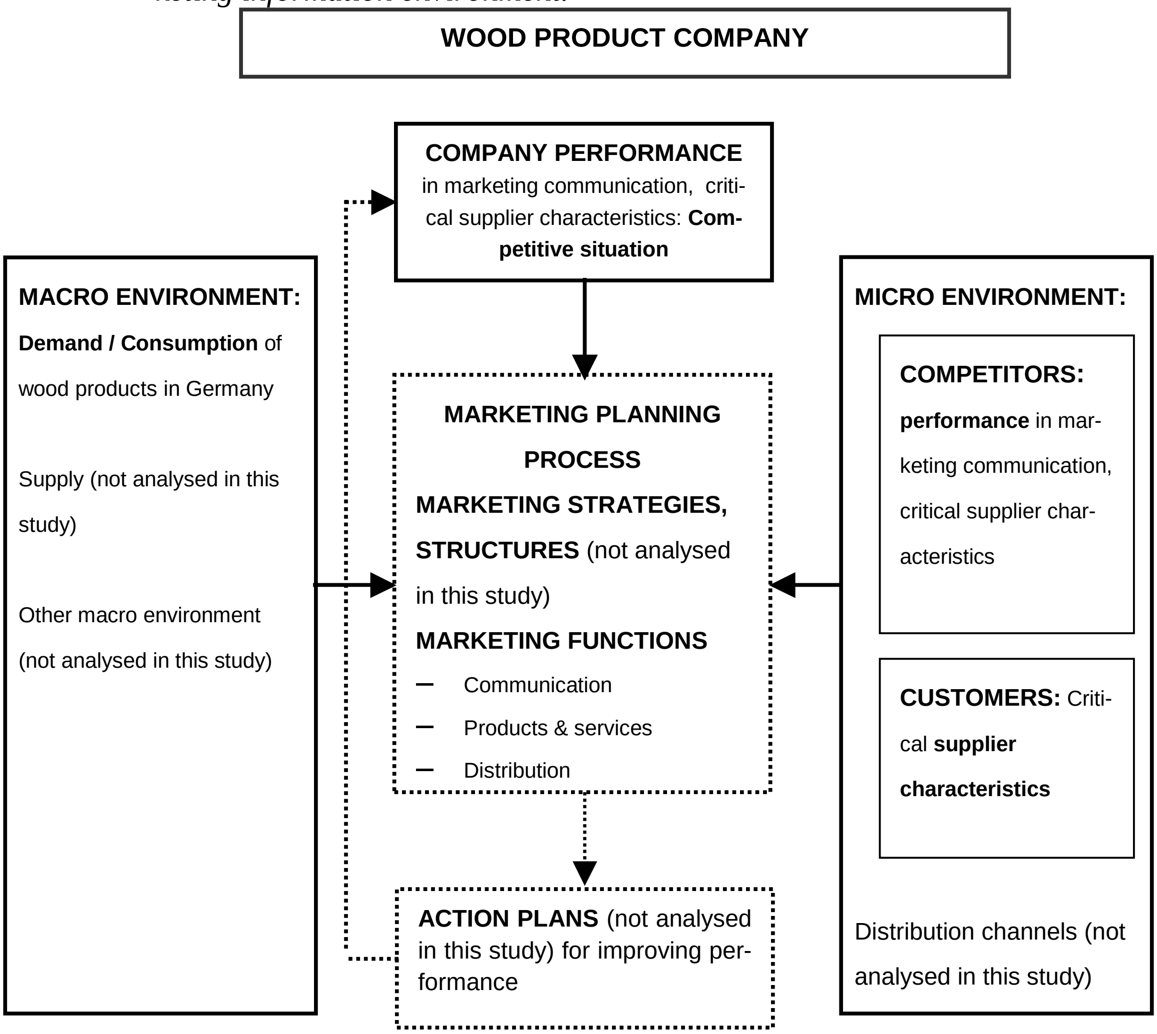


Figure 6 shows that when a company seeks to maintain or develop its competitive position on the markets, it is necessary to have information about the macro environment; how the demand and supply are expected to develop. In this study, the focus is on consumption (demand); supply and other aspects of the macro environment are not analysed in the empirical study.

In addition, it is important to have information about the characteristics that customers find particularly important in suppliers and products. It is necessary to have the customers' evaluation on the company's performance and its competitors' performance regarding critical characteristics. This information from the marketing microenvironment is an input for the marketing planning process within wood product companies. It reveals the competitive position of the company, and serves in developing products, services, distribution and communication according to the customers' wishes. The plans are carried out through action plans, and should finally be realised in improved performance. Analysis or description of the marketing planning process in wood product companies, action plans or follow-up of the performance are not included in the empirical part of this study, however. These are therefore depicted with dotted lines in Figure 6.

This study concentrates on producing information on how the German intermediate marketing channel members (organisational customers) rank the importance of wood products and suppliers' characteristics. This study also particularly analyses the Finnish suppliers' average performance in comparison with suppliers from other countries on the German markets. Furthermore, information on the expected demand for wood products provides a perspective on the future competitive situation in Germany.

1.3.2. Operationalization of the study

SUPPLIER AND PRODUCT CHARACTERISTICS AND THEIR MEASUREMENT

Being customer oriented requires that a company anticipates the needs of its present and potential customers, and continuously adapts its operation to these. For a long time, a common argument in Finland was that the wood products industry was not sufficiently customer and/or market oriented. Now, the industry seems to have realised the importance of being customer oriented. However, it may not be clear how well this target has been reached.

The wood products industry in the USA has been shown to be quite well aware of the characteristics that its customers recognise as important in products and suppliers. However, some gaps may exist between what the suppliers assume and how the customers actually rank the critical characteristics. Results also indicate that there may be gaps between how the suppliers think that they perform regarding the important characteristics, and how the customers consider them to perform (see Hansen & Bush, 1996, and Weinfurter & Hansen, 1999).

Despite the acceptance of the importance of customer orientation, rather little research has been carried out in Finland into measuring the possible gaps between the perceptions of suppliers and customers within the North European wood products industry. Therefore, the two studies from the USA cited above have been used as a background for this report. Weinfurter & Hansen (1999) suggest, based on their results, that sawmills in the USA could use a four-dimensional measurement model to follow the satisfaction of its customers with the quality of products, services and other supplier characteristics. This model was also suggested as useful in measuring the customers' opinions of how the supplier is performing. The model was based on an earlier five-dimensional model presented by Hansen & Bush (1996). The four (five) dimensions were:

1. Supplier/salesperson characteristics (describing the easiness of personal communication and mutual understanding and respect between the supplier and customer)
2. Supplier facilities
3. Lumber performance (mainly referring to durability and other technical quality of lumber)
4. Lumber characteristics (referring to aesthetics: visual outlook of the product and related matters) and
5. Supplier services (referring to financial and shipping services, and possibility to provide customer-specific dimensions and quality etc.)

The above dimensions and the original attributes were used in this study in designing the measurement tool for supplier characteristics. This study, however, focuses on North European markets. Therefore, the final measurement tool in this study was developed by also using information from other studies (see Table 2). In addition, advice and opinions of Finnish and German experts in wood products were also utilised.

THE QUESTIONNAIRE

In its design, the marketing planning process (Figure 6) was based on studies and the theoretical ingredients presented in Chapter 1.3.1. Measurement tools, i.e., the questions and their relation to the frame of reference, are presented concisely in Table 2, with reference to the questions in the questionnaire (Appendix 6).

Table 2. *Operationalization of the study.*

Area of analysis	*Questions, see Appendix 6*
Microenvironment ***Customers: Importance of supplier characteristics for German customers*** Importance of supplier attributes when selecting suppliers of wood products (attributes selected on the basis of earlier studies, particularly Burrows & Sanness 1998, Hansen & Bush 1996, Cohen & Kozak 1996, Toivonen & Laurila 1997, Toivonen & Ahola 1996, Weinfurfer & Hansen 1999, see also Järvinen et al. 2001)	*18*
Respondent companies' description: Annual turnover, main supplier countries, sales of wood products, main customer groups	*20, 21, 22*
Microenvironment: customers, competitive situation, company ***Performance of several supplier countries in supplier characteristics*** *Respondents compare the performance of German, Austrian, Finnish, Swedish and Canadian wood product suppliers regarding the attributes named in Question 18*	*19*
Performance of supplier countries in marketing communication German customers' evaluation of suppliers from various countries regarding marketing communication *Supplier countries to be compared: Germany, Austria, Finland, Sweden and Canada*	*17*
Marketing communication: contents *How could the use of wood be better promoted in Germany?*	*25, open question*
Macro environment: demand ***Expected development of wood products consumption in Germany*** The expected sales of wood products by the respondent companies, the expected general development of the consumption of wood products in Germany during the next five years	*23, 24*

2. DATA AND ANALYSES

2.1. DATA

DATA COLLECTION

The study is based on survey data collected using a structured questionnaire (see Appendix 6). The target group of the study consists of (1) construction material retailers, (2) "pure" wood product wholesalers (Holzgroβhändler), and (3) DIY (Do-It-Yourself / Home Centres) companies in Germany and Austria. The sample was selected from the member list of the German wood traders' association, relevant Internet pages (e.g. http://www.diy.de), and from an address list available from the Nordic Timber Council that includes contact information about each German DIY company.

The questionnaire consists of four parts. Part 1 was designed to describe the importance of product properties in buying decisions. Part 2 aims at describing ecological characteristics of the product and related information. The third part of the questionnaire deals with product characteristics of various construction materials. The results based on the questionnaire's first, second and third part are reported separately (Järvinen et al. 2001). The last part (Part 4) of the questionnaire describes marketing information and communication aspects, supplier characteristics and future prospects regarding the demand for wood products in Germany. This paper is based on responses to questions in Part 4 of the questionnaire (see Appendix 6).

A letter containing information about the study and asking for an interview was sent to 95 companies in total (to all DIY companies), and 75 of these (approximately 80%) agreed to respond. When carrying out the survey, the primary intent was to reach persons responsible for product purchasing in the target companies, possibly persons dealing particularly with wood products. On a few occasions, one person took care of all the purchasing.

Due to the limited time and financial resources and some scheduling problems, a part of the data was collected through a mailed questionnaire. However, most data was collected through personal interviews. In total, interviews were conducted in 48 respondent companies or business units during two periods: 29 May to 26 June 2000 and 16 November 2000 to 14 February 2001.

Altogether, 27 responses were received by mail. Some of these are from companies with which it was impossible to arrange a meeting, even though they were willing to respond. However, the majority of the mail responses originated from respondents who were only asked to respond to a mailed questionnaire. The mailed questionnaires were targeted at wood product wholesalers. These are relatively small companies and thus it is easier to reach the most appropriate person to respond. One of the largest German groups of wood product wholesalers was chosen to be the comfort sample representing wood product wholesalers in this study, namely Der Holzring commercial company Ltd. This comfort sample was carefully chosen to be as representative as possible from the wood product importing company's point of view. Der Holzring is among the leading co-operatives of medium-sized timber wholesales of wood, wood-based panels and other wooden building materials on German markets.

At the beginning of the analyses, the mail survey and the personal interview data were compared using t-tests. No statistically significant differences were found, and thus it was feasible to combine the responses received through mail and through personal interviews into one data set.

Besides the survey data, secondary materials were utilised throughout the research process. Recent official industry journals, statistics, and professional periodicals were used as well as articles published on the Internet. For instance, the consulting company Ligna Con AG has described German construction material markets in its reports (see Ligna Con….1999) and this report provided background information when studying the German wood product markets.

THE RESPONDENT COMPANIES

Out of the 75 respondent companies, 18 were included in the construction material retailers group, 20 in the wood product wholesalers group and 37 companies represented the DIY chain group. The distribution of the interviewed companies among various size classes according to annual turnover is presented in Table 3.

Table 3. *Distribution of companies among size classes, according to annual turnover in 1999.*

Size of company	Annual turnover, Million German marks	Observations	Proportion %
Small	< 50	28	37
Medium sized	50 – 300	18	24
Large[1]	> 300	29	39
In total		75	100

[1] In 2000, there were 18 DIY-merchants in Germany whose annual turnover exceeded DEM 300 million (EUR 153 million)[1] (http://www.bau-markt.de). The total number of construction material entrepreneurs in Germany in 2000 was 2605 companies (http://www.baustoffmarkt-online.de/).

Wood is not the main material traded by the respondent companies. Table 4 indicates the share of wood products from the total turnover in the respondent companies. On average, about 15% of the total turnover was based on sales of wood products among respondent companies. However, in every fourth company more than 80% of the turnover is based on wood products.

Table 4. *Share of wood products from the total turnover in the respondent companies in 1999 (average share among the respondents was 15%).*

Share of wood products in the total turnover	< 20%	20-40%	40-60%	60-80%	> 80%	In Total
% of respondents	55	15	1	4	25	100
n of respondents	41	11	1	3	19	75

In Germany, the whole construction material trade in 1999, including all product groups, industrial activities, trade forms and materials, amounted to DEM 74.9 billion (EUR 38.3 billion) (http://www.baustoffmarkt-online.de/). During the same period, the total trade of wood products amounted to DEM 20 billion (EUR 10.2 billion). In other words, the relative proportion of trade of wood products was around 26% from the total construction material trade (http://www.bd-holz.de/).

The combined turnover of the interviewed companies in 1999 was approximately DEM 56 billion (EUR 28.6 billion). This covers well over half of the total value of construction material markets in Germany. However, the respondent companies covered only about a quarter of the total value of the wood products trade in Germany.

The respondent companies purchase the wood products that they market from several suppliers and from several supplier countries. Table 5 describes how the purchases have been distributed among various countries. Appendix 2, Additional Table 1, describes the distribution of purchases more thoroughly. *Germany was, almost without exception, the most important supplier country.* Austria is only a slightly more important supplier than the Scandinavian countries or Canada. The group “others” includes wood product suppliers mainly from Eastern Europe. There was a statistically significant difference between construction material retailers and wood product wholesalers regarding their purchases from Austria but not regarding other supplier countries (Table 5).

Table 5. *Various supplier countries' contribution to the wood-product-based turnover in the respondent companies.*

Share from the total wood product purchases in the respondent companies	Germany	Austria	Finland	Sweden	Canada	Others*	In total
All respondents	57.8%	11.4%	7.9%	7.0%	1.8%	14.1%	100%
Construction material retailers	70.9%	2.3%	7.1%	7.9%	1.8%	10.0%	100%
Wood product wholesalers	53.6%	15.9%	5.1%	8.2%	3.0%	14.2%	100%
DIY chains	53.9%	13.2%	9.9%	6.0%	1.1%	15.9%	100%
** others are mainly suppliers from East-European countries*							

The respondents estimated the distribution of their total wood-product-based turnover among a few wood product groups. Sawn timber, wood-based panels and flooring materials are the most important wood product groups based on their contribution to turnover (Table 6, with an Additional Table 2 in Appendix 2). The share of kitchen cabinets is low, which may reflect the fact that kitchen cabinets are mainly marketed in Germany mainly through other channels than the ones analysed in this study[2].

Table 6. *Contribution of various wood product groups to the total wood product turnover in the respondent companies.*

Respondent groups	Doors, windows, prefabricated products	Kitchen cabinets	Panels, mouldings	Wood-based panels	Flooring materials	Sawn timber	Others*	Total turnover, wood products
All respondents	15.3%	2.7%	15.6%	16.7%	19.7%	21.8%	8.2%	100%
Construction material retailers	16.3%	1.2%	12.8%	18.3%	13.4%	34.3%	3.7%	100%
Wood product wholesalers	14.3%	0.6%	9.9%	25.3%	14.3%	20.5%	15.1%	100%
DIY chains	15.4%	4.6%	20.0%	11.3%	25.7%	17.5%	5.5%	100%
**Others include garden furniture, children's furniture and impregnated wood etc.*								
*** On average, the share of all wood products from the total turnover among respondents was 15%*								

Table 7 describes the respondent companies' main customer groups, based on the respondents' own estimations. A more detailed description of the customer structure is provided in Appendix 2, Additional Table 3. In Table 7, the answers were reclassified in

[2] In Germany, kitchen cabinets are mainly sold in special outlets, separately from other wood products.

such a way that the final number of customer groups was three. It seems that all the respondent groups serve both industrial (organisational) customers and end-consumers.

Table 7. *Sales to various customers groups from the total turnover in the respondent companies, 1999.*

Respondent groups	Sales to customers			Total turnover
	Construction firms	Industrial customers	Private consumers	
All respondents	17.7%	26.3%	56.0%	100%
Construction material retailers	32.8%	25.3%	41.9%	100%
Wood product wholesalers	19.6%	53.1%	27.3%	100%
DIY chains	9.4%	13.2%	77.4%	100%

2.2. METHODS OF DATA ANALYSIS

The primary survey data was analysed using statistical methods. For continuous variables, means and distributions were calculated from the total sample. The respondent group specific means and distributions were also calculated in order to be able to analyse the possible differences between the three respondent groups.

The major interest in this study is to compare the German companies' opinions regarding the performance of suppliers from various countries. Therefore, statistically significant differences were tested regarding the opinions about different supplier countries. ANOVA and Tukey's HSD (honestly significant differences) pair-wise test, allowing unequal sample sizes, were used in testing differences in continuous variables. The latter test indicates not only whether differences between respondent groups exist, but also the direction of the difference.

In all testing, a probability level of 0.1 was used to indicate statistically significant difference. The high level of 0.1 was chosen due to the small number of observations. In describing the results only the statistically significant ($p<0.1$) differences are reported in this paper.

Factor analysis based on the Maximum-likelihood method was used in studying the possible latent dimensions impacting on the supplier selection. The factor solution was Varimax normalised rotated, and the eigenvalue of 1.0 was used as the minimum limit for including a factor in the solution. Only variables with loadings of 0.4 or higher were accepted in the interpretations of the factors. The minimum communality value of 0.2 was used in deciding whether a variable was to be included in the analysis.

3. RESULTS

3.1. SUPPLIER CHARACTERISTICS IN PURCHASING

3.1.1. Importance of various supplier characteristics

The respondent companies were asked to estimate the importance of various supplier characteristics (see Table 8) when they select suppliers for their wood products. Based on distributions and mean values, the following factors are the most critical when the German companies trading wood products choose suppliers for their products:

1. high product quality
2. reliability of the supplier
3. price level and stability (consistency in prices)
4. customer oriented services: willingness to provide customized products, and
5. fast deliveries

The supplier being well known, domesticity and the country of origin were considered the three least important supplier characteristics among those that were listed. Nevertheless, even these three characteristics were considered moderately important, and thus are under no circumstance insignificant. The respondents were also asked to mention additional important characteristics themselves but very few provided any.

T-test results also confirm that high product quality, reliability of the supplier, price level and stability are considered the most important supplier characteristics (see Appendix 3).

Table 8. *The importance of supplier characteristics for German companies purchasing wood products.*

Supplier character	Very Important 1	2	3	4	Not at all Important 5	Mean	N
	% of respondents						
High product quality	75	24	1	0	0	**1.3**	73
Reliability of the supplier	74	26	0	0	0	**1.3**	73
Price (level and stability)	54	43	3	0	0	**1.5**	73
General customer oriented behaviour/services: willingness to deliver customised quality or specialty dimensions	50	46	4	0	0	**1.6**	73
Fast delivery schedules	47	45	8	0	0	**1.6**	73
Wide product palette	35	42	23	0	0	**1.9**	73
Ease of contact with the supplier	26	63	10	1	0	**1.9**	73
The sales personal respect customers	32	43	24	0	1	**1.9**	73
E-mail connection with the supplier	26	50	24	0	0	**2.0**	73
Payment arrangements	25	50	17	7	1	**2.1**	73
Friendliness of the sales personal	21	47	31	0	1	**2.2**	73
Image and reputation of the supplier	20	46	29	4	1	**2.2**	73
Respect for environment	17	42	29	11	1	**2.4**	73
Possibility to communicate and order via Internet/email	11	31	31	19	8	**2.8**	73
Supplier is well known	4	35	32	24	5	**2.9**	73
Domesticity of the supplier	7	24	44	17	8	**2.9**	73
Country of origin	6	22	42	22	8	**3.0**	73
(1= very important, 2= important, 3= moderately important, 4= not very important, 5= not at all important)							

The importance of the supplier characteristics was further analysed according to the three respondent groups: construction material retailers, wood product wholesalers and DIY chains (Home centres). When comparing the opinions of all three respondent groups simultaneously (ANOVA), statistically significant differences were detected regarding the importance of payment arrangements, wide product palette, and reliability of the supplier. Tukey's test results show that *construction material retailers and DIY chains put more emphasis on payment arrangements than wood product wholesalers in supplier selection.* [3] *Secondly, construction material retailers find a wide product palette more important than wood product wholesalers and DIY chains.*[4] *Thirdly, construc-*

[3] Statistically significant differences between construction material retailers and DIY chains do not exist.

[4] No differences exist between wood product wholesalers and DIY chains.

tion material retailers and DIY chains consider reliability of the supplier even more important than the wood product wholesalers.[5] However, one should remember that supplier reliability is among the most important criteria for all the companies.

3.1.2. Dimensions of wood product supplier criteria

The importance of supplier characteristics was also studied using factor analysis. The aim was to reveal potential latent and more abstract structures or dimensions having a background influence when German companies choose suppliers for wood products.

The best interpretable result was a three-factor solution from the 17 original variables (see Table 8). The factors are described in Table 9. This three-factor solution explains 48% of the total variation in the variable set. One should note that the most important criteria apart from supplier reliability (fast delivery schedules, price, high product quality and general customer orientation) were excluded due to their low communality in the first rotation trial. Thus, these factors are not clearly linked with the other criteria, and each of these forms a single dimension.

[5] No differences exist between construction material retailers and DIY chains.

Table 9. *Dimensions of wood product supplier criteria based on factor analysis (Maximum likelihood solution with Varimax rotation).*

Variable	Factor I "Communication & supplier / salesperson characteristics"	Factor II "Familiarity & origin"	Factor III "Service & reliability"	Communality
Supplier is well-known	0.145	**0.657**	0.012	0.452
Country of origin	0.074	**0.819**	0.262	0.744
Domesticity of supplier	0.236	**0.719**	0.135	0.591
Wide product palette	0.071	0.126	**0.623**	0.410
Payment arrangements	0.040	0.088	**0.535**	0.295
Reliability of supplier	0.167	0.009	**0.491**	0.269
Possibility to communicate and order via Internet/email	0.109	0.315	**0.594**	0.464
Respect for environment in operations	0.210	0.349	**0.437**	0.357
Ease of contact with the supplier	**0.521**	-0.048	**0.607**	0.642
E-mail connection with supplier	**0.512**	0.050	**0.436**	0.454
Image and reputation of supplier	**0.564**	0.205	0.164	0.386
Friendliness of sales personal	**0.803**	0.166	0.171	0.701
Sales persons respect customers	**0.675**	0.180	0.026	0.489
Eigenvalue	2.124	1.971	2.162	6.257
Total variance	16.3%	15.2%	16.6%	48.1%

Factor I has the highest loadings on the importance of friendliness of sales personal, sales persons respect customers, image and reputation of supplier, easiness of getting in contact with supplier and e-mail connection with supplier. These characteristics can be particularly associated with human contacts, and the supplier/salesperson characteristics affecting the (emotional) relationship between supplier and customer. Factor I is named *communication and supplier/salesperson characteristics*.

Factor II is characterised with variables describing the supplier's country of origin, domesticity of supplier and how well-known the supplier is. These variables are associated with the geographic origin, nationality and general familiarity (if the supplier company is generally known). Thus Factor II is named *familiarity and origin*.

Factor III has the highest loadings on wide product palette, easiness of making contact with the supplier, the possibility to communicate and order via Internet/e-mail, payment arrangements and the reliability of the supplier. These were interpreted as reflecting service in general. In addition, e-mail connection with the supplier and the supplier's respect for the environment had some loading on this factor, too. Factor III is named *reliability and service*.

3.2. PERFORMANCE OF FINNISH SUPPLIERS

3.2.1. Performance regarding the critical supplier characteristics

The respondents were asked to compare the average performance of suppliers from selected countries. The comparison was made regarding the 17 characteristics, the importance of which was estimated earlier. However, regarding the country of origin and domesticity of the supplier, the comparison was not made since it would have been irrelevant. The results of performance estimations are presented in Table 10, with an Additional Table, in Appendix 5. In addition, Table 10 shows the general importance of each of the supplier characteristics from Table 8.

In general, German suppliers were ranked better in performance than the suppliers from other countries. Differences between Austria, Finland, and Sweden were small, but Austrian suppliers were perceived to perform slightly better than the Finnish and Swedish producers. Finland and Sweden performed very close to each other.

Overall, both *German and Austrian suppliers seem to perform fairly well on average, and the Scandinavian suppliers from moderately to fairly well* with regard to most supplier characteristics. It is notable that *the Scandinavian countries are considered to perform well regarding product quality, which is one of the most important criteria*. The salespersons of the Scandinavian suppliers are also doing quite a good job in respecting the customers. They are also perceived as being rather friendly to the customers.

However, such an important characteristic as *the general reliability of the company is considered lower among Scandinavian suppliers than among the German and Austrian suppliers*. It also seems that *the Scandinavians are behind* the Germans and Austrians *regarding delivery schedules and richness of the product palette*. Furthermore, the German respondents feel that it is *clearly more difficult to get in contact with Scandinavian suppliers* than with German or Austrian suppliers. In electronic communications, however, the German suppliers are not ahead of the Scandinavians: suppliers from all the countries were rated as only moderate in this respect.

Overall, Canadian suppliers were considered to perform only moderately. Not every respondent had experience of suppliers from all the given countries. Canada was also clearly a less important supplier than the other countries examined. This may be one reason for Canada's lower ranking.

Table 10. *Performance of wood product suppliers from selected countries.*

Supplier characteristics in the order of their general importance	General importance		Average performance of suppliers from a few countries									
	Table 8		Germany		Austria		Finland		Sweden		Canada	
	Mean	N	Mean	n	Mean	n	Mean	N	Mean	N	Mean	N
High product quality	**1.3**	73	**2.0**	68	**2.2**	54	**2.1**	57	**2.1**	49	2.5	42
Reliability of the supplier	**1.3**	73	**2.1**	68	**2.3**	54	2.5	56	2.5	48	3.1	40
Price (level and stability)	**1.5**	73	**2.4**	68	**2.4**	54	2.6	57	2.7	49	3.0	42
Fast delivery schedules	**1.6**	73	**1.9**	68	**2.3**	54	2.9	56	2.9	48	3.9	40
General customer orientation	**1.6**	73	**2.3**	68	**2.4**	54	2.8	57	2.8	49	3.2	42
Wide product palette	**1.9**	73	**1.8**	68	**2.3**	54	2.5	57	2.6	49	3.0	41
Ease of contact with the supplier	**1.9**	73	**1.9**	68	**2.3**	54	2.8	57	2.8	48	3.6	40
The sales personal respect customers	**1.9**	73	**2.3**	67	**2.3**	53	**2.3**	55	**2.4**	46	2.5	39
E-mail connection with the supplier	**2.0**	73	**2.5**	64	**2.5**	53	**2.5**	53	2.6	47	2.7	41
Payment arrangements	**2.1**	73	**2.2**	65	**2.3**	51	2.5	53	**2.4**	46	2.7	39
Image and reputation of the supplier	**2.2**	73	**2.1**	67	**2.3**	54	**2.4**	56	2.5	48	2.8	42
Friendliness of the sales personal	**2.2**	73	**2.3**	68	**2.3**	54	**2.4**	56	**2.4**	47	2.5	39
Respect for environment	**2.4**	73	**2.6**	67	2.7	54	**2.6**	56	2.8	48	3.3	41
Possibility to communicate and order via Internet/email	**2.8**	73	2.9	64	**2.8**	52	**2.8**	53	2.9	46	3.0	40
The supplier is well-known	**2.9**	73	**2.2**	67	**2.4**	53	**2.5**	56	**2.6**	48	3.0	41

(1= very good / important,…, 5= very bad / low importance: The smaller the value, the more important/better the performance)

Statistically significant differences between respondent groups' opinions regarding supplier countries' performance were identified using Tukey's HSD test. Significant differences were found for three issues:

Firstly, Canadian suppliers are better known among construction material retailers than among wood product wholesalers or DIY chains. No differences exist between wood product wholesalers and DIY chains. Secondly, *wood product wholesalers consider price level and stability, and the payment arrangements of German suppliers even better than the construction material retailers and DIY chains do*. Construction material retailers' and DIY chains' opinions do not differ on this matter. Thirdly, *construction ma-*

terial retailers and DIY chains consider Finnish, Swedish, and Canadian suppliers as respecting customers somewhat better than the wood product wholesalers[6].

3.2.2. Performance regarding marketing communication

The respondent companies evaluated supplier countries' performance in marketing communication on the basis of six aspects. Mean values and the frequency distributions of variables describing the respondents' opinions are shown in Table 11. It is worth noting that the number of observations is unequal regarding different countries, which may cause some bias in the results.

The results show that *the German suppliers' marketing communication is estimated as the best of the countries compared.* Marketing communication is ranked as only moderate with respect to all the measured aspects in all the countries but Germany. Germany is mostly considered as doing fairly well. However, the marketing communication of none of the suppliers from any of the countries seemed to successfully attract the attention of the customers.

Table 11. *Aspects of marketing communication for various supplier countries.*

	Germany		Austria		Finland		Sweden		Canada	
	Mean	N	Mean	N	Mean	n	Mean	n	Mean	N
Target oriented (clear targets)	**2.2**	67	2.4	53	2.6	56	2.7	47	3.3	42
Reliable	**2.3**	67	2.5	53	2.7	57	2.8	47	3.5	42
Meaningful	**2.4**	67	2.7	53	2.8	57	3.0	47	3.3	42
Interesting	**2.4**	67	2.5	53	2.6	57	2.7	47	3.2	42
Attracts attention	**2.9**	67	3.1	53	3.2	57	3.3	47	3.5	42
Takes environment into consideration	**2.3**	67	2.6	53	2.6	57	2.8	46	3.4	41
(1= very good, 2= good, 3= moderate, 4= bad, 5= very bad)										

Statistically significant differences in opinions of the three respondent groups were identified with Tukey's test. No notable differences were observed, except that the wood product wholesalers consider the marketing communication of Canadian suppliers less reliable than the construction material retailers do.

In addition, the t-test was used to identify statistically significant differences in opinions regarding the various supplier countries. The results are shown in Appendix 4 and, in general, confirm that respondents consider the marketing communication of German suppliers better than that of suppliers from the other countries. The marketing commu-

[6] No differences were detected between construction material retailers and DIY chains.

nication of Austrian, Finnish and Swedish suppliers is considered better in target orientation, reliability and consideration of environmental issues than that of Canadian suppliers.

3.3. EXPECTED DEVELOPMENT IN WOOD PRODUCT MARKETS

3.3.1. Company level expectations

More than 80% of the respondents expect at least a slight increase in their own company's wood product sales during the next five years. Table 12 shows in more detail how the respondents assume that the turnover based on wood products is expected to develop (as a proportional increase/decrease in the total company turnover) during the next five years. The respondents generally believe that sales of wood products will increase faster than their other sales, or wood products will play a more important role in their company for some other reason. Very few respondents expect that the contribution of wood products to their company's total turnover will decrease from the present level (year 2000).

Table 12. *The expected development of wood product sales, as the share of the total construction material turnover, of the respondent companies during next five years (2001-2005).*

The expected increase / decrease of wood products, in the total company turnover	1	2	3	4	5	
	>+10%	+2%-10%	+2%- -2%	-2%- -10%	>-10%	In Total
% of the respondents	34	52	13	1	0	100
n of the respondents	25	39	10	1	0	75
Mean value of the answers is 1.8						

Differences between respondent groups' expectations were examined with Tukey's test, but no statistically significant differences were detected. In other words, *the respondents have a consensus of opinion on the future development: the importance of wood products in the respondents' businesses will increase.*

3.3.2. Expectations regarding the demand for wood products

The respondents were asked to estimate the development in the consumption of wood products in Germany during the next five years on a scale from one (indicating clear increase) to five (indicating clear decrease) for 11 wood product groups (Table 13).

The results show that the consumption of wood products is generally expected to increase somewhat. The respondents expect that the demand for wooden flooring materials (parquet and laminate) and wooden houses would particularly increase. The expectations regarding the market development for panels and mouldings, and roof trusses are generally slightly positive; however, some respondents also expect a clear reduction in consumption. Moreover, the respondents think that the consumption of impregnated timber, and wooden doors and windows (9.-11. in Table 13) is stagnating. However, the opinions regarding these products divide the respondents quite strongly.

Table 13. *The prospective development of wood product consumption during next five years (as estimated by the respondents).*

	Clear Increase				Clear Decrease	
	1 >+10%	2 +2%–10%	3 +2%–2%	4 -2%–10 %	5 >-10%	
Wood product group	% of respondents					**n**
1. Flooring materials (parquet, laminate)	37	51	11	1	0	75
2. Wooden houses	27	52	15	3	3	73
3. Wood-based panels: (particleboard, MDF, OSB, Plywood)	13	47	32	8	0	75
4. Prefabricated products	13	46	33	8	0	72
5. Log houses	14	42	36	7	1	72
6. Sawn timber	8	35	49	7	1	75
7. Panels and mouldings	8	32	44	15	1	75
8. Roof trusses	9	31	42	18	0	74
9. Doors and windows	6	26	49	16	3	72
10. Kitchen cabinets	3	18	68	8	3	66
11. Impregnated timber	5	29	44	15	7	73

The respondents suggested procedures by which the use of wood could be increased in Germany. The results are summarised in Table 14. Generally speaking, more and better targeted and designed marketing communication and product development is expected. Consumers' general knowledge of wood product properties has to be improved by providing fact-based information on wood products. However, advertising and publicity campaigns that are also emotionally appealing and target end-consumers are particularly required.

Table 14. *Suggested methods for promoting wood in Germany.*

Rank	Method:	Named (times)
1	**Advertising**	**30**
2	**Publicity campaigns**	**20**
3	**Product development**	**19**
4	**Product information**	**16**
5	Prefabricated products	9
6	Development of standards (incl. construction legislation, certification, eco-label)	8
7	Financial programs for development of education & wood construction	4
8	More competitive price-quality ratio	4

4. DISCUSSION

This survey analyses critical company characteristics when German DIY companies, construction material traders and wood product wholesalers' choose suppliers for wood products. Furthermore, Austrian, Canadian, Finnish, German and Swedish wood product suppliers' performance concerning these characteristics is compared. The survey data comprises interviews of 75 companies operating in Germany during 2000-2001.

The results show that *the companies trading wood products in Germany expect that the consumption of wood will increase somewhat during the next few years.* The consumption of wooden flooring materials, other wooden interior decoration items and wooden houses are expected to increase. This is a logical consequence of the general development in the construction sector, where the emphasis is moving towards repair and maintenance.

This expectation and reality seem to follow each other, at least regarding some products. For example, the consumption of parquet has steadily increased during the last years (http://www.parquet.net/news.html). The proportion of wood based floorings is still small, however. Thus, even slight changes in the use of various flooring materials may add significantly to the demand for wood-based flooring materials. Parquet and laminate could also well meet the preferences of the modern customer, who appreciates aesthetic and individual characteristics in interior materials (see Järvinen et al. 2001)

The consumption of sawnwood is expected to grow only slightly. Quite commonly, it has been forecasted that the consumption of sawn timber will grow slowly in Western Europe (see e.g. http://www.unece.org/press/pr2001/01tim03e.htm). Against the forecasts, the consumption of sawn wood has increased quite clearly in Europe during the last years. Thus large additional markets exist for wooden products if the preferences of the builders can be continuously transferred towards wooden materials.

The positive expectations of the German customers and examples of the increasing use of wood provide some optimism for the wood product suppliers. Scandinavian wood has a strong position in most of those end-use areas where the clearest growth is expected. Nevertheless, it seems clear that competition will remain tight – the annual growth in consumption is not expected to be significant in any product group. To succeed in the competition it is thus vital for any supplier company to know how important various supplier characteristics are. It is equally important to know how the company and its competitors perform concerning these characteristics. This helps to benchmark the company's strengths and weaknesses, and reveal the competitive position.

This study shows that *high product quality, reliability of the supplier, price level and consistency, willingness to provide customised products and fast deliveries* are the five most important criteria when German companies trading wood products choose their suppliers. Compared with earlier studies, this list is no surprise. The result is not fully comparable with the studies by Hansen (Hansen & Bush 1996, Weinfurfer & Hansen 1999) analysing the situation in the USA, due to differences in the attributes examined. Nevertheless, the results seem not to be contradictory.

Finnish and Swedish suppliers are considered to provide fairly good product quality, which is perhaps the most critical matter when the German organisational customers choose suppliers. Thus, in this respect, Finnish producers have a strong position. Salespersons in Finnish companies are also doing good job in customer relationships; the argument for good customer relationships thus has a solid ground.

Despite the competitive product quality, it seems that the Finnish and Swedish companies still have major challenges ahead if they wish to outperform their German competitors: German and Austrian suppliers were considered to perform well regarding the most critical supplier characteristics but Scandinavian suppliers only moderately.

For example, *general reliability should be increased among Finnish and Swedish suppliers*; here the German and Austrian companies are clearly ahead. Scandinavians also are clearly behind regarding deliveries. Longer delivery times from Scandinavia are a fact. Therefore, Finnish and Swedish companies might put more effort into keeping strictly to the agreed delivery schedules. Unexpected changes in delivery schedules may be one reason why general reliability was considered lower among Scandinavian suppliers. This connection was not observed in this study, however. Instead, *reliability was shown to be associated with the product palette, easiness of communication and payment arrangements. Environmental matters and electronic communication facilities also relate to reliability*.

Finnish suppliers should particularly note that German respondents feel that it is *clearly more difficult to get in contact with Scandinavian suppliers* than with the German or Austrian ones. Putting more effort into improving communication might thus increase the perceived reliability of Finnish suppliers. Language and country of origin may matter more in practice than in principle, and perhaps this is reflected in the feeling of difficulty in making contact. Therefore, the tendency towards joint efforts in marketing with German companies seems positive: This might also help in developing communications with customers.

Different company types respect somewhat different characteristics in choosing their suppliers, however. *The DIY chains and construction material retailers find reliability,* *a wide product palette and services even more important than the wood product wholesalers do*. Hansen and Bush (1996) also showed that home centres (DIY chains) in the US particularly emphasise service. Thus, the change in the building product markets towards further processed and end-user targeted products also requires changes in distribution systems, services and marketing communication.

A major conclusion is that *developing marketing communication is critical for the success of Finnish suppliers*. The respondents felt that the marketing communication of wood product suppliers from any country *fails in attracting attention*. The marketing communication of foreign supplier companies is particularly considered only moderate with respect to its overall content. Even *more important is that the respondents think that the most efficient way of increasing the consumption of wood in Germany is to improve marketing communication, particularly the promotion of wood among end-consumers*: Advertising, publicity campaigns and product information targeted to consumers is needed. In addition, knowledge of wood properties has to be improved in society.

Unlike the common view in Finland, architects and designers were not named as the main target group for promotion by the respondents of this study. Product development was considered important, but it was not mentioned as often as marketing communication. Relatively few respondents named standards or components, for example. Price or quality do not seem to be among the main issues, either. In Finland, the wood industry has emphasised technology, standardization and further processing. The message of this study is that end-consumer markets and marketing communication deserve more attention, too.

The findings of this pilot study indicate that *critical supplier characteristics and company performance should be studied further*: What creates good reliability, and what kind of company is easy to contact? *End-user marketing would also deserve increasing research attention*: What is the image of wood among German end-consumers, and how can their interest in wood be increased? This study also points out the need for *further research into analysing the future development of wood product markets*. All this information is useful for any mechanical wood processing company in Finland that is searching for success on export markets. Such success is important for the national economy and political targets in Finland, where a doubling of the export value and employment of the mechanical wood industry is a national target. *Reaching this growth requires that the Finnish wood working companies, including the small-and-medium-sized companies, have enough market knowledge* to succeed on the most important West European export markets.

5. YHTEENVETO SUOMEKSI

TAVOITE, AINEISTO JA MENETELMÄT

Tämän tutkimuksen tavoitteena oli selvittää mitkä toimittajayrityksen ominaisuudet ovat ratkaisevia kun saksalaiset puutuotteita markkinoivat yritykset valitsevat puutuotteita valikoimiinsa. Tarkastelussa olivat saksalaiset markkinointiketjun välijäsenet, jotka myyvät tuotteita edelleen teollisille asiakkaille ja loppukuluttajille (Tee-Se-Itse-ketjut, rakennustarvikeliikkeet ja puutuotekauppiaat). Lisäksi tavoitteena oli analysoida kuinka saksalaiset, suomalaiset, ruotsalaiset, itävaltalaiset sekä kanadalaiset puutuotetoimittajat keskimäärin menestyvät näiden kriteerien perusteella.

Hanke toteutettiin kyselytutkimuksena. Kaikkiaan aineisto kattaa 75 puutuotteita yrityksen haastattelut. Suurin osa aineistosta (48) kerättiin henkilökohtaisin haastatteluin Saksassa ja Itävallassa loppuvuonna 2000 ja alkuvuonna 2001. Pienempi osa (27) saatiin postitse. Aineiston yritysten liikevaihto oli 75 % Saksan rakennustarvikemarkkinoiden kokonaisliikevaihdosta. Aineisto analysoitiin tilastollisesti. Tässä raportissa esitetään vain osa tuloksista. Tulokset koskien puun yleistä ja ekologista imagoa sekä kilpailukykyä verrattuna muihin rakennusmateriaaleihin on raportoitu erikseen (Järvinen et al. 2001). Hanke toteutettiin yhteistyössä PTT:n ja Metlan kesken. Hanke kuului Wood-Wisdom –tutkimusohjelmaan ja sen rahoitti maa- ja metsätalousministeriö.

PUUTUOTTEIDEN KULUTUSNÄKYMÄT SAKSASSA

Tulokset osoittavat, että *saksalaisyritykset arvioivat puun käytön Saksassa kasvavan vuosina 2001-2005 jonkin verran. Puun sisutuskäytön, etenkin puisten lattioiden ja puutalojen suosion uskotaan kasvavan selvimmin.* Standardisahatavaran kulutuksen sen sijaan arveltiin lisääntyvän niukasti. Tulos vastaa rakentamisen yleistä kehitystä Länsi-Euroopassa: Painopiste on siirtymässä uudisrakentamisesta korjausrakentamiseen.

Toteutunut kehitys puutuotteiden kulutuksessa noudattelee ainakin osin samoja suuntauksia kuin tutkimuksen kohderyhmänä olleiden yritysten näkemykset; esimerkiksi puisten lattiamateriaalien kulutus on viime vuosina jatkuvasti noussut. Silti puisten lattioiden osuus lattiapinnoitteiden kokonaismarkkinoilla on vielä pieni (katso esim. http://www.parquet.net/news.html). Sahatavaran kulutuksen on jo pitkään ennustettu kasvavan vain niukasti, kuten saksaslaisyrityksetkin ennakoivat (katso esim. http://www.unece.org/press/pr2001/01tim03e.htm). Koko maailman mittakaavassa kulutus on FAO:n tilastojen perusteella jopa vähentynyt viime vuosina. Euroopassa sahatavaran kulutus on sen sijaan viime vuosina kasvanut selvästi. Ennusteiden osoittama kehityssuunta ei siten ole vääjäämätön tulevaisuuden kuva puutuotteiden kulutuksesta, jos puun suosiota pystytään lisäämään. Kulutuksen lisäämisen kannalta olennaisia asioita ovat sekä puutuotteiden fyysiset ominaisuudet että puutuotetoimittajien palvelu ja yleinen kilpailukyky.

Saksalaisten yritysten positiivinen käsitys puun kulutuksen kasvusta tarjoaa jonkin verran optimismia suomalaisille puutuotetoimittajille. Pohjoismaisilla hyvänlaatuisilla puutuotteilla on vahva asema juuri niillä loppukäyttösektoreilla, joissa kulutuksen kasvun uskotaan olevan voimakkainta. Puulla on lisäksi ominaisuuksia, jotka luovat mahdollisuuksia edelleen vahvistaa puun asemaa rakennustarvikemarkkinoilla, kuten hyvä ympäristöimago, sosiaalinen hyväksyttyys ja yksilöllisyys (Järvinen et al. 2001).

TOIMITTAJAN VALINNASSA LAATU JA LUOTETTAVUUS KÄRKISIJOILLA

Kilpailu puutuotemarkkinoilla on jatkossakin kovaa joka tapauksessa; vuotuisen kulutuksen kasvun ei odoteta olevan erityisen voimakasta millään loppukäyttöalueella. Markkinoilla menestyminen edellyttääkin, että puutuoteyritykset ovat selvillä niistä kriteereistä joiden perusteella asiakasyritykset valitsevat toimittajansa. Samoin on tiedettävä kuinka suomalaisyritykset ja kilpailijat täyttävät nämä kriteerit.

Tulosten perusteella *tuotteiden laatu, toimittajayrityksen luotettavuus, hintataso ja hintavakaus, asiakaslähtöinen palvelu (halu toimittaa asiakaslaatuja ja -dimensioita) ja nopeat toimitukset ovat viisi tärkeintä seikkaa toimittajayrityksiä valittaessa.* Esimerkiksi sähköinen palvelu ja sähköiset kommunikointimahdollisuudet eivät vielä yltäneet näiden perinteisesti tärkeimpien kriteerien joukkoon, vaikka näitäkin pidettiin melko tärkeinä.

SUOMALAISET HYVIÄ LAADUSSA JA ASIAKASPALVELUSSA

Eräissä olennaisissa suhteissa suomalaiset ja ruotsalaiset selviävät hyvin ja myös yhtä hyvin kuin saksalaiset kilpailijansa: *Tuotteiden laatua pidetään hyvänä. Laatu on ehkä kaikkein tärkein yksittäinen toimittajayrityksen valintaan vaikuttava kriteeri.* Suomalaisyritysten henkilöstö hoitaa myös työnsä hyvin, sillä *suomalaisten toimittajayritykset arvioitiin varsin asiakasmyönteisiksi ja asiakkaita kunnioittaviksi*.

Tämän tutkimuksen valossa suomalaisilla ja ruotsalaisilla puutuotetoimittajilla on kuitenkin vielä runsaasti haasteita saavuttaakseen monissa olennaisimmissa valintakriteereissä saksalaiset kilpailijansa. *Saksalaisten ja kohtalaisen usein myös itävaltalaisten toimittajien arvioitiin menestyvän melko hyvin tärkeimmissä valintakriteereissä kun taas suomalaisten ja ruotsalaisten toimittajien selviytymistä pidettiin vain kohtalaisena.* Yhteinen kieli ja kulttuuri lienevätkin tosiasiassa tärkeämpiä kuin mitä saksalaisyritykset myöntävät näiden olevan: Toimittajien kotimaisuudelle ei nimittäin periaatteessa annettu suurta merkitystä.

SAKSALAISET SILTI JOHTOASEMISSA

Suomalaisten ja ruotsalaisten toimittajayritysten luotettavuus koetaan saksalaisia tai itävaltalaisia yrityksiä alemmaksi. Pohjoismaiset yritykset eivät myöskään menesty toimitusten nopeutta vertailtaessa, mikä on pitkän etäisyyden vuoksi ymmärrettävää. Pitkään kuljetusmatkaan liittyy usein myös enemmän odottamattomia viivytyksiä ja ongelmia. Ehkä tähän voitaisiin Suomessa kiinnittää entistä enemmän huomiota. Täsmälliset toimitukset lisännevät mielikuvaa yritysten luotettavuudesta, vaikka tässä tutkimuksessa tätä yhteyttä ei selvästi havaittukaan. Sen sijaan *luotettavuuden havaittiin liittyvän tuotevalikoiman laajuuteen, maksuehtoihin, yhteydenoton ja kommunikoinnin helppouteen ja ympäristön huomioivaan toimintaan sekä myös sähköisen kommunikoinnin mahdollisuuksiin.* Ainakin näitä tekijöitä parantamalla yrityksissä siis voidaan pyrkiä lisäämään luotettavuutta.

Saksalaisten yritysten mielestä *yhteyksien hoitaminen pohjoismaisiin toimittajiin on selvästi vaikeampaa kuin saksalaisiin*. Myös tässä on siten kehittämiskohde suomalaisille puutuoteyrityksille. Alkanut yhteistoiminta saksalaisten yritysten kanssa vaikuttaakin positiiviselta siksi, että näin voitaneen parantaa kommunikointia.

Eri tyyppiset asiakasorganisaatiot painottavat jossain määrin eri asioita valitessaan toimittajiaan. TeeSeItse-ketjut ja myös suuret rakennustarvikeliikkeet arvostavat luotettavuutta, laajaa tuotevalikoimaa ja palvelua vielä enemmän kuin pienemmät ja yritysasiakkaisiin keskittyvät puutavaraliikkeet. Samantapaisia tuloksia on saatu Yhdysvalloista (esim. Hansen and Bush, 1996). Kaikkiaan muutos kohti jalostetumpia ja enemmän kuluttajamarkkinoille suunnattuja tuotteita vaatii myös puutuotetoimittajien jakelujärjestelmien ja palveluiden kehittämistä.

HUOMIOTA MARKKINOINTIVIESTINTÄÄN JA KULUTTAJAMARKKINOIHIN

Tärkeä johtopäätös tässä tutkimuksessa on se, että *suomalaisten puutuotetoimittajien olisi tarpeen painottaa markkinointiviestinnän kehittämistä nykyistä enemmän*. Tämä vaikuttaa tärkeältä puutuotteiden yleisessä menekin lisäämisessä ja myös yksittäisten yritysten menestymisessä yhtä lailla teknisten tuoteominaisuuksienkin parantaminen. Ensinnäkin *saksalaiset yritykset kokivat, ettei puutuotetoimittajien markkinaviestintä herätä riittävästi asiakkaiden kiinnostusta*. Etenkin ulkomaisten toimittajien markkinointiviestintä koettiin sisällöltään kaikin puolin vain välttäväksi. Saksalaisyritykset suoriutuivat paremmin, joskin näidenkin markkinointiviestinnän sisällössä katsottiin olevan kehittämisen varaa.

Ehkä vielä tärkeämpi syy markkinointiviestinnän kehittämiselle on se, että *saksalaisyritykset arvioivat puun käytön lisäämisen edellyttävän erityisesti loppukäyttäjämarkkinoille suunnattua menekinedistämistyötä.* Mainonta, kampanjat ja kuluttajille suunnattu tuotetietous; puun tunnettuuden ja arvostuksen lisääminen olivat useimmin nimettyjä keinoja. Suomessa on perinteisesti nostettu suunnittelijat ja arkkitehdit avainasemaan puun käytön lisäämisessä. Tässä tutkimuksessa haastatellut saksalaisyritykset eivät kuitenkaan maininneet näitä ryhmiä vaan kiinnittivät huomion juuri kuluttajiin. Tuotekehitystä pidettiin myös tärkeänä. Standardointi, hinta, laatu tai vastaavat tekijät nousivat esiin muutamissa haastatteluissa. Ehkä tulos voidaan tulkita niin, että teknologiassa, standardoinnissa ja laadussa ollaan jo edetty varsin pitkälle. Myös suunnittelijat on saatu jo kiinnostumaan puusta. Nyt on aika herättää kuluttajien kiinnostus puutuotteisiin ja saada näin markkinat toimimaan kysyntäjohteisesti puun käytön kasvun suuntaan.

TUTKIMUKSESSA PAINOA TEKNOLOGIAN LISÄKSI MARKKINOIHIN

Tämän tutkimuksen valossa Suomessa olisi tarpeen lisätä markkinatutkimusta teknologian kehittämisen rinnalla: Etenkin kuluttajamarkkinoiden tutkimus, kuten kuluttajien käsitykset puusta, olisi tarpeellinen tutkimusalue. Kriittisiin toimittajayritysten ominaisuuksiin olisi jatkotutkimuksessa niin ikään paneuduttava: Mistä yritysten luotettavuus muodostuu? Miten voidaan edistää yhteydenpidon sujuvuutta asiakkaiden näkökulmasta? Myös puutuotteiden kysynnän ennustaminen on jatkossa entistä tärkeämpää.

Markkinoita koskeva tutkimustieto on välttämätöntä mille hyvänsä yksittäiselle puutuoteyritykselle sen pyrkiessä menestymään vientimarkkinoilla. Myös menestyksekäs tekninen tuotekehitys on vaikeaa ilman relevanttia markkinatietoa. Asia on tärkeä Suomen koko kansantalouden näkökulmasta: Kansalliseksi tavoitteeksi on asetettu mekaanisen metsäteollisuuden viennin arvon ja työpaikkojen kaksinkertaistaminen. Tämän tavoitteen saavuttaminen edellyttää, että sekä suurilla että pienillä ja keskisuurilla puutuoteyrityksillä riittävästi tietoa markkinoista. Markkinat on tunnettava niin hyvin, että pystytään täyttämään asiakkaiden vaatimukset kilpailijoita paremmin.

REFERENCES

LITERATURE:

Burrows, J. & Sanness, B. (eds.) 1998. The Competitive Climate for Wood Products and Paper Packaging; the Factors Causing Substitution with Emphasis on Environmental Promotions. The Joint FAO/ECE team of public relations specialists in the forest and forest industries sector. 205 p.

Cohen, D.H. & Kozak, R.A. 1996. Environmental attitudes of North American engineers and architects on material selection. In Juslin, H. & Pesonen, M. (eds.). Environmental Issues and Market Orientation. Current Topics in Forest Products Marketing. Proceedings of Forest Products Marketing Group (P5.06-00) IUFRO XX World Congress, 6-12 August, 1995: pp. 181-188. ISBN 951-45-7332-3. ISSN 1236-6226.

ECE/FAO. 1997. Forest Products Annual Market Review 1996-1997. Timber Bulletin, Volume L (1997), No. 3. Geneva, Switzerland. 100 p. ISSN 0259-4323.

ECE/FAO. 2000. Forest Products Annual Market Review 1999-2000. Timber Bulletin, Volume LIII (2000), No. 3. Geneva, Switzerland. 212 p. ISSN 0259-4323.

ECE/FAO. 2001. Forest Products Annual Market Review 2000-2001. Timber Bulletin, Volume LIV (2001), No. 3. Geneva, Switzerland. 185 p. ISSN 0259-4323.

FAO. 1997. FAO Provisional outlook for Global Forest Products Consumption, Production and Trade to 2010. Forest Policy and Planning Division Forestry Department. Food and Agriculture Organisation of the United Nations. Rome, Italy 1997. 390 p.

Hansen, E. & Bush, R. 1996. Consumer perceptions of softwood lumber quality. Forest Products Journal 46(10): pp. 29-34. ISSN 0015-7473.

Juslin, H. 1994. A Scientific Approach, Theories and Models in Marketing Planning. In: Juslin, H. & Pesonen, M. Towards and integrated theory of forest products marketing. Proceedings of forest products marketing seminar, January 9-12, 1994: University of Helsinki, Department of Forest Economics. Publication No. 1. pp. 43-54. ISBN 951-45-6660-2. ISSN 1236-6226.

Järvinen, E. & Toivonen, R. & Enroth, R-R. 2001. Competence and Image of Wood on the German building material markets. Pellervo Economic Research Institute Working Papers No.50. 74 p. ISBN 952-5299-46-5, ISSN 1455-4623.

Ligna con Unternehmensberatung. 1999. German DIY market for forest products. Explorative study, November 1999. Tuebingen, Germany. 253 p.

Niemelä, J.S. 1996. Success factors of Finnish and Swedish sawmills: Perceptions of European customers. In Juslin, H. & Pesonen, M. (eds.). Environmental Issues and Market Orientation. Current Topics in Forest Products Marketing. Proceedings of Forest Products Marketing Group (P5.06-00) IUFRO XX World Congress, 6-12 August, 1995: pp. 107-114. ISBN 951-45-7332-3. ISSN 1236-6226.

Spezielhandel nach Waren und Ländern, Fachserie 7, Reihe 2, 1980-1997. Statistisches Bundesamt.

Toivonen, R. & Ahola, P. 1996. Market oriented product concept – focusing infomation in forest industry products. In: Juslin, H., & Pesonen, M. (eds.). Environmental issues and market orientation. Current topics in forest products marketing. Proceedings of forest products marketing group

(P5.06-00) IUFRO XX World Congress, 6-12 August, 1995: pp. 39-52. ISBN 951-45-7332-3. ISSN 1236-6226.

Toivonen, R. & Laurila, R. 1997. Tree species information in marketing of solid wood products. World forest congress 1997 proceedings Vol 4.: pp. 137-143.

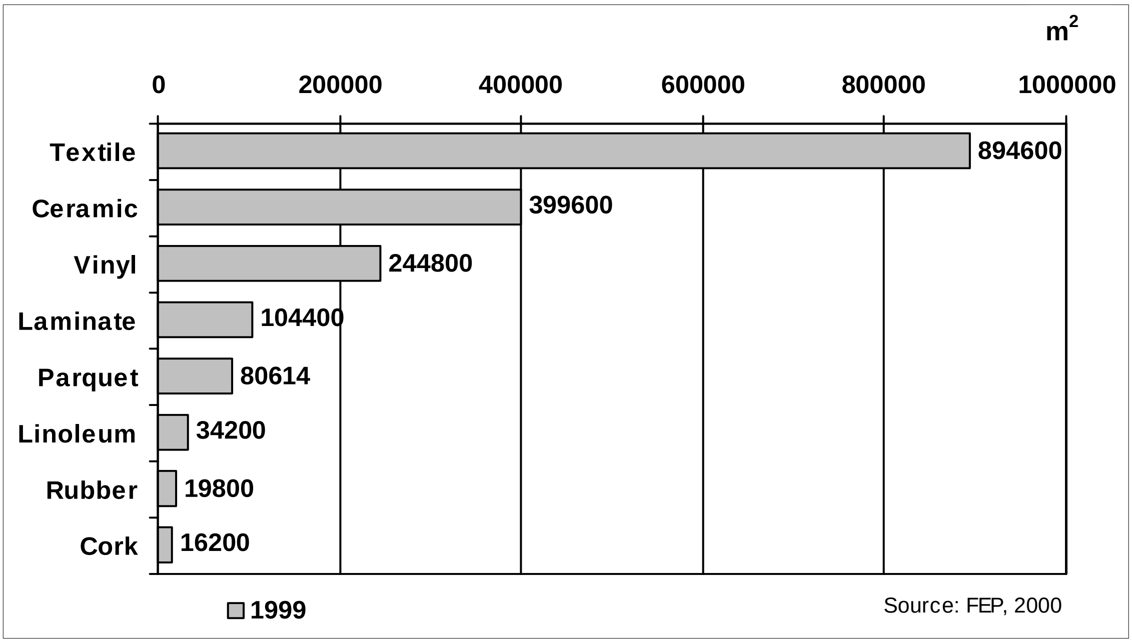
Weinfurter, S. & Hansen, E. 1999. Softwood lumber quality requirements: Examining the supplier/buyer perception gap. Wood and Fiber Science, 31(1): pp. 83-94. ISSN 0753-6161.

INTERNET SOURCES:

1. http://www.bau-markt.de (Internet portal)
2. http://www.baustoffmarkt-online.de/ (Internet portal)
3. http://www.bd-holz.de/ (German Timber Exporters)
4. http://www.diy.de/ (Internet portal)
5. http://www.parquet.net/news.html (Federation of European Parquet Industry, FEP)
6. http://www.unece.org/press/pr2001/01tim03e.htm (United Nations Economic Commission for Europe)

APPENDICES

APPENDIX 1. SHARE OF VARIOUS FLOORING MATERIALS IN 1999 FROM THE TOTAL EUROPEAN FLOORING MATERIAL MARKETS OF 1.8 BILLION M^2.



Appendix 1 shows the proportions of various flooring materials from the total European flooring material consumption in 1999. The share of the wood-based flooring materials (parquet and laminate) from the total consumption, which was 1.8 billion square metres in 1999, was very low. Parquet and laminate each had a market share of approximately 5%. Appendix 1 indicates that considerable growth potential exists for wood-based floorings in the total flooring material markets.

APPENDIX 2. SUPPLEMENTARY TABLES SUMMARISING THE STUDY DATA.

ADDITIONAL TABLE 1. SUPPLIER COUNTRIES' CONTRIBUTION OF THE WOOD-PRODUCT-BASED TURNOVER IN THE RESPONDENT COMPANIES

Share from the total wood product turn-over in the respondent companies	Germany		Austria		Finland		Sweden		Canada		Others*	
	%	n	%	n	%	n	%	n	%	N	%	n
< 20%	11	8	86	62	95	69	96	70	99	72	78	57
20-40%	22	16	**10***	7	5	4	4	3	1	1	12	9
40-60%	25	18	2	2	0	0	0	0	0	0	10	7
60-80%	22	16	2	2	0	0	0	0	0	0	0	0
> 80%	20	15	0	0	0	0	0	0	0	0	0	0
In total	100	73	100	73	100	73	100	73	100	73	100	73

For instance, 10% of the respondents obtain 20-40% of their wood products from Austria

ADDITIONAL TABLE 2. SHARE OF VARIOUS WOOD PRODUCT GROUPS FROM THE TOTAL WOOD PRODUCT TURNOVER

Share of the total wood product turnover	**Doors, windows and pre-fabricated products**		**Kitchen cabinets**		**Panels and mould-ings**		**Wood-based panels**		**Flooring materials**		**Sawn timber**		**Others***	
	From the percentage and number of respondents													
	%	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**
< 10%	51	38	98	73	45	34	44	33	31	23	33	25	78	58
10-20%	31	23	1	1	31	23	40	30	40	30	33	25	12	8
20-30%	12	9	1	1	23	17	**7***	5	19	14	13	10	6	5
30-40%	1	1	0	0	1	1	5	4	8	6	10	7	2	2
> 40%	5	4	0	0	0	0	4	3	2	2	11	8	2	2
In total	100	75	100	75	100	75	100	75	100	75	100	75	100	75

** For instance, wood-based panels' share in the wood product turnover is 20-30% for 7% of the respondents*

ADDITIONAL TABLE 3. CONTRIBUTION OF SALES TO VARIOUS CUSTOMERS GROUPS FROM THE TOTAL TURNOVER IN THE RESPONDENT COMPANIES

Share of the total turnover	**Construction firms**		**Industrial custom-ers**		**Private consumers**	
	Sales to the various customer groups					
	%	**n**	**%**	**n**	**%**	**n**
< 20%	71	52	58	43	22	16
20-40%	16	12	16	12	22	16
40-60%	7	5	12	9	8	6
60-80%	5	4	8	6	18	13
> 80%	1	1	6	4	**30***	23
In total, all respondents	100	74	100	74	100	74

** For instance, 30% of the respondents sell over 80% of their total sales to private consumers*

APPENDIX 3. RESULTS OF T-TEST IN COMPARING DIFFERENCES BETWEEN SUPPLIER CHARACTERISTICS.

		Payment arrangements	Fast delivery schedules	Supplier is well-known	Country of origin	Domesticity of the supplier	Price (level and stability)	High product quality	Wide product palette	General customer oriented behaviour	Image and reputation of the supplier	Reliability of supplier	Ease of contact with supplier	Friendliness of sales personal	Sales persons respect customers	E-mail connection with supplier	Possibility to communicate and order	Respect for environment in operations
MEAN VALUES		**2.1**	**1.6**	**2.9**	**3.0**	**2.9**	**1.5**	**1.3**	**1.9**	**1.6**	**2.2**	**1.3**	**1.9**	**2.2**	**1.9**	**2.0**	**2.8**	**2.4**
Payment arrangements	**2.1**		X	X	X	X	X	X		X		X					X	
Fast delivery schedules	**1.6**	X		X	X	X		X			X	X		X			X	X
Supplier is well-known	**2.9**	X	X				X	X	X	X	X	X	X	X	X	X		
Country of origin	**3.0**	X	X				X	X	X	X	X	X	X	X	X	X		X
Domesticity of supplier	**2.9**	X	X				X	X	X	X	X	X	X	X	X	X		
Price (level and stability)	**1.5**	X		X	X	X			X		X		X	X	X	X	X	X
High product quality	**1.3**	X	X	X	X	X			X		X		X	X	X	X	X	X
Wide product palette	**1.9**			X	X	X	X	X				X					X	X
General customer orientation	**1.6**	X		X	X	X					X	X		X		X	X	X
Image and reputation of supplier	**2.2**		X	X	X	X	X	X		X		X					X	
Reliability of supplier	**1.3**	X	X	X	X	X			X	X	X		X	X	X	X	X	X
Ease of contact with supplier	**1.9**			X	X	X	X	X				X					X	X
Friendliness of sales personal	**2.2**		X	X	X	X	X	X		X		X					X	
Sales persons respect customers	**1.9**			X	X	X	X	X				X					X	
E-mail connection with supplier	**2.0**			X	X	X	X	X		X		X					X	
Possibility to communicate and order via Internet/email	**2.8**	X	X				X	X	X	X	X	X	X	X	X	X		
Respect for environment in operations	**2.4**		X		X		X	X	X	X		X	X					

(1= very important, 2= important, 3= moderately important, 4= not very important, 5= not at all important)

APPENDIX 4. STATISTICALLY SIGNIFICANT DIFFERENCES BETWEEN SUPPLIER COUNTRIES' MARKETING COMMUNICATION, T-TEST.

Only statistically significant differences ($p < 0.1$) have been marked with a cross. Mean values, according to which the comparisons were made, are shown in Table 11, Page 23.

	Target oriented				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany				X	X
Austria					X
Finland					X
Sweden	X				X
Canada	X	X	X	X	

	Interesting				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany					X
Austria					X
Finland					X
Sweden					
Canada	X	X	X		

	Reliable				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany			X	X	X
Austria					X
Finland	X				X
Sweden	X				X
Canada	X	X	X	X	

	Attracts attention				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany					X
Austria					
Finland					
Sweden					
Canada	X				

	Meaningful				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany			X	X	X
Austria					X
Finland	X				
Sweden	X				
Canada	X	X			

	Takes environment into consideration				
	Ger-many	Aus-tria	Finlan-d	Swe-den	Can-ada
Germany				X	X
Austria					X
Finland					X
Sweden	X				X
Canada	X	X	X	X	

APPENDIX 5. STATISTICALLY SIGNIFICANT DIFFERENCES IN SUPPLIER CHARACTERISTICS BETWEEN VARIOUS SUPPLIER COUNTRIES, T-TEST

Statistically significant differences ($p < 0.1$) have been marked with a cross. Mean values, according to which the comparisons were made, are shown in Table 10, Page 22.

	Fast delivery schedules				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany		X	X	X	X
Austria	X		X	X	X
Finland	X	X			X
Sweden	X	X			X
Canada	X	X	X	X	

	High product quality				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany					X
Austria					
Finland					
Sweden					
Canada	X				

	Suppliers are well-known				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany					X
Austria					X
Finland					
Sweden					
Canada	X	X			

	Wide product palette				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany		X	X	X	X
Austria	X				X
Finland	X				X
Sweden	X				
Canada	X	X	X		

	Price (level and stability)				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany					X
Austria					X
Finland					X
Sweden					
Canada	X	X	X		

	General customer oriented behaviour				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany			X	X	X
Austria					X
Finland	X				X
Sweden	X				
Canada	X	X	X		

	Image and reputation of supplier				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany			X	X	X
Austria					X
Finland	X				
Sweden	X				
Canada	X	X			

	Easy to get contact with supplier				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany			X	X	X
Austria			X	X	X
Finland	X	X			X
Sweden	X	X			X
Canada	X	X	X	X	

	Reliability of supplier				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany			X	X	X
Austria					X
Finland	X				X
Sweden	X				X
Canada	X	X	X	X	

	Respect to environment in operations				
	Ger-many	Aus-tria	Finland	Swe-den	Can-ada
Germany					X
Austria					X
Finland					X
Sweden					X
Canada	X	X	X	X	

APPENDIX 6. QUESTIONNAIRE

THEME 4: MARKETING COMMUNICATION RELATED WITH WOOD PRODUCTS

Question 17: Please **rank the wood product suppliers** from various countries based on how good their **marketing communication** is. (1=very good, 2=good, 3=moderate, 4=bad, 5=very bad)

		Germany	Austria	Finland	Sweden	Canada
A	Target oriented (clear targets)	(_____)	(_____)	(_____)	(_____)	(_____)
B	Reliable	(_____)	(_____)	(_____)	(_____)	(_____)
C	Meaningful	(_____)	(_____)	(_____)	(_____)	(_____)
D	Interesting	(_____)	(_____)	(_____)	(_____)	(_____)
E	Attracts attention	(_____)	(_____)	(_____)	(_____)	(_____)
F	Takes environment into consideration	(_____)	(_____)	(_____)	(_____)	(_____)
G	Other, what	(_____)	(_____)	(_____)	(_____)	(_____)

Question 18: Which **supplier characteristics** you emphasise when choosing your own suppliers for wood products? (1= very important, 2= important, 3= moderately important, 4= not very important, 5=not at all important)

		Very Important 1	2	3	4	Not at all Important 5
A	Payment arrangements	(_____)	(_____)	(_____)	(_____)	(_____)
B	Fast delivery schedules	(_____)	(_____)	(_____)	(_____)	(_____)
C	The supplier is well-known	(_____)	(_____)	(_____)	(_____)	(_____)
D	Country of origin	(_____)	(_____)	(_____)	(_____)	(_____)
E	Domesticity of the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
F	Price (level and stability)	(_____)	(_____)	(_____)	(_____)	(_____)
G	High product quality	(_____)	(_____)	(_____)	(_____)	(_____)
H	Wide product palette	(_____)	(_____)	(_____)	(_____)	(_____)
I	General customer oriented behaviour – e.g. willingness to deliver customised quality or special dimensions	(_____)	(_____)	(_____)	(_____)	(_____)
J	Image and reputation of the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
K	Reliability of the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
L	Ease of contact with the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
M	Friendliness of the sales personal	(_____)	(_____)	(_____)	(_____)	(_____)
n	The sales persons respect customers	(_____)	(_____)	(_____)	(_____)	(_____)
O	E-mail connection with the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
P	Possibility to communicate and order via the Internet/email	(_____)	(_____)	(_____)	(_____)	(_____)
Q	Respect for environment in operations	(_____)	(_____)	(_____)	(_____)	(_____)

Question 19: Rank the supplier countries based on the characteristics of suppliers. (1=very good, 2=good, 3=moderate, 4=bad, 5=very bad)

		Germany	Austria	Finland	Sweden	Canada
A	Payment arrangements	(_____)	(_____)	(_____)	(_____)	(_____)
B	Fast delivery schedules	(_____)	(_____)	(_____)	(_____)	(_____)
C	The supplier is well-known	(_____)	(_____)	(_____)	(_____)	(_____)
D	Price (level and stability)	(_____)	(_____)	(_____)	(_____)	(_____)
E	High product quality	(_____)	(_____)	(_____)	(_____)	(_____)
F	Wide product palette	(_____)	(_____)	(_____)	(_____)	(_____)
G	General customer oriented behaviour – e.g. willingness to deliver customised quality or sized products	(_____)	(_____)	(_____)	(_____)	(_____)
H	Image and reputation of the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
I	Reliability of the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
J	Ease of getting contact with the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
K	Friendliness of the sales personal	(_____)	(_____)	(_____)	(_____)	(_____)
L	The sales personal respect customers	(_____)	(_____)	(_____)	(_____)	(_____)
M	E-mail connection with the supplier	(_____)	(_____)	(_____)	(_____)	(_____)
n	Possibility to communicate and order via the Internet/email	(_____)	(_____)	(_____)	(_____)	(_____)
O	Respect for environment in operations	(_____)	(_____)	(_____)	(_____)	(_____)

Question 20: Please estimate how large share of your **turnover based on wood products** (%) comes from products **supplied by producers of various countries**?

A	Germany	(_____)%
B	Austria	(_____)%
C	Finland	(_____)%
D	Sweden	(_____)%
E	Canada	(_____)%
F	Other important (which)	(_____)%
G	All others	(_____)%
		100%

Question 21: Please estimate how the various product types (%) make up large share of turnover based on wood products?

A	Doors, windows and prefabricated components	(_____)%
B	Kitchen cabinets	(_____)%
C	Panels and mouldings	(_____)%
D	Construction panels	(_____)%
E	Flooring materials (Parquet & Laminate)	(_____)%
F	Sawn timber	(_____)%
G	Other wood products	(_____)%
		100%

Question 22: Which are your **main customer groups** (for instance construction companies, joinery companies, and private consumers)?

A		(_____)%
B		(_____)%
C		(_____)%
D		(_____)%
		100%

Question 23: Please indicate with a cross (x); how you **expect the share of wood products from your total turnover develop** during the next five years:

A	Clearly higher (increase of over 10%)	(_____)
B	Somewhat higher (+ 2 to 10%)	(_____)
C	About the present level (-2- + 2%)	(_____)
D	Somewhat lower (-2 to – 10%)	(_____)
E	Clearly lower (decrease of over –10%)	(_____)

Question 24: How do you **expect the consumption of wood products to develop** during the next five years?

		Clear increase		About on the Present level		Clear decrease
A	Doors and windows	(_____)	(_____)	(_____)	(_____)	(_____)
B	Kitchen cabinets	(_____)	(_____)	(_____)	(_____)	(_____)
C	Panels and mouldings	(_____)	(_____)	(_____)	(_____)	(_____)
D	Wood-based panels: (particle board, MDF, OSB, plywood)	(_____)	(_____)	(_____)	(_____)	(_____)
E	Flooring materials (Parquet, Laminate)	(_____)	(_____)	(_____)	(_____)	(_____)
F	Sawn timber	(_____)	(_____)	(_____)	(_____)	(_____)
G	Roof trusses	(_____)	(_____)	(_____)	(_____)	(_____)
H	Prefabricated products	(_____)	(_____)	(_____)	(_____)	(_____)
I	Wooden houses	(_____)	(_____)	(_____)	(_____)	(_____)
J	Log houses	(_____)	(_____)	(_____)	(_____)	(_____)
K	Impregnated timber	(_____)	(_____)	(_____)	(_____)	(_____)
L	Other, what?	(_____)	(_____)	(_____)	(_____)	(_____)

Question 25: By which means, according to your opinion, could the use of wood in construction and in joinery industry be increased?

Please, provide the following information as background about your company:

Company name ______________________________

Name of the respondent ______________________________

Title ______________________________

Address of the company ______________________________

Annual turnover (ca. DM) ______________________________

Of which wood products (ca. DM) ______________________________

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORTS

All ANSWERS WILL BE KEPT STRICTLY CONFIDENTIAL AND ANONYM