

**Dissertationes Forestales 92**

**Young people's perceptions  
of the wood products industry:  
a relational view**

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**Academic Dissertation**

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## ABSTRACT

The purpose of this study was to produce new information of how to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation to study and work in the sector. A survey was conducted among students of comprehensive schools and students of wood industry at vocational schools selected by systematic cluster sampling. The study combined the research of relationships and communication in public relations and trust research of several disciplines. It examined the central relational elements in the form of antecedents, relationship state and its consequences.

The results indicated poor visibility of the wood industry among young people: unfamiliarity with the industry and unawareness of the opportunities to study in the field. It appeared that instead of increasing one-way communication, e.g. information sharing, interactive communication in different forms is needed. The study also suggests that not only the means of communication but also behaviors of the industry sector advancing perceived trustworthiness are of crucial importance. In addition, the less and highly interested young people were found to assess the relationship partly through different relational elements.

Among the highly interested young people the behaviors related to commitment to employ young people, openness of information disclosure and involvement in socially responsible activities seemed to be the most important. Among the less interested young people behaviours advancing the relationship were connected to perceived reliability as an employer, involvement in issues relevant for young people, and investments in young people's skills. The conclusions of the study provide tools for public relations efforts not only to the wood products industry, but also to its advocates, teachers and student counselors of both comprehensive and vocational schools, authorities and policy makers.

**Keywords:** organization-public relationship, trust, communication, reputation, values, satisfaction, relational orientation.

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# 1 INTRODUCTION

## 1.1 Area of the study

It has been widely recognized that working in industrial sectors like the wood, metal, and building industries no longer attracts young people. Accordingly, during the last decade the recruitment of young people for the purpose of study and work within the wood products industry has become increasingly difficult. At the same time, the field is in the midst of structural change consuming a lot of resources for product development, research, and innovations. Consequently, the rapid development of technology and demanding production processes require highly skilled and motivated young employees to be able to operate in the sector.

Furthermore, the competition to get employees is tightening in the labor market, as the big age group reaches retirement and at the same time the size of younger generation entering the labor market is relatively small. This sets demands for recruiting activities of all the industries, not the least the wood products industry, which has suffered from low attractiveness among young people for years. Naturally, all this causes a challenge for the field, which plays a significant role in Finland's economy. Hence, the interest of this study arises from the need to improve competitiveness of the wood products industry in the recruiting market through enhancing attractiveness of the sector among young people.

So far, the problem of little interest among young people towards the wood products industry has been addressed in only a few studies (see Manninen 2001; Taloustutkimus Oy 2001). In effect, although empirical research has been conducted, no major correctable defect within the industry sector has been found to cause the problem. Rather, the field seems to lack general interest among young people. In this study the possible means to improve the attractiveness of the wood products industry among young people is approached in relational terms. This means examining those elements that work for the relational perceptions of young people in connection with the wood products industry.

## 1.2 The wood products industry and the recruitment of young people

The wood products industry consists of sawmilling, wood-based panels, joinery, the builders' joinery and the manufacturing of furniture. Unlike many other industrial sectors, this industry is comprised of relatively small units. However, within the European and Finnish scale it is an important industrial sector, with the total value of production being approximately 7 billion euros. Its significance in Finland is especially great for the rural regions of the country. Finland is the second largest producer of sawn softwood in Europe and the largest of the European plywood producers. Almost 90 per cent of plywood production and 60 per cent of all sawn timber output are for export purposes. In Finland the value of exports of the wood products industry is about one fifth of the Finnish forest industry. (Finnish Forest Industries Statistics 2006)

There are about 37 500 employees in the wood products industry in Finland; 27 500 of them work in sawmilling, wood-based panels, joinery and the house-building industry and about 10 000 in the manufacturing of furniture. There have been few changes to the numbers in the workforce during the last decade: the number of employees in sawmilling

industry has diminished, whereas the workforce of the house-building industry has increased. (Metsäsektorin koulutuksen kehittäminen Suomessa 2007)

In recent years, several campaigns have been carried out to increase the esteem of wood, to raise the degree of processing and to encourage more widespread future use of wood. In Finland, the emphasis in production growth of sawmilling and wood based panel industries is increasingly on value-added processing. Further, the gross value of the Finnish joinery and furniture industry has increased during the last decade. This highlights the need for skilful and motivated employees. The main customer of the wood products sector is construction industry (Key to the Finnish Forest Industry, 2006).

The vision of Finnish wood products industry to the year 2020 concludes that the cluster of wood industry will double the value of its production, will be closely engaged with the end use sectors and will operate profitably according to the principals of sustainable development. (Suomen Puutuoteteollisuus 2020, 2006) In order to achieve these goals the recruiting need of the wood products industry is assessed to be 1 300 – 1 400 persons per year. The fact is, however, that less than half of the number qualifies from the educational institutions on a yearly basis. Moreover, as a result of the retiring personnel in the near future the recruitment of young and skilful staff is considered to be a critical problem in the field. The quantitative need of students is the greatest in basic degree education at vocational schools. (Metsäsektorin koulutuksen kehittäminen Suomessa 2007)

The low interest in the sector appears both in low numbers of young people starting basic degree education of wood industry and in great numbers of students dropping out the education. The figures describing the number of young people who show an interest in basic degree education at vocational schools in the field of the wood products industry has decreased year after year since the end of 1990's (**Table 1**).

**Table 1.** The state of the degree education of wood industry at vocational schools in Finland during 1998-2004.

Source: Opetushallitus.

<b>Basic degree education of wood industry at vocational schools</b>			
Year	Student places available	Primary applicants in joint application	Students starting degree education
1998	976	656	827
1999	1026	723	899
2000	857	633	731
2001	1225	821	681
2002	1062	700	590
2003	1105	766	618
2004	1017	742	604

The difference between the student places and primary applicants of degree education in the wood industry has remained stark since the year 1998. The primary applicants refer to young people, who have given priority to the wood industry program in the joint application of vocational education. In the year 2006 there were 366 students, who finished basic degree education in the wood industry at vocational schools. It was only 40 per cent

of the students, who had started degree education the same year (Metsäsektorin koulutuksen kehittäminen Suomessa 2007).

These numbers divulge something about the diminishing genuine interest in the wood products industry among young people. Furthermore, the decline in the number of students actually starting their degree education in the wood industry during this decade is, most probably, reflective of the applicants' poor qualifications at the start of their studies. The disparity between student places, number of primary applicants and students starting their degree education in the wood industry has already led to closing down the programs of wood industry at some vocational schools or joining them to other programs (Opetushallitus).

Theoretical work by Behling, Labovitz, and Gainer (1968) has provided a basis for several studies of organizational recruitment from applicants' point of view. Examining recruitment from the applicants' perspective they proposed three implicit theories of job choice: objective factors, subjective factors, and critical contact theory. According to objective factors theory applicants' job decisions are based on tangible job and organizational attributes. Subjective factors theory suggests that applicants evaluate their fit with the organization in terms of needs, personality, and values by making assessments about aspects of the organization's environment. Finally, critical contact theory maintains that applicants rely on characteristics of the recruiter and recruitment process, as they lack sufficient information about the job and organization. Thereafter, the significance of both objective and subjective factors has been demonstrated in a number of research (Carless 2005; Chapman, Uggarslev, Carroll, Piasentin & Jones 2005; Bretz & Judge 1994; Cable & Judge 1994, 1996, 1997).

Within the career development literature of human resource management and occupational psychology the approaches to career counseling have been mainly based on trait or factor models conceptualized in the form of person-environment fit-theories. The dominant PE-fit theories are Holland's (1985) theory of careers and the theory of work adjustment (Dawis & Lofquist 1984). These theories are concerned with the outcome of career choice proposing that the degree of congruence between personality in the form of interests, work values, ability, and other person-variables and the demands of an occupational environment determine occupational success, satisfaction, and tenure. Under the PE fit theories also more specific notions have been identified: person-job fit refers to the match between an individual and the requirements of a specific job; and person-organization fit the congruence between an individual and organizational attributes (Carless 2005; Cable & Judge 1994, 1996, 1997). In contrast, the developmental and social learning theories focus on the process of occupational choice. They either follow the factors affecting maturity in occupational choice in different developmental phases of individual's life or acknowledge the effects of environmental forces like job and training opportunities, technological developments, and the educational system (Mitchell & Krumboltz 1984; Super 1957).

According to Hackett, Lent and Greenhaus (1991) the central factors of the empirical literature of career development have been vocational interests, aptitudes and abilities, work values, personality traits of various kinds, and career decision making. In addition, career-related self-efficacy has been found to exert a strong influence not only on career choice, but also on the development of core vocational choice predictors such as interests, values and goals. Perceived self-efficacy refers to beliefs in one's ability to perform specific behaviours. (Hackett & Lent 1992; Bandura 1986).

According to Turban (2001) there is only limited empirical evidence to guide companies interested in attracting applicants. Based on propositions of signaling theory (Breaugh 1992; Spence 1974), he assumed that applicants having incomplete information about organizations are likely to interpret information they receive about the company as "signals" about what it would be like to work in the company. For example, unimpressive recruitment material may give a signal of a company not investing much in developing human resources. When investigating factors connected to a company's attractiveness as an employer among potential applicants on college campuses, Turban (2001) found that recruitment activities were related to company attractiveness through influencing applicants' perceptions of organizational attributes: company image, compensation and job security, and challenging work. Further, familiarity with the company and the social context, which was defined as perceptions of university personnel, appeared to be related to potential applicants' higher attraction to the company.

The studies above reflect the complexity of the process of occupational choice. Several factors related to the organizational attributes, subjective characteristics, recruitment activities and social context were found to have a role in the decision. Some of these factors have been examined in a few studies related to attractiveness of the forest industry or the wood products industry among young people in Finland. In his Master's thesis-level study Manninen (2001) examined young people's perceptions of issues related to the profile of the forest industry in Finland. The perceptions were studied in the form of schema representing organized knowledge of a concept in one's mind. The issues examined in the study included environment, internationalization, technology, work, and social significance of the wood products industry. In comparisons between the schemata of young people and the profile pursued by the wood industry, only minor differences were found, mainly in connection with the environmental issues and the work issues in the forest industries. Finally, the results indicated that communication related to the forest industries had only minor connection with the perceptions of young people in the study.

Taloustutkimus Oy (2001) examined people's perceptions of vocations related to traditional craftsmanship, generally, and the wood products industry, particularly, among several stakeholder groups. First, the stakeholders were asked the main criteria, on what grounds young people choose an occupation. It appeared that a great role in this choice plays the content of the future work and, especially, opportunities to express oneself through it. Other important criteria were the salary, a quick access into the working life and the image of the field.

According to the study, the same criteria, except salary, appeared to be the main factors, why students choose the wood products industry as a field to study and work in. Furthermore, the study programs and the tasks of the wood industry were quite well regarded also among the last year students of comprehensive school. Even the image and the future prospects of the field were perceived fairly good. Unlike majority of the last year students of comprehensive school, young people studying and working in the field, the teachers of wood industry in vocational school and the representatives of the industry perceived the amount of information given in comprehensive schools of the wood products industry insufficient. Consistently, it also appeared that students of the wood products industry were more satisfied with the sector after their studies, than beforehand. The main conclusion of the study was that young people, student counsellors at schools and other stakeholders need more relevant information about the wood industry.

The working group set up by Ministry of Education to assess education of the forest sector in Finland came to the same conclusion as Taloustutkimus Oy (2001). The group

found it important to increase visibility of the forest sector by all means of communication as a renewing field offering interesting career opportunities. Moreover, the working group considered closer cooperation between companies, advocates of the forest sector, educational institutions, local communities and authorities as essential for the educational development of the field and increase of its attractiveness, accordingly. (Metsäsektorin koulutuksen kehittäminen Suomessa 2007)

The studies above were interested in the wood products industry as an occupational choice of young people. More precisely, they were motivated by the challenges of the low attractiveness of the sector among young people. However, their conclusions are to some extent inconsistent. On one hand, communication was regarded as a focal means to make the field better known and more attractive among young people. On the other hand, the results did not support communication to be related to the quality of young people's perceptions of the sector. Furthermore, the discrepancy between the fairly high regard of the wood products industry among young people and its low popularity as an occupation was not discussed.

As relational factors have not been studied in connection with recruitment of young people to the wood products industry, this study seeks to address the issues above by enlarging the perspective of examination into a relational one. It includes relationship factors suggested to enhance young people's satisfaction with the wood products industry and its attractiveness, accordingly. In this study communication is examined more extensively compared to mere dissemination of recruiting information in the studies of occupational choice. Moreover, the interest does not lie only in communication, but also in relational behaviors of the wood products industry as building blocks of the relationship in focus. Further, this study makes a contribution in examining the issue from the viewpoint of young people with different relational orientation.

Typically, the studies of occupational choice have been interested in perceptions related to one organization, while in this study perceptions of a whole sector are in focus. However, it can be argued that perceptions of an organization and the corresponding sector are interrelated. Thus, young people's perceptions of the wood products industry influence their perceptions of a company belonging to the sector and vice versa. Starting from young people's level of interest in the wood products industry, this study seeks to produce new information on how to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation to study and work in the sector.

At the same time, positive associations and good relationships on the sector level are realized not to act as a single decisive factor in young people's choice of occupation. Rather, they are assumed to have a supportive role playing a part together with a variety of factors in young people's behavioral intentions and, finally, occupational choice.

### **1.3 Relationship management in organization-public context**

The development in society from industrial to post-modern and the sharpening of competition have called for new, more efficient paradigms than the traditional ones in the area of public relations. The paradigm shift implies that the foundation of a discipline has been renewed consisting of new values, new assumptions, or new methods. Within public relations the new, emerging goals are initiating, developing and maintaining successful relationships with the interest groups of an organization called also the publics. Ledingham

(2003: 190) defines the relationship management perspective as “effectively managing organizational-public relationships around common interests and shared goals, over time, resulting in mutual understanding and benefit for interacting organizations and publics.” The successful management of relationships are perceived to produce both social and economic value for the organization. (Heath 2001; Ledingham & Bruning 1998, 2000; Grunig 1993)

Relationships are at the centre of various areas of organizational activities: networks, employee relationships, partnerships, customer relationships, supplier relationships, financial relationships, media relationships and so on. Accordingly, relationship management is a core interest in public relations. It is examined at both interpersonal and organizational levels. The research of relationships at organizational levels has centred around the perceptions that customers and other interest groups are having of organizations as relational partners. As for companies, they are highly interested in managing relationships through these perceptions. The research of public relations integrates concepts from the fields of mass media, interpersonal communication, inter-organizational behavior, social psychology, marketing and management. (Ledingham & Bruning 2000) When relationships are concerned one of the central constructs in several of these fields is trust (Garbarino & Johnson 1999; Doney & Cannon 1997; Morgan & Hunt 1994).

The relational perspective within public relations has been applied to, among others, consumer relationships, business-to-business relationships, organization in crisis, management of issues, and physician-patient relations (Ledingham & Bruning 2000). Research on recruitment relationships is, however, rare. Especially, the recruitment of the wood products industry has been given little, if any, attention from the relational point of view. In addition this study addresses the call for research of relationships in terms of antecedents, relationship state, and consequences (Hutton 2001; Grunig & Huang 2000).

The present study focuses on the organizational level of relationships, more precisely, on the recruitment relationships of the wood products industry in Finland. The examination of the relational setting in focus is based on the theories and empirical studies on relationships within public relations and trust research of relationship marketing and related sciences. Further, it builds on the theories of communication in public relations and closely related concepts of reputation and values. Also, the theories of stakeholders, publics and involvement are perceived relevant for the study. The relationship between the industry sector and young people is examined from the viewpoint of young people through their perceptions of the relational elements. In this study the perceptions are based on young people’s direct observations and experiences of the wood products industry and also on indirect experiences like facts, casual information and hearsay related to the industry.

### Organization-public relationship

According to the stakeholder approach in management literature, stakeholders of the firm are groups or individuals, who can affect or are affected by the achievement of the firm’s objectives (Freeman 1984). This is fairly consistent with the general definition of publics in public relations: publics consist of individuals or groups with whom the organization must establish and maintain enduring and mutually beneficial relationships. However, within public relations publics are, typically, defined by their connection to an organization in a particular situation. (Cutlip, Center & Broom 2000)

Perceptions of an organization among its public has been the centre of focus within public relations from the early days of its history. However, there has been a shift in the

way in which these perceptions are managed: mere one-way communication has given way to relationship management during the 1990's. During the past decade the field of public relations has focused on the concept of organization-public relationship. It is defined by Bruning and Ledingham (1999: 160) as

*"the state which exists between an organization and its key publics, in which the actions of either of these parties impact the economic, social, political, and/or cultural well-being of the other one..."*.

Grunig (1992: 20) defines it as,

*"the process where organizations initiate, develop, and maintain relationships with publics that can hinder or enhance the organization's ability to meet its mission".*

This relationship is assumed to be based on both the behaviors of an organization and communication of those behaviors with key publics.

According to Frey, Botan and Krepps (2000: 28) "communication is the management of messages for the purpose of creating meaning". Thus, communication is perceived not only as a process of exchanging messages, but also a process of producing meaning and, further, leading to develop relationships. Communication for organizations is defined by Vos and Shoemaker (2005: 19) as

*"the management function within organizations which is responsible for communication processes which are initiated from within the organization and thus try to promote a sustainable interaction between an organization and groups of the public in the internal and external environment."*

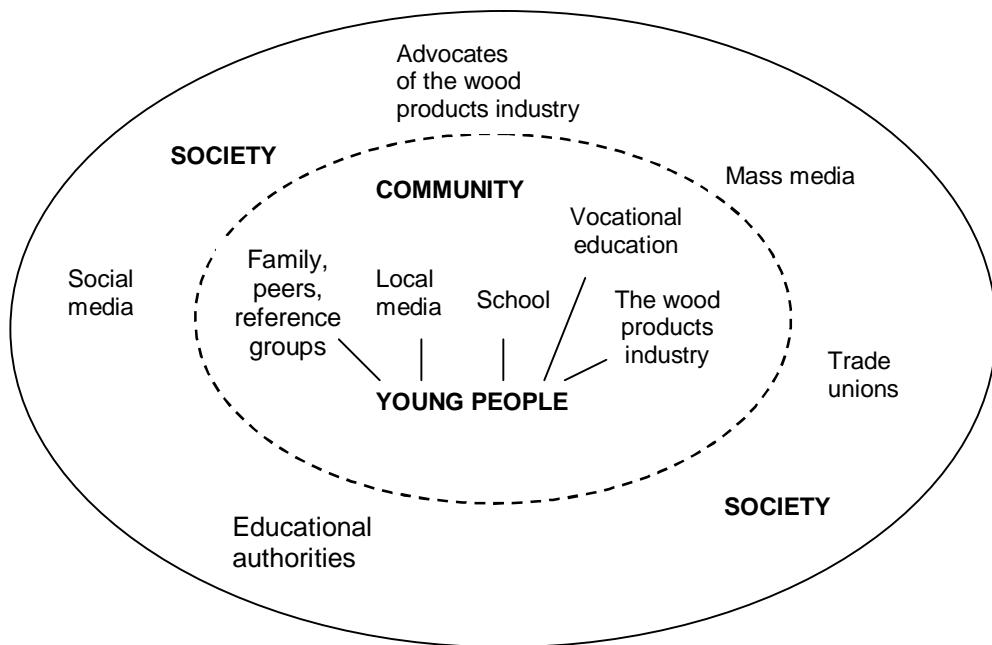
They, further, emphasize that communication has a contribution to organizational policy, which should be made concrete in a coherent manner taking the receiver into account. Consequently, Vos and Schoemaker (2005) divide communication in organizations into three main domains: concern communication aiming especially at various external relations, internal communication targeting internal relations and marketing communication dealing with consumers.

Nowadays, key publics of organizations are considered to be active participants of communication making choices of channel and content use to achieve their own satisfaction. This puts demands also on the communication management within the relational view of public relations. (Bruning & Ledingham 2000) Moreover, communication for organizations and communication, generally, both affects and is affected by its social setting. It consists of families, reference groups, organizations and several kinds of collectivities that are simultaneous producers and products of communication. (Cutlip et al. 2000)

The social setting, in which the organization-public relationship between the wood products industry and young people is formed in Finland, is broadly outlined in **Figure 1**. It shows roughly the environment, in which the organizational behaviors and communication of the wood industry influence the perceptions of young people together with other sources of information.

In addition to the behaviors and communication of the industry sector, the perceptions of young people are influenced by others in the environment of organization-public relationship. During the last years of comprehensive school, young people receive a significant amount of information and opinions that relate to different fields of study and work from several sources in their local community. It consists of all the interacting people in a common location: teachers at comprehensive and vocational school, local media, family members, peers, and other interest groups. Moreover, young people are exposed to

information in the wider society through mass media, different forms of social media functioning on the Internet, educational authorities, advocates of the wood industry, trade unions and to generally held views in both society and their local community.



**Figure 1.** An outline of the social setting for relationship building between the wood products industry and young people.

Reputation and values are concepts much examined in the studies of relationship management. Reputation of an organization is suggested to be based on the stories told about it among different stakeholder groups (Aula & Heinonen 2002). In this study the stories are connected with behaviors of the wood products industry and remembered by people. An organization with a good reputation is believed to appear credible also in the future. (Fombrun 1996) Values are related to beliefs about what behaviors, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong (Morgan & Hunt 1994). In this study young people are assumed to hold value-laden interests in relation to the wood products industry. Knowing the values of young people and keeping to them is suggested to be essential for building effective relationships (Heath 2002).

#### Trust

One of the central concepts in relationship building is trust as this is usually at the core of all relationships. It is defined broadly as,

*“a willingness to rely on an exchange partner in whom one has confidence”*

(Moorman, Zaltman & Desphande 1992: 82).

In relationship marketing, defined by Morgan and Hunt (1994: 23) as “referring to all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges”, research has been influenced by streams of trust research in subjects such as psychology, sociology, economics, and organizational behavior. Trust research within relationship marketing has dealt with relationships between, for instance, consumers and service providers (Singh & Sirdeshmukh 2000), interfirm alliances (Morgan & Hunt 1994), industrial buyers and sellers (Doney & Cannon 1997), and working partnerships (Anderson & Narus 1990). Scholars have seen trust as a foundation for interpersonal relationships, as a basis for cooperation and facilitation for exchange. While relationship marketing is concentrating in exchange relationships, creating and reinforcing trust is seen as one of the aims of the relationships with key publics in relational perspective to public relations (van Ruler, Verdic, Burschi & Flodin 2004; Nessmann 1995).

In this study, the perceived trustworthiness of the wood products industry as a field to work forms a prerequisite for its relationship with young people. Furthermore, the level of perceived trustworthiness of the wood products industry is argued to have an influence on overall satisfaction with the industry sector revealing, thereby, young people’s evaluation of behaviors representing trustworthiness.

Eventually, the effect of overall satisfaction on young people’s intentions to study and work in the industry sector is tested. As overall satisfaction and behavioral intentions are not measured with the same degree of specificity, a strong relationship is not predicted. This means that apart from overall satisfaction there are several other behavioral determinants. Still, overall satisfaction is perceived to influence the attractiveness of the wood products industry and thereby the climate, in which decisions are made.

### Relational orientation

Normally, the different interest groups or publics of organizations vary in their relationships with the organization from low to highly relational bonds. This raises a crucial question: how do the perceptions of these groups differ? In marketing, a customer’s orientation to a relationship is considered to range from transactional to relational, which leads to different applications of marketing tools. Also, the level of relational orientation of other important groups of the environment and within those groups is assumed to vary and call for different actions, accordingly. Typically, the evaluation of relational orientation has been based on the concept of involvement (Keage & Fox 1998; Mittal & Lee 1989) reflecting the importance and personal relevance of an object or event.

In this study the differences in the relational orientation of young people towards the wood products industry are evaluated by the means of involvement. Based on the concept of involvement young people are divided into different interest groups. Then the relational perceptions that young people in different interest groups have of the wood products industry are analyzed and compared. The individual perceptions are assumed to be formed in the organization-public environment outlined in **Figure 1** (see p. 14). Finally, the interest also lies in the meaning and function of the central constructs associated with relationship management among young people showing little interest in the wood products industry, as opposed to young people regarding it as highly relevant for themselves. These constructs are referred to as relational elements in this study.

## 2 PURPOSE AND IMPLEMENTATION

### 2.1 Purpose

The objective of this study is a practical one: How to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation to study and work in the sector? The relationship in focus is evaluated from the viewpoint of young people, based on their perceptions about the relational elements relevant in the context.

The objective is pursued by addressing the following sub-questions:

1. What are young people's perceptions of the central relational elements interacting in the relationship between young people and the wood products industry?
2. How can young people be classified according to their level of interest in the wood products industry?
3. How is the background of young people connected to their interest in the wood products industry?
4. How do young people with different background and interest in the wood products industry differ in their perceptions of the relational elements?
5. What are the connections between the relational elements in the groups of young people with interests varying from high to low?

The research questions above will guide the empirical analyses of the study. Moreover, they are related to specific tasks in reaching the objective of the study. As a prerequisite for the first task the concepts involved in organization-public relationship management within the context of the wood products industry and young people are clarified. The first task is to form the instrument for conducting the study based on examining of young people's perceptions of the concepts and their dimensions. The concepts are compiled into a theoretical framework of the study in the form of antecedents, relationship state, and consequences.

The second task includes the description of young people according to their background and level of interest in the wood products industry. Apart from the demographic items the background factors are related to awareness and familiarity of the sector as a place to study and work in. Further, homogenous groups of young people are formed based on their level of interest in the wood products industry. Finally, the task is accomplished by specifying those background factors that contribute to the differences in the level of interest among young people.

The third and fourth tasks consist of finding those relational elements, which are poorly perceived, but still working for greater satisfaction with the relationship among the less and highly interested young people. The idea is that they represent the central relational elements requiring more attention of relationship management in different background and interest groups in order to enhance the relationship. Ultimately, the results of this study are meant to help when developing the relational strategies in order to enhance attractiveness of the wood products industry as a place to study and work in among young people with different relational orientation to the sector.

## 2.2 Implementation

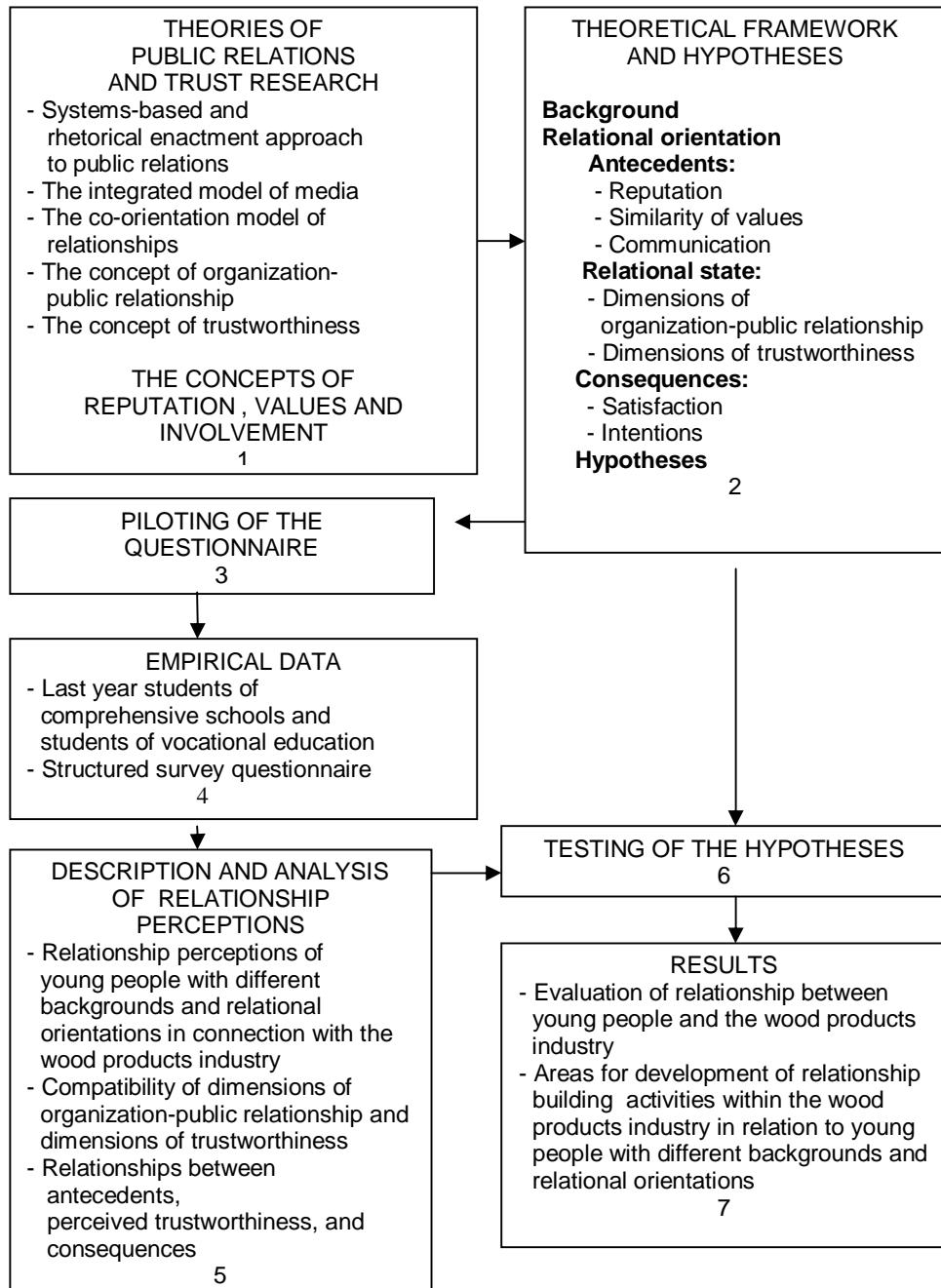
This research can be described as an explanatory study starting with a description of data. The theoretical background for the study is mainly constructed by combining elements from the theories of relationship research in public relations and trust research in relationship marketing and related behavioral sciences. In addition, it is built on theories of communication in public relations, stakeholders, publics, involvement and concepts of reputation and values. This empirical research is based on cross-sectional data collected by structured survey questionnaires from two groups of students: these comprise final year students at comprehensive schools and students of vocational education in the wood products industry.

The aforementioned two groups are together intended to represent young people with varying interests in their relationship with the wood products industry, ranging from high to low. Young people of the study are classified into subgroups, called interest groups, based on the concept of involvement. The connection between each interest group and the background factors are then examined. This in turn specifies the background factors that contribute to the differences in the level of interests among young people.

Starting from the clarification of the concepts relevant in the relationship management between the wood products industry and young people in Finland, a basis is to be formed for the evaluation of the current state of the relationship in focus. Firstly, the perceived trustworthiness of the wood products industry is assumed to play an important role among young people when they make choices about their future career. Secondly, this study presents that the relationship state could be evaluated not only by perceived trustworthiness, but also on the basis of perceived relational behaviors of the industry sector that are assessed to be meaningful for young people when choosing their future field of work. Thus, an organization-public relationship scale representing the relational behaviors is developed to include several items for all the relationship dimensions. Thirdly, the interest lies, not only, in relational behaviors, but also, in communication related to the wood industry, reputation of the sector and similarity of values as independent elements assumed to have an influence on the relationship state and further, satisfaction with the relationship.

In addition, the interest lies in the differences between the perception levels of relational elements pertaining to young people with different backgrounds and interests. This is to reveal the specific needs which call for special attention on the part of the wood products industry in order to improve the quality of the relationship.

Eventually, the study seeks to identify relational elements that work for enhancing the relationship and thus, attractiveness of the wood products industry among less and highly interested young people. At this point, the focus is on the dimensions of organization-public relationship as building-blocks of organizational trustworthiness both representing the relationship state. Further, the connections between the relational structures relevant in the groups of less and highly interested young people are examined in the form of antecedents, relationship state, and consequences. The relevant areas of development in relationship management among young people are to be found by connecting the knowledge of the needs and relational elements enhancing the relationship in different interest groups. (**Figure 2**)



**Figure 2.** Implementation of the study

The steps in the implementation of the study are as follows (Note: the numbers below correspond to those presented in the blocks in **Figure 2**):

1. A literature review is conducted in order to select the concepts related to managing relationships in the organization-public context; this will lead to clarifying the relationships between them.
2. A framework is developed on the basis of the elements found relevant in relationship management of the context. Hypotheses regarding the connections in the framework are then presented.
3. The questionnaire is piloted. First, in a preliminary test a number of students are interviewed and their comments are utilised in defining the items and wordings of the questionnaire. Second, a pilot scheme is conducted among the final year students of comprehensive schools and students of vocational education in the wood industry to verify the measures to be used in the survey.
4. Empirical data is collected by systematic cluster sampling reflecting the relational perceptions among the final year students of comprehensive schools and students of vocational education in the wood industry. A structured questionnaire is used.
5. The data is analyzed. The relationship between the wood products industry and students is described and analyzed. First, the perceptions of relational elements among students are examined. Second, the students are grouped according to their level of interest in the wood products industry. The connections between the interest groups and the background factors are analyzed. Third, the differences in the levels of relational constructs are examined in different background and interest groups. Then, the compatibility of dimensions of organization-public relationship with dimensions of trustworthiness is studied. Finally, the connections between the constructs of antecedents, dimensions of trustworthiness, and consequences are examined among the less and highly interested young people.
6. The hypotheses are evaluated in the light of the empirical data gathered.
7. Conclusions are formulated based on the results obtained. The relationship state between the wood products industry and young people with different level of interest is evaluated and the aspects which require special attention in public relations activities are identified in order to enhance attractiveness of the sector. Suggestions are then put forward as to how the results can help in the implementation of new plans that will result in developing relational behaviors of the wood products industry and how these can be effectively communicated to young people of different relational orientation.

The empirical implementation of this study gives a cross-sectional portrait of the relationship between young people and the wood products industry from the viewpoint of young people. The interest lies in the perception levels and structures of the relational elements that work for the organization-public relationship enhancing trustworthiness and satisfaction with the sector and thus, making the wood products industry appear more attractive among young people as a place to study and work in.

### 3 THEORETICAL BACKGROUND

The basis for the theoretical background is in the purpose of the study as described above. The theoretical background of the study is based on relationship research in public relations and trust research in relationship marketing and related behavioral sciences. From the viewpoint of this study relational behaviors and trustworthiness of the wood products industry are together assumed to be as relevant building blocks of the relationship state in focus. In addition, theories of communication in public relations, and concepts of reputation and values, which have played an important part within relationship management in earlier studies, are included as independent elements. They are proposed to affect the relationship state and, through it, overall satisfaction with the sector among young people. Theories of stakeholders, publics, and involvement are used to describe young people's role in the relationship with the wood products industry.

#### 3.1 Public relations

Public relations is both a professional practice and a subfield of communication with its own research and theory base. The relationship management perspective to public relations, recently emerging within the discipline, replaces the traditional view. A pure communication activity has given way to the management of relationships that strategically utilizes communication (Ledingham & Bruning 2000). The new emphasis of initiating and maintaining relationships with key public figures provides a good basis to examine the relational setting between the wood products industry and young people in this study. In addition, new theoretical approaches to public relations present a wide perspective that evaluates not only the relationship itself, but also the factors working in the process of relationship management. The contribution of recent theory building and research within public relations to the theoretical ingredients of this study is discussed in the chapters that follow.

##### 3.1.1 *The role of public relations*

As a term, public relations is in use worldwide, although, individual companies and other groups often use different terms to specify its functions. Those terms are public affairs, corporate communications, corporate relations, and corporate public affairs. (Wilcox, Ault, Agee & Cameron 2000) As a communication function of a company public relations is, also, perceived as a part of corporate communications, which is understood to capture all the forms of internal and external communication (Voss & Schoemaker 2005). Thus, some confusion exists with the terms in the field due to rapid development.

The role of public relations in an organization can best be specified through the concrete aims or functions it represents. In the following, a list of *the aims of public relations activities* is presented according to Nessmann (1995: 154):

- create and reinforce trust, comprehension, and sympathy
- arouse attention, interest, and needs
- create and preserve communication and relationships
- create mutual understanding and agreement
- articulate, represent, and adjust interests

- influence public opinion
- resolve conflicts
- create consensus

The teaching of both the concept and practice of public relations in Europe is still largely U.S oriented, although the Netherlands claims to have the oldest professional association in the world, established in 1946 (van Ruler, Verdic, Burschi & Flodin 2004). In their study, which examined the European practical and academic approaches to public relations, van Ruler et al. (2004) discovered that European countries have much in common. They identified four interrelated characteristics of European public relations. First, public relations is to analyze changing standards, values, and standpoints in society in order to adjust those of the organization, accordingly. Second, based on this reflection it is to develop plans to communicate and maintain relationships with public groups through preparing a means of communication for the organization. Finally, public relations task is to help all the members of organization to become communicatively competent to respond to societal demands.

### Definitions of public relations

Many definitions of public relations contain the aims and functions mentioned above. The shift from manipulation of public opinion by the means of communication to the management of relationships is also evident in the definitions of the discipline. For example, Grunig and Hunt (1984: 6) define public relations as

*“the management of communication between an organization and its publics”*

Whereas, a later definition by Cutlip, Center and Broom (2000: 230) enlarges the sphere of public relations to comprise, not only communication, but also

*“identifying, establishing, and maintaining relationships between an organization and the various publics, on whom its success or failure depends.”*

In this process, the integration of public relations to the decision-making of the top management of an organization is perceived to be crucial for it to be effective in making reports and recommendations on issues which affect the entire company. According to van Ruler et al. (2004: 50), the current view of public relations among European academics and practitioners is, still, two-fold:

1. “Communication is the most important means of public relations and relationships are the outcome of it.”
2. “Public relations refers to managing communication by direct or indirect relationships, in order to gain the trust of public groups and to monitor their trust and the consequences it has for the organization.”

In this study the definition of Cutlip et al. (2000) is adopted as it enlarges the concept of public relations beyond mere communication underlining the significance of identifying, establishing and maintaining relationships with various publics. At the same time, similarly to van Ruler et al. (2004) the importance of gaining trust among key publics is acknowledged as crucial for relationship management.

## The components of public relations

The basic components of contemporary public relations are media relations, publicity, employee or member relations, community relations, public affairs, government affairs, issues management, crisis management, financial relations, industry relations, development and fund-raising, multicultural relations, special events, sponsoring, research and counselling (Wilcox et al. 2000).

Monitoring builds up a basis for contemporary public relations. The interdependence of organizations and various elements of society calls for monitoring the perceptions of the publics in order to find a balance between various goals within and outside the organization and, further, to analyse the emergence of potential issues related to the organization. Environmental monitoring is defined by Vos and Schoemaker (2006: 89) as

*“the investigation of the social surroundings with the purpose of observing any developments.”*

While public affairs involve strategic policy making with regard to government and politics, opinion leaders, and pressure groups, issues management concentrates on handling of issues, which the public groups have been concerned of for some time. Unlike issues management a crisis is characterized with a narrow timeframe. Consequently, it is essentially reactive in nature. (Vos and Schoemaker 2005)

## Public relations as a discipline

Although public relations has evolved into an independent discipline of theory and practice, it is still fighting for its position among professionals as a management function apart from journalism, advertising, and marketing. The main differences between these functions are seen in the range of audience, activities, and in the objectives. Journalists write primarily for a mass audience through one channel providing the public with news and information, whereas advertising is primarily targeted to consumers of goods and services. The latter uses paid space and works mainly through mass media. Within public relations professionals most often segment audiences into sub-publics or stakeholders with whom they communicate through different channels in order to enhance understanding and cooperation. (Wilcox et al. 2000)

Most often public relations is considered as an appendage to *marketing*, as they both employ similar communication tools to reach the public and the purpose of both is to enhance an organization's success by initiating and maintaining long-term relationships. In spite of the obvious overlap in the tools of communication and purpose, Grunig (1992), however, views the main difference between public relations and marketing in terms of how the public is defined. In marketing the emphasis is on markets, consumers, and customers, whereas public relations is concerned with the public, audiences, and stakeholders, that is, all the groups that are affected by or can affect an organization. While marketing is traditionally concerned with customers and adding value through products and services, public relations focuses on adding value through generating good-will for the entire organization (Wilcox et al. 2000). Also, in the study of the European mainstream view on public relations, the discipline was perceived as a specialized management area which emphasizes mutually beneficial relationships, contrary to a marketing tool (van Ruler et al. 2004).

A closer look at public relations' role indicates its suitability for the purposes of this study in comparison to the closely related fields of journalism, advertising, and marketing:

- From the viewpoint of the wood products industry, young people - as potential employees - represent the public or stakeholders of the industry sector rather than the mass audience of journalism.
- As potential employees, young people are exposed to information concerning the wood products industry through a great number of media, not only advertising through mass media.
- The objective of the wood products industry in relation to young people is to create a supportive environment for recruitment.

In this study the overall aim of public relations activities is to improve the relationship between young people and the wood products industry by creating and reinforcing trust, comprehension, and sympathy among the parties. The activities of the wood products industry are perceived as essential. This is to create mutual understanding and agreement by arousing and adjusting the interests and needs of young people. In this endeavour, communication, which attracts attention, articulates interests and influences the perceptions of young people, plays an important role. In the following section, theoretical approaches to public relations are evaluated from the viewpoint of this study.

### *3.1.2 Theoretical approaches to public relations*

For some time, the field of public relations has been looking for a unifying theory. Grunig (1989) argued that despite the many theories that can be applied to public relations, there was, in the 1980's no public relations theory. Now, more than twenty years later, the field of public relations is developing into a theoretically based area of applied communication. Consequently, there are several theoretical approaches used to give rationale to public relations within the paradigm shift from *communication management* to *management of relationships*.

According to Toth (1992), the scholarly field of public relations can be divided into *systems, rhetorical, and critical approaches*. Each of them define concepts reflecting the real world of public relations from a certain point of view. By gathering this knowledge and evaluating it from the perspective of this study, the concepts found to be relevant in examining the relationship between the wood products industry and young people are chosen to be included in the theoretical framework. The critical approach dealing mostly with the ethics, negative social consequences or ineffectiveness of forms of public relations is not represented in this study. Instead, both the systems-based approach and rhetorical approach to public relations are briefly described here as follows.

#### *Systems-based approaches*

Public relations has long been related to the systems-based approach. It allows the consideration of all relevant actors, environmental influences, and the process nature of the discipline. General systems theory is grounded on the view that a set of individual objects or entities is often interrelated to form a whole – a system. The ultimate goal of a system is survival in the changing environment. In systems-based approaches, public relations environments are defined as anything that create changes or pressures on a system. Under these pressures, a system may adopt either a closed or open policy (Broom, Casey & Ritchey 2000; Cutlip et al. 2000).

A closed system concentrates on controlling the environment and attempts to direct the change efforts to the environment. The closed systems approach to public relations aims to exercise control over environmental forces. Whereas, according to an open systems approach, an organization is to respond and adjust to pressures from the environment in order to achieve and maintain its goal states. This approach calls for sensing the environment to forecast changes that affect organizational relationships with the public. The role of public relations is to bring about changes in both organizations and environments and thereby manage conflict and build relationships with strategic public. (Cutlip et al. 2000).

The contingency approach, based on the systems theory, underlines the interdependency between the courses of action in an organization and the prevailing situation. In public relations this means that the different publics and system boundaries which people form, must be defined for each situation or problem (Cutlip et al. 2000). This requires environmental scanning defined by Dozier (1990: 5) as “the detection of environmental turbulence or change likely to affect the homeostasis of the system”. This simply means establishing, through research or other forms of information gathering, what is happening in the environment of an organization. In the terms of systems theory, these findings serve as inputs and are taken into account in planning public relations activities, or outputs.

The two-way model of symmetry, based on the excellence studies of Grunig's (1992) research team and mixed-motive model of game theory (Murphy 1991), represents a contingency approach to public relations. Its aim is to maintain long-term relationships through dialogue between the organization and the key public. Following the conclusions of Grunig (1992) the two-way model of symmetry can be defined as

*a model for reconciling of interests through negotiations in a conflict situation in order to reach an outcome satisfactory to both parties.*

In order for the two-way model of symmetry to work, both parties must be willing to engage in dialogue. Thereby, the model serves best as a basis for communicators in planning strategies in situations where the interests of an organization and the public seem to be in conflict in a way where negotiations are needed to resolve them (Dozier, Grunig & Grunig 1995). Two-way model of symmetry is considered a functional approach to public relations as it focuses on how public relations functions in organizations (Durham 2005).

According to the two-way model of symmetry, public relations is considered to be symmetrical, as it works for changes on both sides through conflict resolution and negotiation, rather than through persuasion and media effects. (Dozier et al. 1995) One of the assumptions of the model is that the public will have the power to accomplish their goals after forming activist groups. However, the model has raised the question of the disempowered public, their communication skills and also their resources to be able to represent themselves in public debate (Curtin & Gaither 2005).

In recent years, much of public relations research has focused even more on relationships (Huang 2001; Grunig & Huang 2000; Ledingham and Bruning 2000; 1998; Grunig & Hon 1999). These studies based mainly on the systems approach investigate the core public relations functions of relationship building by concentrating in explication, operationalization, and the measuring of relationships. So far, organization-public relationships have been found to be a result of both communication and organizational behaviors. Further, different types of relationships have been identified. In order to understand relationship building better the scholars of public relations have also visited theories of interpersonal communication. In particular, the construct of trust is seen as an

important part of the relationship between the public and the organization (Botan & Taylor 2004).

### The rhetorical enactment approach

Recently, a new perspective on the definition of public relations has emerged on the grounds of dialogue taking place in society. According to the *rhetorical enactment approach* to public relations, individuals and groups co-create and negotiate identity, interest, and meaning in dialogue (Heath 2001). Thus, it can be seen to represent a semiotic-cultural view, which emphasizes identity and relationships through the creation of shared meanings. In accordance with Heath (2001) the rhetorical enactment approach can be defined as

*working for an approval of the statements and behaviors of an organization among key publics through co-creation of identity, interests and meaning with them.*

In this process the organization is not necessarily understood to be the dominating party.

Generally, *rhetoric* refers to the demonstration of facts and arguments when attempting to bring insight to an important issue. According to the thinking of Aristotle, rhetoric focused on an individual speaker, whereas in the middle ages, rhetoric was associated with skilled writing. Nowadays, besides speaking and writing, rhetoric can also refer to nonverbal and visual tactics, and this appears in all forms of media (Heath 1992).

*Enactment* includes all that is said and done by an organization to reach understanding and approval upon its identity and interests with different stakeholders in pursue of mutually beneficial relationships. Statements and counterstatements are used as a means to define and advance interests. Enactment exists when one party acts and another party reacts to what it says and does. Thus, values and opinions, which lead to choices, are contested and differences are worked out regarding policies that are needed for an orderly and harmonious society (Heath 2001).

Heath (2006) concludes that each group that has a stake in some matter, co-creates meaning through dialogue. This process is suggested to result in shared meaning, which rests on interpretation of information, weighing of values, and consideration of policy. Once the ethical standards of community are agreed upon in the dialogue and met in responsible behaviors, organizations can more effectively advocate their interests, and even persuade their addressees until other voices turn minds against them (Heath 2001).

Heath (2001) argues that in the rhetorical approach to public relations all parties are assumed to be symmetrical. This means that they are privileged to express their ideas. Thus, in rhetoric, the scope of symmetry is enlarged: the essence of it is not the outcome, but the dialogue itself which contests the strength of each idea in public. According to rhetorical symmetry, advocates are equal until their ideas are contested and more compelling ideas defeat weaker ones. In this dialogue, neglecting or rejecting the message also stands for symmetry.

### Approaches to public relations in this study

Systems perspective, representing a process view for public relations, emphasizes the organizing of public relations efforts. The contingency approach based on it perceives information gathering from the environment as a prerequisite for determining the actions relevant in a special situation. Representing a semiotic-cultural view, rhetorical enactment

approach, in turn, underlines identity, interests and dialogue that are taking place in society and also their role in harmony-building activities between organizations and the public.

This study combines elements of both systems perspective in the form of relational approaches to public relations and rhetorical enactment approach in its effort to describe and evaluate the relational perceptions of young people about the wood products industry. These approaches together are suggested to provide perspectives to the relevant elements of relationship management including behaviors of the wood products industry and the processes of communication in relation to young people.

### 3.1.3 Publics

The stakeholder thinking emerged in Europe and Scandinavia in the 1960s and 1970s as a theory of the firm. In America, the stakeholder approach and theory became a relevant basis for modern strategic management in the 1980s. (Näsi 1995). According to Freeman (1984: 25)

*"a stakeholder is any group or individual, who can affect or is affected by the achievement of the firm's objectives".*

The somewhat older definition of Rhenman (1964: 36) uses almost the same terms to define stakeholders as

*"the individuals or groups, who are depending on the firm in order to achieve their personal goals and on whom the firm is depending for its existence".*

This means that the stakeholders and the organization have a connection, which is based on economic, political, or social concerns. According to Näsi (1995), typical stakeholder groups are owners, management, employees, customers, suppliers, lenders, government, community, media, unions, consumer groups and environmental groups.

As a concept stakeholders is close to publics used in public relations. A definition of the publics includes those, with whom the organization must establish and maintain enduring and mutually beneficial relationships (Cutlip et al. 2000). This is fairly consistent with the general definition of stakeholders. There is, however, a distinction between stakeholders and publics: within public relations publics are, typically, defined by their connection to an organization in a particular situation.

### Situational theory of publics

The typology of publics much used by public relations scholars is based on the situational theory of publics developed by Grunig (1997). According to this theory, publics are situational: they come and go and change as situations change. Grunig (1997) identified three independent variables that predict active communication behaviors of publics:

1. problem recognition refers to the degree to which people perceive that something should be done about a situation and stop to think about what to do
2. constraint recognition describes the extent to which people find obstacles in a situation that limit their ability to do anything about it
3. level of involvement defines the extent to which people connect themselves with a situation.

Grunig (1997) argues that publics are more likely to be active in communication when they perceive high level of involvement, high problem recognition, and low constraint recognition. In general, Grunig's ideas correspond to those proposed by Dewey (1927). According to Dewey, a public arises, when a group of people is confronted by a similar

problem, recognizes the existence of the problem and gets organized to do something about the problem

Grunig (1997) views these three conditions as separate stages in the development of an active public. First, the situational theory of publics makes a distinction between stakeholders and publics. In addition, it suggests three levels of relationship between an organization and its publics: *stakeholder stage, public stage, and issue stage.* (Grunig & Grunig 2000) The core aim of classifying the publics on the basis of situational theory is in identifying groups to which public relations should target its communications in each situation (Grunig & Hunt 1984). According to Grunig and Grunig (2000) a *stakeholder* relationship is formed when the behavior of an organization or a stakeholder has consequences on the other. Stakeholders are, however, passive.

On the basis of the situational theory *publics* are formed when there is a problem which is caused by the actions of an organization. Those facing no common problem are called *non-public*. The publics are classified into three groups according to the level of their problem recognition: *latent, aware, and active publics*. Latent publics are formed, when people face a common problem but do not recognize it, aware publics merely recognize the problem, whereas active publics also try to do something about the problem. (Grunig & Repper 1992; Grunig & Hunt 1984) *The issue stage* goes even further than the public stage. In an issue stage, the public organizes around problems and develops further into activist groups formally meeting to organize strikes, demonstrations, or other activities to further their view of an issue. (Grunig & Hunt 1984)

The situational theory of publics has been criticized for its tendency to overemphasize the view that a public is centred on a problem or an issue (Cozier & Witmer 2001). In addition, it has been stated that communication with active publics is reactive and extremely difficult. Instead, in compliance with proactive public relations, goals which are in conflict with mutual interests should be altered before they become issues or problems. Thus, proactive public relations requires information gathering and analysis of communicative practices of latent and aware publics or even non-publics and also communication with them (Dozier & Ehling 1992). It has, also, been stated that within public relations efforts favourable publics should not be forgotten (Kelly 2001).

Based on the situational theory of publics Hallahan (2000) developed a typology of publics using knowledge and involvement as criteria for defining publics. Together with aware, aroused, and active publics, who were all related to a problem or issue, Hallahan defined also inactive publics. They represent “groups composed of individuals who, as a whole, possess comparatively low levels of knowledge about an organization and low levels of involvement in its operations” (Hallahan 2000: 504).

The group of inactive publics often represent the large numbers of people, which organizations strive to influence: the way they buy, invest, donate, work, and vote. According to Hallahan (2000), the fifth group of typology, non-publics, which include individuals with no knowledge and no involvement with an organization, should be given inactive public status once individuals attain any level of knowledge or involvement. In effect, the degree to which an individual or group perceives the organization as personally relevant and the amount of their knowledge about the organization should be taken into account in communication strategies.

## Publics in the rhetorical enactment approach

Within *the rhetorical enactment approach* stakeholders sharing values, opinions, and choices in community form a public. According to this approach values or ethical standards are assumed to be defined through dialogue with the members of a community. Values and opinions that lead to choices are, eventually, made evident through the actions each community takes. As a management function, public relations is expected to respond to those persons or groups, whose mutually beneficial relationships are needed to achieve its mission. (Heath 2001)

It is proposed, that organizations make choices concerning any value perspective within the limits of statements which are made by the key publics. Following this line of thought, opinions and corresponding choices can be used to identify different publics. Differences between publics arise on the basis of choices concerning public policy, product or services, and attitudes about a person, a group, or an organization. Thus, in the rhetorical enactment approach key publics are defined according to the values, opinions, attitudes, and choices among those persons or groups, who can in turn affect the achievement of an organization's purpose (*ibid.*).

### Young people as publics in this study

Within the scope of this study, the small interest of young people in the wood products industry has consequences on the industry sector creating considerable difficulties in recruiting skilful and motivated employees. According to the situational theory of publics, young people can, generally, be perceived as stakeholders belonging to the category of potential employees in relation to the wood products industry. However, as young people are not found to face any identified problem caused by the wood products industry, according to the situational theory of publics, they are not to be included into publics; rather they are considered as a passive, non-public group. The role of young people as a base for recruitment is, nevertheless, essential for the achievement of the mission of the wood products industry.

For the aforementioned reasons, the situational theory of publics does not offer a basis to define young people as key public members of the wood products industry in this study. Neither does the two-way model of symmetry give support to such a definition in this respect as its roots are in the conflict situations with active publics defined by the situational theory of publics. Thereby, broader definitions are needed in order to define young people with a low interest in the wood products industry to be classified into key publics and specific public relations activities developed, accordingly.

In this study the focus is in a demographically heterogeneous group of young people, who do not share a known problem caused by the wood products industry. Instead, they do not find the wood products industry as attractive. Enlarging the sphere of publics to other than active publics caused by a problem or conflict situation, both Hallahan's (2000) typology of publics and the rhetorical enactment approach to public relations give a reason to examine young people as a key public of the wood products industry: First, young people form a group essential for the wood products industry to achieve its mission. Second, the large majority of young people is distinguished in its relational orientation concerning the industry sector as they are not interested in working within the wood products industry. Finally, the definition of inactive publics of Hallahan (2000) and publics sharing values, opinions, and choices in the rhetorical enactment approach give a rationale to divide young

people into groups according to differences in their level of knowledge and involvement, and further, consistent perceptions in relation to the wood products industry.

### *3.1.4 The level of involvement*

While the majority of young people represent those with little interest in the wood products industry, in this study, young people with a high interest in the industry are also examined. This is done in order to establish the differences of perceptions between these groups and within the groups. In this study the relational orientation of young people towards the wood products industry is examined by the means of involvement.

In their causal model of consumer involvement, Mittal and Lee (1989: 365) define involvement as “the perceived value of a ‘goal-object’ that manifests as interest in that ‘goal-object’”. In the involvement research it has been found that high involvement increases commitment on the part of consumers (Evans 1993). According to Gordon, Keage and Fox (1998) involved buyers are more likely to value the benefits of relationship marketing tactics of personalization, individualization, and continuity, and to respond positively to them.

With regard to information processing, the research of Petty, Cacioppo and Schumann (1983) on Elaboration Likelihood Method (ELM-theory) has shown that involvement is an important factor in relation to probability and the degree of cognitive processing. In weak involvement cases, attitude changes occur via the peripheral route induced by the source likability, the number of arguments, or repetition of messages e.g. in advertising. In high involvement conditions attitude changes result via central route as individuals have shown to be motivated to devote more attention to the message quality and invest greater cognitive effort to comprehend information.

There are many proposals and ideas for conceptualizing and measuring the concept of involvement. According to Zaichkowsky (1985) this is perhaps due to the different applications of the construct in the consumer’s purchase and communication behavior. She criticizes the fact that researchers too often categorize the resulting behaviors as indicators of the level of involvement. Zaichkowsky (1985: 342) conceptualizes involvement as

*“a person’s perceived relevance of the object based on inherent needs, values, and interests”.*

She developed a context-free measure of involvement, the scale of Personal Involvement Inventory (PII), which is composed of 20 bipolar items (Zaichkowsky 1985: 344).

After reviewing the construct of involvement in psychology, organizational behavior, and marketing, Barki and Hartwick (1994: 61) defined involvement as

*“a subjective psychological state, reflecting the importance and personal relevance of an object or event”.*

In their study measuring user participation, user involvement, and user attitude in the case of information systems application, they divided the overall involvement scale of Zaichkowsky (PII) into two subscales reflecting the dimensions of importance and personal relevance. In addition, Barki and Hartwick (1994) excluded nine items from Zaichkowsky’s scale, as those appeared to assess attitude, not involvement. According to Barki and Hartwick (1994), their scales for user participation and user involvement would be applicable in a variety of contexts.

Bringing together the definitions of Barki and Hartwick (1994) and Mittal and Lee (1989) the concept of involvement is understood in this study as an interest in the wood products industry in the form of its perceived general importance and personal relevance to

young people. The importance of the wood products industry is assumed to represent its appreciation as an industry sector in Finland perceived by young people. In accordance with Zaichowsky (1985), personal relevance is based on needs, values, and interests of young people in their relation to the wood products industry.

The group of young people with a low level of involvement is suggested to include those who perceive the wood products industry to be of little importance and personal relevance. The majority of young people finishing their studies at comprehensive school are known to have very little interest in the field of the wood products industry. Consequently, in this study those with a low involvement are assumed to be found among this group. On the other hand, young people, who are already studying in the field are assumed to represent, for the most part, the group of highly involved participants evaluating the industry sector to be of high importance and personal relevance.

### **3.2 Relationship management in public relations**

As presented in the previous chapters, public relations have developed from press agency through publicity and information sharing towards relationship management. Although, the relational perspective has emerged as an area for exploration already from the mid-1980's, in practice, public relations is still viewed in many organizations, primarily, as a means of generating favourable publicity, with the key public members being passive recipients of communication. However, an increasing number of scholars and practitioners of public relations are pointing to relationships as the key indicator of successful public relations to focus on the management of organization-public relationships from varying approaches.

Ehling (1992) contends that the relationship perspective represents a shift from manipulation of public opinion toward a focus on building, nurturing and maintaining relationships as the core function of public relations. On the whole, the emphasis of public relations practice and research is on the move from the management of mass communication more and more towards relationship management. A definition of public relations by Cutlip et al. (2000: 6) reflects the change clearly:

*“public relations is a management function that establishes and maintains mutually beneficial relationships between an organization and the publics on whom its success or failure depends”.*

The relational point of view is also central in the rhetorical enactment approach to public relations. It is suggested to give a rationale for *managing relationships between people and organizations through words, interests, opinions, and action*. The initiation and maintenance of relationships through the production, exchange, and negotiation of meanings is presumed to take place in the community. On the basis of rhetorical enactment approach to public relations, the process of relationship management can be advanced by planning, research, collaborative decision making, public communication, promotion, and publicity. (Heath 2001)

The aforementioned activities are recommended by Heath (2001) to improve an organization's ability to listen, appreciate, and respond to individuals and groups, as their goodwill is vital for the mandates of an organization. In the rhetorical enactment approach the reality is suggested to be socially constructed. Thus, the potential of ongoing dialogue between the wood products industry and young people ensures, which values are highest among young people, what are the actions that enhance the relationship quality, and the relevant information dissemination, accordingly.

Ledingham (2003: 190) has, finally, explicated relationship management as a general theory of public relations by articulating the concept in a theoretical statement:

*“Effectively managing organizational-public relationships around common interests and shared goals, over time, results in mutual understanding and benefit for interacting organizations and publics.”*

Relationships are typically specified for each situation and program within public relations. Cutlip et al. (2000) point out the meaning of relationships in the larger context of public relations management: There are situations where the organization's goals can be achieved by maintaining existing relationships in changing conditions. More often, however, goals and even relationships must be adapted for organization-public systems to adjust in the changing social environment. This is suggested to be the challenge that the wood products industry will face in the immediate future in relation to young people. While new publics are emerging, there is a growing need to develop new processes and methods for analyzing them too. In the chapters that follow, the concepts and models relevant to organization-public relationship within the context of this study are presented.

### *3.2.1 The concept of relationship in public relations*

According to Bruning and Ledingham (1999), awareness of each other is the first condition of an organization-public relationship, with dialogue being the second prerequisite. They conclude that public relations is “a two-step process, in which organizations must

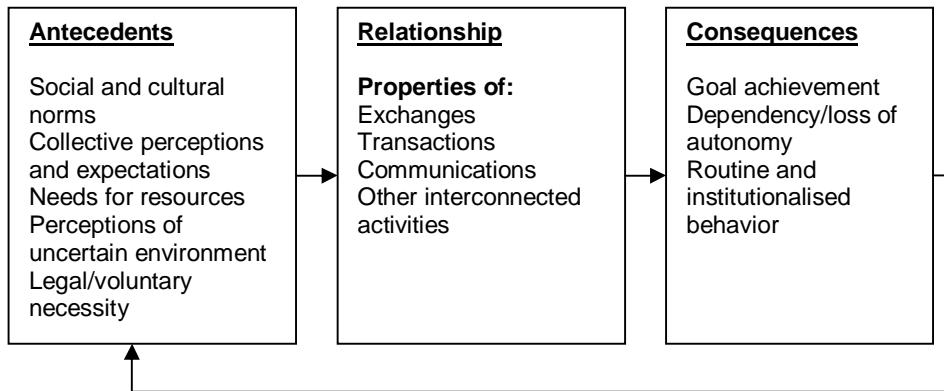
1. focus on the relationships with their key publics
  2. communicate involvement of those activities and programs that build the organization- public relationship with members of their key publics”.
- (Ledingham & Bruning 1998: 63)

### The model of organization-public relationship

Broom, Casey and Ritchey (1997) constructed a model to develop theory around the concept of relationship. According to Broom et al.'s (2000: 17) definition of relationships:

*“the formation of relationships occurs, when parties have perceptions and expectations of each other, when one or both parties need resources from the other, when one or both parties perceive mutual threats from an uncertain environment, or when there is either a legal or voluntary necessity to associate”.*

They propose that, although relationships are dynamic, they can be examined at any given point of time. They also conclude that organization-public relationships should be considered in terms of *antecedents, relationship state, and consequences* (**Figure 3**). The same design is suggested by Grunig and Huang (2000) and also Hutton (2001). In the model of Broom, Casey, and Ritchey (1997) antecedents explain reasons, why organizations enter into relationships with specific publics. Relationship properties define the nature of a relationship and consequences specify the outcomes of a relationship.



**Figure 3.** The model of organization-public relationship.

Source: Broom, Casey & Ritchey 1997.

#### Exchange and communal relationships

Grunig and Hon (1999) have made a distinction between exchange and communal relationships according to the functional role of a relationship in the organization-public context. Relationships between organizations and customers, suppliers, and stockholders usually represent exchange relationships. However, publics expect organizations to do things for the community and their stakeholders without getting anything, or much, in return in the short run.

In a communal relationship, parties are willing to provide benefits to the other, because they are concerned for the welfare of the other; even when they believe they might not gain anything in return. Communal relationships include, for example, the community and the media. Communal relationship is particularly intended to enhance trust between an organization and its publics. According to Grunig and Hon (1999), exchange relationships may develop into communal relationships, whereas, sometimes, building a communal relationship with a public is needed before an exchange can take place. Grunig and Hon (1999) state, that as a profession, public relations distinguishes from others, such as marketing, on the basis of its expertise needed to build communal relationships with publics.

#### Symbolic and behavioral relationships

Grunig (1993) draws a distinction between *symbolic relationships* linked to communication and *behavioral relationships* concerned with organizational behavior, the actual interaction between an organization and its publics. He notes that the shift from image to substance within a relationship context means moving beyond the concern with mere symbolic relationships engaging in both symbolic and behavioral relationships. Grunig (1993) argues that relationships are behavioral as their quality depends on how the parties behave towards one another. Instead of an image separate from behavior, organizations have a reputation which consists of an organization's behaviors remembered by a public.

According to Grunig (1993), organizations are to combine symbolic communication messages and organizational behaviors to initiate, build, nurture, and maintain mutually beneficial organizational-public relationships. Grunig (1993) points out that, even, when the interest lies in long-term behavioral relationships, symbolic relationships are not to be dismissed. Public perceptions of an organization are the product of communication, the experience of public and the experience of others with the organization. Poor behavioral relationship frustrates one's efforts to use communication to build a symbolic relationship, while a symbolic relationship can improve an average behavioral relationship to some extent.

Similar to Grunig (1993), Bruning and Ledingham (1998) state that effective organization-public relationships are the result of both communication and organizational behavior. The studies conducted by Bruning and Ledingham (2000; 1998) show that developing mutually beneficial initiatives of relationship building can help practitioners to move the practice of public relations away from a pure journalistic approach into a management approach.

One major aspect of relationships is the idea of dialogue, which has extended public relations theory from symmetrical models to dialogic orientation (Botan & Taylor 2004). According to the rhetorical enactment approach to public relations, people experience one another and organizations in society by what they say and do. Enactment consists of all that is said and done by organizations in their endeavour to build up mutually beneficial relationships with key publics. It is to serve society bringing statements of facts, policy claims, and values into an open discussion (Heath 2001).

Within the rhetorical enactment approach to public relations the discipline is divided into

1. pursuit of organizational responsibility in actions and
2. co-creation and co-management of meaning through communication.

According to Heath (2001) these functions together are assumed to relieve tensions, diminish alienation, and enhance mutually beneficial relationships. This idea is also included in Grunig's (1993) proposition about symbolic and behavioral relationship needed simultaneously to foster relationships within public relations.

### The concept of relationship in this study

According to Broom, Casey, and Richey (1997), the model of organization-public relationships provides a basis to define a relationship. It also gives a premise for this study to define a relationship to exist between the wood products industry and young people. Further, it explicates the concept of organization-public relationship as antecedents, relationship state, and consequences.

At least two of the antecedents explaining causes for relationship formation are realized in the premises of this study: The industry sector needs resources from young people as potential employees. The wood products industry and young people are also assumed to have perceptions and expectations of each other. This is based on the long traditions and well-known position of the wood products industry in Finnish economy and the basic knowledge of the occupation all young people get during the lessons of woodwork at comprehensive school. As far as the relationship state is concerned, the relationship between young people and the wood products industry includes at least properties of communications, probably also interconnected activities in the form of visits to the mills and training. The consequences of the model are represented in the form of successful

recruitment of young people as a goal achievement and increased dependency between the parties. Thus, according to the model of organization-public relationships, a relationship exists between the wood products industry and young people.

More precisely, similar to Grunig and Hon (1999), the relationship in focus here can be defined as a communal rather than an exchange relationship. Although no exchanges are planned to occur between the parties, young people are suggested to expect the wood products industry to carry out things that are also in their interests. By doing so, the industry sector builds up goodwill and support among young people toward itself as a potential future employer.

As emphasized in the systems perspective and the rhetorical enactment approach to public relations, both behavioral and symbolic relationships are perceived to be essential in the context of this study. The perceptions concerning relationship with the wood products industry among young people are presumed to be affected by behaviors and communication of the industry sector. In other words, young people experience the wood products industry through its words and actions.

Within the scope of this study symbolic relationship is represented by *communication* (Heath 2001; Bruning & Ledingham 1998; Grunig 1993) concerning the wood products industry which young people are exposed to. Behavioral relationship, which consists of organizational behaviors, is defined as *perceived organizational responsibility in actions* (Heath 2001; Bruning & Ledingham 2000). The evaluation of both symbolic and behavioral relationship between the wood products industry and young people is presumed to reveal, whether or not they support each other in initiating and developing the relationship. Perceived deficiencies may be found both in symbolic relationship and in behavioral relationship, or only in one of the two.

### 3.2.2 Communication

The role of communication for organizations has strengthened during the past decades. Communication has also had a central role in public relations activities from the beginning. For years, public relations was defined, simply, as the management of communications. During recent decades practitioners have begun to emphasize that communication is not an end in itself, but messages are also transmitted through the behavior of an organization. Grunig (1993) makes a distinction between symbolic relationships referring to communication, and behavioral relationships developing on the grounds of organizational behavior. He finds them both necessary for building long-term relationships: communication should be utilized to inform key publics about the organizational behavior.

Within the rhetorical enactment approach to public relations the organizational responsibility in actions is emphasized together with the co-creation and co-management of meaning. According to Heath (2001), these functions together require active communication to ease tensions or alienation and build mutually beneficial relationships.

Thus, communication is needed to inform key publics about the organizational behavior. Often, communication is the most visible part of public relations work. In relationship marketing a link has been found between communication and trust. According to Anderson and Narus (1990) relevant, timely, and reliable communication results in greater trust. Also Morgan and Hunt (1994) posit that communicating valuable information develops trust. Recently, the literature of public relations has also emphasized the role of active communication behaviors of publics as one of key variables affecting the quality of organization-public relational outcomes (Yang 2007).

The four models of public relations, the two-way model of symmetry and the rhetorical enactment approach to public relations emphasize different aspects of communication. In the following chapters the features of these views are examined and evaluated for the purposes of this study.

### Models of communication

Public relations is a phenomenon of the twentieth century, although, its means of human communication has been in use for as long as people have tried to influence the perceptions and behaviors of other people. Grunig and Hunt (1984) have identified four models of public relations. The four models of public relations follow the sequence of the historical development within the field.

In the mid-19<sup>th</sup> century the purpose of *press-agency and publicity* was to spread propaganda in regard to the operations of an organization or an individual. Later publicity has been generated through interviews, pamphlets, posters, speeches, news conferences and other means of public relations for virtually every purpose. Gaining the attention of the target audience has always been the most important goal of publicity management. At the beginning of the 20<sup>th</sup> century, the concept of *public information* developed to counter the attacks on organizations in the media. The purpose of making truthful and accurate information available for the public is not only persuasive, but also informative. Both the press agency/publicity and public information models represent the one-way approaches to public relations. This means the dissemination of information from the organization to publics, usually through the media. (Wilcox et al. 2000; Grunig & Hunt 1984)

In the 1920s a scientific approach emerged into public relations making it a two-way process. Information was gathered from target publics in order to evaluate attitudes and to make use of the most effective media and message strategies. The purpose of the *two-way asymmetrical public relations* is scientific persuasion to reach the organization's objectives. The goal is however to identify messages most likely to motivate or persuade publics to meet the objectives of an organization. (Wilcox et al. 2000; Grunig & Hunt 1984) In the *two-way symmetrical public relations* research is used to facilitate understanding and communication and to negotiate mutually beneficial outcomes for the parties. Research is also needed to evaluate the extent to which public relations activities have improved the understanding publics have of the organization and the understanding the management has of the publics (Cutlip et al. 2000). Consequently, information exchange is meant to cause changes on both sides of the organization-public relationship. The two-way symmetric model of public relations has been in use in some organizations since the 1960s and 1970s (Wilcox et al. 2000). In brief, it can be said, that the direction of the communication flow describes the extent to which the model is one-way or two-way, and the purpose defines, whether it is asymmetrical or symmetrical.

The research of excellence in public relations (Grunig et al. 1992) revealed that only a few public relations departments actually practised the two-way symmetric model, while most organizations employed all four models at varying times and with different publics. Murphy (1991: 125) suggested that according to game theory organizations play a "mixed-motive" game in their public relations activities. This means that an organization and its public want both to forward their own interests (asymmetric) and also to reach a solution acceptable to the other party (symmetric).

On the basis of Murphy's (1991) conclusions, Dozier, Grunig, and Grunig (1995) developed *the two-way model of symmetry*, which subsumes the former models of two-way symmetrical and two-way asymmetrical practices. The two-way model of symmetry is, firstly, an approach to reconciling interests in conflict, which means balancing the views of organizations and publics in issues and crisis management. In that model communicators of the organization are suggested to communicate with both publics and executives of the organization to reach an outcome or a relationship. This means negotiating, collaborating, mediating solutions to issues, and making information available in a user-friendly way.

The idea of a two-way model of symmetry is intended to contribute to creating and maintaining beneficial long-term relationships, especially through reconciling interests in conflict situations. In this study, however, the question is not about different interests around a specified issue or a conflict situation, which provides the need for negotiations. Instead, the focus is in the low rate of interest young people, generally, show towards the wood products industry in Finland. The industry sector does not seem to be meaningful for young people as a field to work in.

#### Rhetoric as a means of communication

Generally, rhetoric is known as an approach which uses communication for social influence concentrating more on the message contents than on media. Typical means of rhetoric are (Heath 2001; 1992) provision of sufficient and accurate data, persona formulation, pursuit of identification, use of perspectives, and use of narratives.

On the basis of rhetoric, people share and interpret *facts and information, arguments and evidence*, to draw from them their conclusions whether the matter serves their needs. These conclusions and recommendations are defended and attacked. According to Heath (2001), this means justifying contestable propositions on the grounds of accuracy, sufficiency, and relevance of the data available. Participants of communication try to advance their views as being supportable by providing accurate and sufficient information. In this process participants use what they believe to be relevant value premises. Thus, judgement is made public through rhetoric (Heath 1992).

In rhetoric, an organization, industry, or business sector is presumed to have a *persona*, which is formed among audiences on the basis of what is said and how it is said through public relations. Persona is, also, shaped through the actions of an organization. For example, a widely held persona of the oil industry is that it is a ruthless and inflexible actor of pure self-interest (Heath 1992). Through rhetorical *identification* audiences realize that they share opinions on matters of interest with the organization. This occurs when people agree on some value, action, or policy. Identification can be pursued, for example, by joining in a publicity stunt, supporting a community event, buying a product or service, or agreeing on a public policy standpoint (*ibid.*).

While advocating a statement, acceptance may be attained by widely held *perspectives* or views contained in the statement. In recent years, such perspectives have been, among others, environmentalism and feminism. Perspectives shape perceptions, evaluations, and behavior. For example, automobile manufacturers and insurance companies have made good use of different perspectives on car accidents: recklessness or drunkenness of drivers vs. safety of cars. Thus, public relations activities take advantage of existing points of views as the source of their values, assumptions and themes to support their conclusions (Heath 1992). Much of public relations relies on *narratives* or stories as they provide, not only, the context for interpreting facts, but also values. In that way, they allow receivers to judge the

facts and draw conclusions. Organizations and sectors of industry can be portrayed in a narrative form (*ibid.*).

From the point of the rhetorical enactment approach communication is inherently two-way and symmetrical. (Heath 2001). Within the context of this study it means that young people, even when ignoring or rejecting the messages of the wood products industry, are meant to interact with their communicators. Thus, in this study, the task of public relations is suggested to help different parties, young people and the wood products industry, to become more relevant and meaningful to one another. According to the rhetorical enactment approach to public relations this process may be enhanced by co-creating meanings through interaction. This is suggested to lead to a sense of community, when the parties, through dialogue, test each other's views of reality, values, and choices.

In this study a basis for co-creating meanings is provided by the values and policies of the wood products industry, as well as, the related values and consistent choices of young people. The results may be used by the industry sector to develop public relations activities for co-creating meaning with young people, and, finally, increasing mutual understanding and relevance.

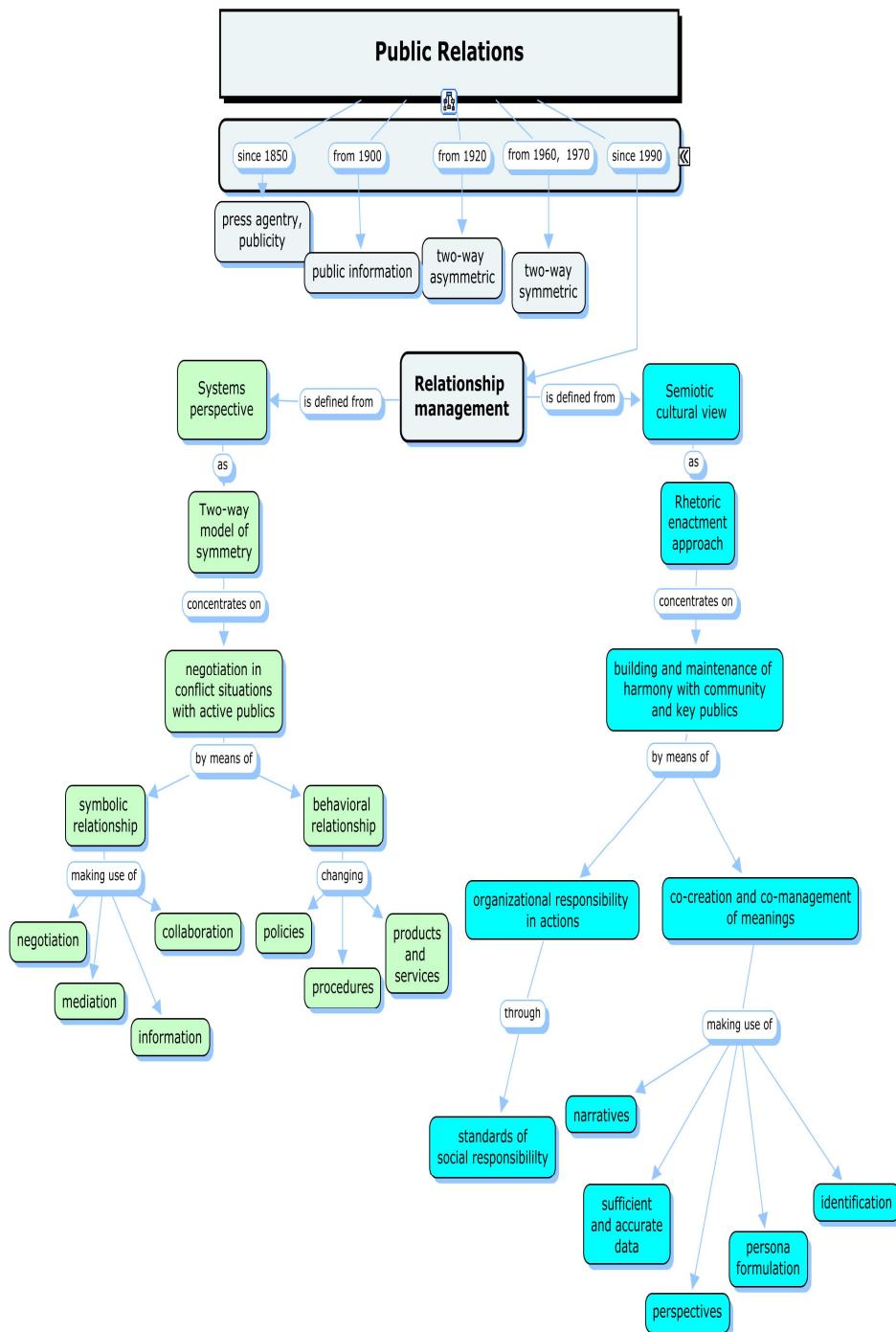
When comparing the two-way model of symmetry and rhetorical enactment, similarities can be seen. Both of these approaches emphasize relationship management as being central to the practise and research in public relations. They also perceive two-way communication to be more fruitful for relationship building within public relations than the mere transfer of information or manipulation of audiences. There are, however, differences in both assumptions and directions of research and implementation. Consequently, these two approaches to public relations have somewhat different influences not only in definitions of the public but also in communication and relationships (See **Figure 4**, produced by Cmap Tools).

The two-way model of symmetry is, in essence, a functional approach to public relations designed to serve in conflict situations. Its goal is to create a consensus between an organization and certain public domains through adjustment and advocacy in negotiations. The rhetorical enactment approach emphasizes ongoing dialogue by expression and advocacy of ideas in the continuous process of their contest. Monitoring public perceptions of organizations is crucial for both approaches in order to identify and understand key publics.

### Integrated communication

Integrated communication is perceived essential for organizations in order to make communication more effective. According to Vos and Schoemaker (2005) integrated communication, known also as integrated corporate communication, should involve harmonization of three different levels of communication: 1) operational level, e.g. messages issued by an organization, 2) different fields of communication including concern communication, internal communication, and marketing communication, and 3) the level of the organization policy and its social environment. Concern communication is close to communication within public relations referring to external communication, which aims at various relations outside the organisation.

Consistency of communication is also important in the recruiting context of this study. Young people are, typically, assumed to evaluate the wood products industry through incomplete information, which makes them, according to the signalling theory (Breaugh 1992; Spence 1974), interpret all kinds of information they are exposed to as signals about



**Figure 4.** Description of two relational approaches to public relations.

the industry sector as an employer. Vos and Schoemaker (2005) propose that the harmonization of communication in an organization requires both collaboration of various people active in different fields of communication and top managers' awareness of the functions that communication can fulfil for the organization.

### Forms and groups of media

Hallahan (2001) outlines *an integrated model of media* to be used in program planning and media selection within public relations. According to Hallahan's (2000) typology of publics, it is the inactive publics, which place the burden on the organizations to establish communication programs that reach the attention of less attentive publics. This involves enhancing their motivation and ability to focus on the organization and its messages also by the means of press agency, public information, and one-way asymmetrical communication. Consequently, Hallahan (2001) suggests, that all media used in public relations can be grouped into one of five media categories ranging from mass communication to interpersonal communication: 1) *public media*, 2) *interactive media*, 3) *controlled media*, 4) *events and group communication*, and 5) *one-on-one communication*.

In the classification by Hallahan (2001), public media represents channels owned and operated by media organizations. While the media have an intermediary function in communication with the public, media contacts are essential for the organization. Many groups of the public can be reached through them. In addition, the media play a significant role in offering a base for public debate, which each party can participate. Consequently, media contacts are of great importance for an organization. In order to enhance good media contacts organizations are advised to follow the media, maintain media relationships, write press releases, organize press conferences and media visits, act as spokesperson and support management spokespersons for interviews. Moreover, articles and open letters could be offered to professional magazines and free local papers. (Vos & Schoemaker 2005)

Interactive media includes telephones, personal computers, and interactive television. These interactive media are operated by corporations and allow interactive use with audiences. (Hallahan 2001) Lately, personal computers have enabled also users to generate, create or bring media content like music, text, videos and images from somewhere else on the Internet. These interactive practices, which are related to the online content and people involved with that content, are known as social media. In spite of the first public site being in use in Finland already at the turn of the 80's and 90's, the term social media was introduced not until 2005 in web 2.0 rhetoric. (Lietsala & Sirkkunen 2008) Within public relations the more institutional tools like e-mail and www-sites have been early adopted in order to reach out to and engage the publics in conversation. Although, blogs, podcasts, text messaging and social networks are nowadays also in use, more wider and active exploiting of the rapidly developing new media is a challenge. (Eyrich, Padman & Sweetser 2008).

Thus, in social media, content is shared voluntarily through online platforms with the help of applications based on social software. In addition to the content sharing the most typical features of social media are the social networks, where people's connections are made visible. Other popular forms of social media are content creation and publishing tools, collaborative productions, and virtual worlds. (Lietsala & Sirkkunen 2008).

Further, in Hallahan's (2001) typology, sponsors of controlled media have total responsibility for the design, production, and distribution of information. Event and group communication takes place on an interpersonal level between a representative of an organization and a group of people, whereas one-on-one communication involves

interpersonal communication between a representative of an organization and a member of a public. For example, in sponsoring an agreement is made consisting of an effort, valued in money, by the sponsor and communication possibilities provided by the sponsored party. It offers opportunities for building awareness and goodwill in society. (Vos & Schoemaker 2005)

According to Hallahan (2001), the direction of communication is one-way in public media and controlled media, two-way in one-on-one communication, quasi-two-way in interactive media, and also events and group communication (**Table 2**). Hallahan (2001) defines key uses for the different means of media. According to him the main use of public media is building awareness among the publics, whereas controlled media is used more for promotion and providing detailed information. Interactive media is found useful for handling queries and sharing information, while events and group communication is the way of motivation and reinforcement of existing beliefs and values. Finally, interpersonal one-on-one communication is used to obtain commitment and resolve problems with key publics.

**Table 2.** The direction of communication in different media.

Source: Hallahan 2001: 464.

DIRECTION OF COMMUNICATION	ONE-WAY	QUASI-TWO-WAY	TWO-WAY
MEDIA CATEGORY	Public media Controlled media	Interactive media Events/group communication	One-on-one communication
MEDIA CHANNELS	Newspapers	Internet	Personal visits
	Magazines	Intranet	Lobbying
	Radio	Extranet	Personalized letters
	Television	Databases	Telephone calls
	Brochures	E-mail	
	Newsletters	Newsgroups	
	Sponsored magazines	Chat rooms	
	Annual reports	Bulletin boards	
	Books	CD-roms	
	Direct mail	Speeches	
	Video-brochures	Exhibits	
		Meetings	
		Conferences	
		Demonstrations	
		Rallies	
		Sponsorships	
		Anniversaries	
		Contests	
		Awards programs	

According to Vos and Schoemaker (2006; 2005) the key uses of different media groups in public relations include also issues management and crisis communication. Issues management requires both communication activities and other measures demonstrating social responsibility, countering false information and accusations in order to regain harmony with targeted publics. Communication may also involve public presentations of arguments called advocacy advertising, when an organization takes a public position stating and defending its viewpoint. Direct communication using interactive media or one-on-one communication can be aimed at specific interest groups such as the media and the government. In crisis communication the media play an important role needing credible information of the situation. Also web-site on the Internet is a proper channel to inform publics involved. One-on-one communication in the form of phone calls could also be used to be in contact with those needing more specific information.

As the mere exposure to public media is seldom adequate to bring out behavioral change in the public, the integrated public relations media model perceives it necessary to combine the categories of communication in an effective and cost efficient way (Hallahan 2001). Duncan and Moriarty (1998) emphasize the role of communication in relationship building in marketing. Furthermore, respectively to the conclusions in public relations, they state, that mass communication should be supplemented by interactive, two-way communication, whenever the relationships are the objective. Typically, two-way communication is carried out in all personal contact situations and also through research. Today, the advances in new media and computer technology have introduced new response devices and increased the quantity, quality, and speed of feedback. (Duncan & Moriarty 1998) Moreover, social media provides, nowadays, opportunities to meet key publics in the sites of blogs, real-time chat systems, and other social networks. This channel is likely to be of great significance especially for young people.

#### Communication in this study

The examination of communication in this study takes advantage of both the views held within the rhetorical enactment approach and the systems perspective towards public relations. According to the rhetorical enactment approach, accuracy, sufficiency, and relevance of information are essential in the production of chances for co-creation and the co-management of meanings between young people and the wood products industry. The definitions of one-way communication, two-way communication and the classification of media for the purposes of this study are dealt with in the systems perspective emphasizing the process view of public relations.

In this study young people are presumed to have been exposed to messages including information of the wood products industry in different contexts. While young people complete their studies at comprehensive school, they are exposed to information concerning alternative vocational education. In addition, they receive news and other messages through the media about different sectors of working life. They are also under the influence of the opinions and attitudes of people around them, particularly their peers.

The examination of communication consists of, on the one hand, the perceptions young people hold of *accuracy and sufficiency of information* concerning the wood products industry. Accuracy of information means here its compatibility with reality, consistency of information in different media, and the amount of negative information compared to positive details. Sufficiency of information, in turn, refers to the needs of young people concerning the amount of information in their use. As the examination of message contents

is beyond the sphere of this study, the use of identification, persona formulation, narratives or perspectives in messages is not examined. However, the pursuit of identification with young people in the wood products industry is suggested to be realized also in the examination of values and reputation of the sector.

While in the rhetorical enactment approach, communication is considered to be inherently two-way interaction, more detailed knowledge about the direction of communication and different media groups is perceived to be useful from the viewpoint of this study. Thus, the interest lies, also, in the direction of communication flow: *one-way and two-way media* adapting the media categories of Hallahan (2001).

In this study public media and controlled media represent one-way communication, whereas two-way communication includes both quasi two-way and two-way media categories of Hallahan (2001): interactive media in different forms, events and group communication, and one-on-one communication. This broader definition of two-way communication, in comparison to Hallahan, is based on the actual opportunity for feedback by young people in all of these media categories. However, social media being introduced more extensively not until recent years, is not included. It is also to be noticed, that there are two media categories, which are less in the control of the wood products industry than other forms of media. They are public media and one-on-one communication produced by others than the representatives of the industry sector.

### *3.2.3 Relationship measures in public relations*

In accordance with the relational perspective, the scope of activity in the evaluation research of public relations is enlarging. Today, the research of organization-public relationships emerges from a variety of disciplines: interpersonal communication and relationship building, organizational behavior, marketing, social psychology, and others.

*The measuring of communication flows (outputs) and their informational, attitudinal, and behavioral effects on publics (outcomes) is accompanied by measuring and understanding the variables that influence the initiation, development, and maintenance of mutually beneficial organization-public relationships* (Bruning & Ralston 2001: 338).

The measuring of outputs gives knowledge about whether messages are being sent and attended to. These output indicators are of little use, unless the short-term effects of public relations techniques and programs, outcomes, are evaluated as changes in the public's thoughts, feelings, and actions. In addition, to be able to measure the value of public relations for an organization or society, the long-term evaluation of the effects on relationships between organization and publics is needed (Grunig & Hon 1999).

According to Grunig and Hon (1999: 10-11) the target of evaluation research within public relations should consist of two aspects:

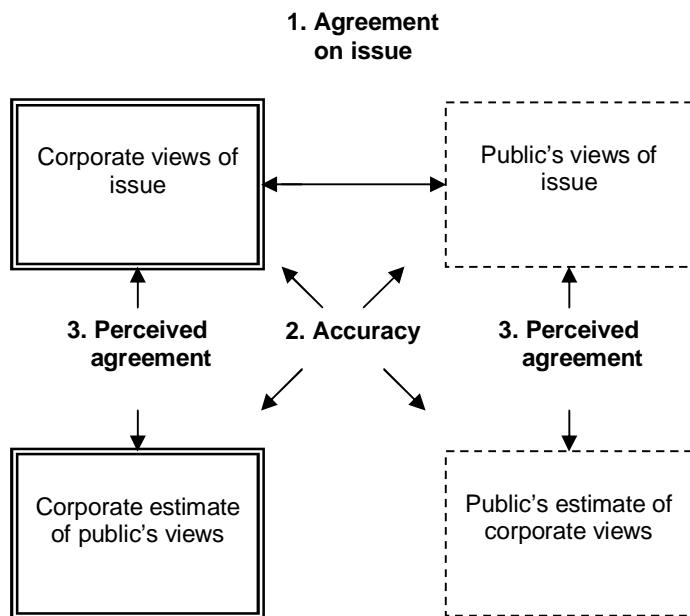
1. “the evaluation of communication programs by measuring the effects of them” (outputs and outcomes)
2. “the correlation of the results with relationship indicators”

However, they admit that there are situations where a time lag exists between the development of a good relationship and consistent behavior of publics. At other times, good relationships keep the public from adopting negative behavior such as strikes, protests, or negative publicity. It might, however, be difficult to measure a behavior that did not occur because of a good relationship. As a result, Grunig and Hon (1999) suggest, that instead of

waiting for behaviors of the public as outcomes of communication, measures for developing relationships are needed.

### The co-orientation model of relationships

One of the most frequently used theoretical frameworks for measuring relationship indicators within public relations is the model of co-orientation (Dozier & Ehling 1992; Broom & Dozier 1990). It is based on the interpersonal co-orientation measurement model developed by McLeod and Chaffee (1973). In this model, both organization's and key public's perceptions are tested to determine the levels of communication understanding, accuracy, and agreement. (**Figure 5**)



**Figure 5.** The co-orientation model of relationships.

Source: Dozier & Ehling 1992 ; Broom & Dozier 1990.

1. The first relationship in the model is the level of agreement between perceptions of each other or between an organization's view and the public's view of an issue.
2. The second is the accuracy of an organization's estimate of public's views and vice versa.
3. Finally, the perceived agreement between the parties describes the extent to which each party thinks the other party's evaluation is similar to their own.

As Broom and Dozier (1990) state, on the basis of a survey conducted among target public and organization's executives, differences between the levels of agreement may be identified. In addition, both executives and the target public can be asked for their estimate of the other party's views. Thus, differences between the levels of accuracy or misperceptions of the other party's views are measured. Whenever differences in agreement or accuracy are found, the task of a symmetrical communication program is to seek to increase both agreement and accuracy through action and communication strategies. By measuring the perceptions of the relationship on both sides, managers of the organization and representatives of the key public give insight into the gaps in the way both parties perceive their relationship. Public relations programs can then set goals to improve perceptual accuracy on both sides (ibid.).

The ideas of the co-orientation model are also used in the rhetorical enactment approach. It is clear, that in order to better respond to the interests of publics, organizations need to know what these interests or perspectives are. According to the rhetorical enactment approach, there are a number of problems for public relations to solve resulting from the perspectives and counter-perspectives between an organization and its publics. According to Heath (2001; 1992) there is a problem or need

- to increase or decrease awareness of an organization, a problem, an issue, a product, a service, an action, a fact, a value, a policy
- to understand or agree regarding a fact, a value premise, or a policy position
- to build, repair, or maintain mutually beneficial and satisfying relationships
- to understand and implement appropriate standards of social responsibility
- to create, sustain, repair, or apply identification
- to create, repair, and maintain a clear and coherent persona for the organization
- to accept stewardship by taking issue stands

These needs can be understood, also, in the terms of the co-orientation model of public relations, which focuses on agreement and accuracy (Broom & Dozier 1990).

#### The dimensions of the organization-public relationship

On the basis of the two-way model of symmetry Grunig (2001) states that *the characteristics of a relationship* represent a criterion for assessing the success of public relations activities. To measure the quality of the behavioral relationships of an organization Grunig (1992) points to the mutually perceived characteristics of successful relationships studied by Grunig, Grunig, and Ehling (1992): reciprocity, trust, credibility, mutual legitimacy, openness, mutual satisfaction, and mutual understanding.

Huang (2001) developed a scale to evaluate *the relationship outcomes* of ongoing relationships. He defines the organization-public relationship scale as “the degree that the organization and its publics trust one another, agree on one has rightful power to influence, experience satisfaction with each other, and commit oneself to one another” (Huang 2001: 65). These outcomes are understood as consequences of certain relationship maintenance strategies defined by Grunig and Huang (2000).

While Grunig and Huang (2000) examine the quality of the organization-public relationship from the perspective of mutually perceived relationship characteristics or outcomes of ongoing relationships, Bruning and Ledingham (1999) define the concept from the perspective of *relationship impacts*. Within a relationship state the actions of either party impact the economic, social, political, and/or cultural well-being of the other party. Ledingham and Bruning (2000: 66) argue, that

“models of the organization-public relationship should include relationship dimensions as both building blocks of organization-public relationships and as indicators of relationship quality”.

Research by Bruning and Ledingham (1998) focuses on the linkage between public perceptions of an organization-public relationship, the behavior of public members, and the role of communication within this process. They examined the respondent perceptions of 17 potential organization-consumer relationship variables chosen from interpersonal communication, marketing, and public relations. Ledingham and Bruning (1998; see also Bruning and Ledingham 1998) conclude that five indicators may be used to predict consumer behavior and satisfaction with the organization. These indicators are *trust, investment, involvement, commitment, and openness*. These relationship dimensions of Ledingham and Bruning (2000) provide a tool for both evaluating organization-public relationships and guiding future actions designed to alter or improve the relationship.

The researchers operationalized these five organization-public relationship dimensions as the following (Bruning and Ledingham 2000: 165):

- trust (I feel that I can trust the company to do what it says it will do)
- investment (the company seems to be the kind of company that invests in its customers)
- commitment (I think the company is committed to its customers)
- involvement (I am aware the company is involved in my community)
- openness (the company makes an effort to be open with its customers)

A similarity between the dimensions of organization-public relationship and the concept of communal relationship can be seen (Grunig and Hon 1999): concern for the welfare of the other party and behavior in compliance with it. Further, these dimensions put the focus on the organizational responsibility in actions, which is close to good citizenship of organizations in the rhetorical enactment approach. According to Aula and Mantere (2005) social responsibility includes economically, environmentally, and socially responsible behaviors of an organization, whereas corporate citizenship underlines also good relationships with all stakeholder groups through two-way communication. Juholin (2004) concludes that the concept of corporate social responsibility (CSR) comprises both the openness of companies and their taking into account the will and expectations of the stakeholders.

In her study of the meaning and value of CSR for Finnish companies in a global operational environment Juholin (2004) examined the means by which companies pursue their targets. The main motive for CSR appeared to be long-term profitability perceived as a consequence of efficiency rather than ethics. The role of reputation and corporate

communication as dimensions of CSR remained vague. According to Juholin (2004) this might be due to corporate responsibility having become almost self-evident in Finland through long evolution starting from the era of industrialism following the present welfare state. Further, in Finnish companies there seems to prevail an attitude of ‘acts may speak for themselves’. These findings form an interesting background for the perceptions of young people concerning organizational responsibility in actions within the wood industry.

The research conducted by Bruning and Ledingham (1998) shows that when the public relations activities, programs and goals are designed to enhance perceptions of the five organization-public relationship dimensions, public members evaluate the relationship more positively. They examined the dimensions within the contexts of a telephone company, its customers, and business subscribers. The results show, that the organization-public relationship dimensions impact the consumer perceptions of satisfaction with the organization (Bruning & Ledingham 1998). They also influence the future intentions in the form of loyalty toward the organization. Consequently, these dimensions are perceived as central elements upon which good organization-public relationships are initiated, developed, and maintained. (Ledingham & Bruning 1998)

Bruning and Ledingham (1999) further developed a multiple-measure, multi-dimensional scale of organization-public relationship (professional, personal, community relationship). It was found to be related to evaluations of satisfaction with the banking industry (Bruning & Ledingham 1999), as well as, the stay and transfer decisions of university students (Bruning & Ralston 2001). This study was further expanded by Bruning and Galloway (2003) by including questions that examined respondents’ levels of personal and structural commitment to the relationship in its maintenance phases.

Ledingham and Bruning (1998) argue for the need to expand the current models of public relations to include relationship dimensions and also the antecedents and consequences of those dimensions. Moreover, there is a need to obtain deeper knowledge of the dimensions of the organization-public relationship in different relationship and industry contexts, as well as, to examine whether the dimensions are equally influential or situationally different (Bruning & Ledingham 1999; Ledingham & Bruning 1998).

### Overall satisfaction

Overall satisfaction is suggested to function as a global evaluation that comprises satisfaction with component attributes and processes. Thus, satisfaction is

*“a positive affective state resulting from the appraisal of all aspects of a working relationship relative to alternatives experienced or observed”*

(Anderson & Narus 1984: 66).

Unlike trust, which involves cognitive dimensions, satisfaction consists of affection and emotion. Satisfaction has been conceptualized, also, as “*a favourable affective response to the reinforcement of positive expectations in a certain kind of situation*” (Grunig & Huang 2000: 45). Applied market research tends to measure customer satisfaction as the consumer’s general level of satisfaction based on all experiences with the company. Consequently, overall satisfaction is a cumulative construct, summing satisfaction with specific products, services and various facets of the company (Carbarino & Johnson 1999).

According to Grunig (1999), in a satisfying relationship one party perceives the other party’s relationship maintenance behaviors as positive. Bruning and Ledingham (1998) argue that the relationship between an organization and its customers have not, largely, been taken into account when examining customer satisfaction within marketing. Instead,

the satisfaction research has focused on price, quality, innovation, image, and service as central elements in customer satisfaction. However, customers also develop expectations of an organization with regard to relationship building behaviors and consequently they evaluate whether the organization is meeting those expectations.

In their research, Bruning and Ledingham (1998) showed a connection between the perceptions of the organization-public relationship indicators and consumer perceptions of satisfaction with the organization. Thus, they suggest that the concept of relationships should be included in any examination of a "satisfaction mix". Garbarino and Johnson (1999) emphasized the role of overall satisfaction with a company in predicting behavioral intentions in service contexts. They used two items to measure overall satisfaction. The other one of them was a comparing item.

### Relationship measures of the study

*The co-orientation model of relationships.* A focal task of this study is to acquire insight into the perceptions young people hold of the wood products industry influencing the relational setting of the parties. The co-orientation model of relationships (Dozier & Ehling 1992; Broom & Dozier 1990) gives a reason to analyze the perceptions young people have of the central relational constructs in connection with the wood products industry (see p. 43).

According to the rhetorical enactment approach to public relations (Heath 2001), the evaluation of agreement and accuracy of interests may result in several needs, which public relations activities are to meet. In this study, needs are proposed to emerge within the wood products industry in its relationship with young people in the following areas:

- building of mutually beneficial relationships
- increase of awareness
- enhancement of understanding regarding value premises
- implementation of appropriate standards of social responsibility
- creation and application of identification.

The need to build mutually beneficial relationships with young people as potential employees of the wood products industry is obvious from the background and purpose of this study. The other needs and related constructs relevant to be measured are described below. They are perceived to be inherent in the process of building mutually beneficial relationships between young people and the wood products industry.

*Communication, values, and reputation.* This study examines the perceptions of communication concerning the sufficiency and accuracy of information in different media groups of one-way and two-way communication. The aim is to assess the need to increase awareness of the wood products industry and its actions among young people. Studying value perceptions among young people enhances understanding of value premises in relationship management between the wood products industry and young people. Together with reputation of the wood products industry among young people, it offers an opportunity for the industry sector to evaluate the need for the creation of identification with young people.

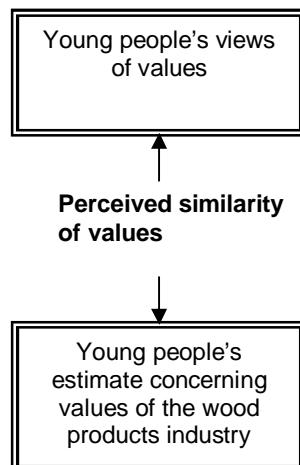
According to the co-orientation model of relationships, the estimates of young people concerning the views of the wood products industry are examined about the construct of values. This is worked out in the form of perceived similarity of values. It allows the industry sector to also analyze the accuracy of the value estimates of young people compared to its own views. This in turn may reveal, how well the wood products industry

has succeeded in including the values of young people into organizational goals in its behavioral relationship with them (**Figure 6**).

The estimates of young people concerning the views of the wood products industry are examined only for values in this study. However, the perceptions of young people can be compared to the views of the wood products industry of the same constructs and also to the estimates of the industry sector concerning the perceptions of young people. Possible differences and misunderstandings may be found either on the part of the wood products industry or young people. Strategies for maintaining or repairing the relationship might be evaluated by the industry sector, respectively.

*Dimensions of organization-public relationship.* Implementation of appropriate standards of social responsibility within the wood products industry is evaluated by the perceptions of young people concerning behaviors of the industry sector. It is clear, that responses to these needs are not adequate, if the definition of public relations is limited to the management of communication, alone. Instead, these needs are the focal point of relationship management. In this study the perceptions that young people have about behavioral relationship with the wood products industry are examined on the basis of the organization-public relationship dimensions of trust, investment, commitment, involvement, and openness (Bruning & Ledingham 2000).

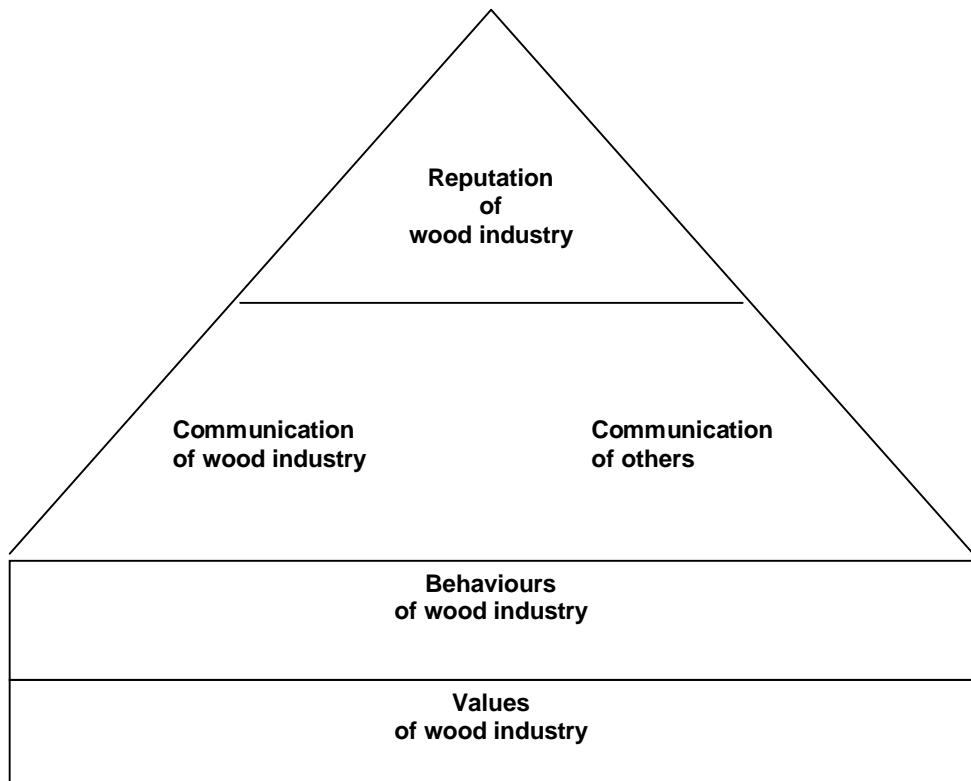
Contrary to the mutually perceived characteristics of successful relationships (Grunig, Grunig & Ehling 1992), the examination of relationship quality in this study is restricted to the perceptions of young people only, excluding mutual views of both the industry sector and young people. In addition, unlike the outcomes of ongoing relationships (Huang 2001), these dimensions are designed to act as not only predictors of organization-public relationship state, but also as building blocks of the organization-public relationship. On the other hand, the focus of this study is on the relationship management defined as initiating and developing of relationships, not in maintenance of ongoing relationships only, like in further investigations of Bruning and Ledingham (1999) and Bruning and Galloway (2003).



**Figure 6.** Similarity of values between young people and the wood products industry.  
Source: adapted from Dozier & Ehling 1992; Broom & Dozier 1990.

In this study, behaviors of the wood products industry reflect organizational responsibility in action in connection with young people. These behaviors are incorporated into the dimensions of the organization-public relationship. Thus, perceptions concerning the behavioral relationship between the wood products industry and young people are examined on grounds similar to both systems perspective and the rhetorical enactment approach.

The results of this study can be further used in identifying aspects of both symbolic and behavioral relationships between the wood products industry and young people not working in a desired way in different groups of involvement. Thus, they may also serve as a basis for the planning of public relations activities to improve the relationship with young people in different groups of involvement. **Figure 7** presents the basic elements of relationship management between the wood products industry and young people: values, behaviours, communication and reputation.



**Figure 7.** The outline of values, behaviors, communication and reputation in relationship management of the wood industry.

*Satisfaction.* In this study overall satisfaction stands for appraisal of all the relational aspects of the wood products industry relevant to young people. Thereby, it represents affective responses of young people toward the industry sector, whereas the dimensions of organization-public relationship involve cognitive aspects of the relationship between the wood products industry and young people. Overall satisfaction of young people with the wood products industry consists of positive perceptions in connection with relational behaviors of the industry sector, on one hand, and perceived trustworthiness, on the other hand. Also comparisons of overall satisfaction with other industries is carried out. It is assumed to show the relative position of the wood products industry among the industrial vocations, which are generally disfavoured by young people.

### 3.3 Reputation

In contemporary public relations the concept of reputation has become one of the key concepts for the study and practice. Together with trust being an essential element in promoting and maintaining organization-public relationships the value of trustworthy reputation is emphasized. Reputation is told to develop over time through experiences. (Bromley 1993) Lehtonen (2000) states that reputation is an intangible asset, which is affected by history, organizational actions, and stakeholder's impressions and images. In accordance with Fombrun (1996), reputation can be defined as

*The representation of the company's history and future plans describing its general attractiveness among its constituents compared to its competitors.*

Aula and Heinonen (2002: 32) present a definition for reputation of an organization as follows:

*"Reputation is the entity of the stories told about an organization attaching a value to it."*

Reputation is suggested to develop among different stakeholder groups on the basis of *credibility, reliability, responsibility, and trustworthiness* (Fombrun 1996: 72). The stronger estimate the stakeholders have of these characteristics, the better the reputation. Aula and Heinonen (2002) argue that the content of reputation varies according to the changes in economic, cultural, and social values in different business environments. Thus, they propose reputation to consist of six dimensions found relevant in the Finnish environment of organizations: 1) organizational culture and management, 2) products and services, 3) success, 4) social responsibility, 5) public image, 6) ability to change and develop. In the instrument developed to measure reputation each dimension is composed of four items. Finally, according to Aula and Mantere (2005) all dimensions of reputation are not equally important for all stakeholders. Fombrun (1996) states, accordingly, that different stakeholders look for different things from companies. Employees are, especially, suggested to expect the companies they work for be trustworthy.

Young (1996) proposes that good reputation is built on good behavior and policy and it is assumed to contribute significantly towards the trust building processes. At this point, Aula and Heinonen (2002) remind that good behaviors are not enough in order to gain a good reputation. An organization also needs to communicate these behaviors to the stakeholders, otherwise they are exclusively told by someone else. According to Grunig (1993) reputation consists of the organizational behaviors that publics remember. He also suggests that reputation has a long life; an existing reputation is difficult to replace with a

new one. On the other hand, reputation is perceived vulnerable to influences. Finally, within public relations reputation has been defined as

*cognitive representations in the minds of publics about an organization's behaviors and related attributes* (Yang & Grunig 2005).

Fombrun (1996) states that reputation is found to be of great importance, when stakeholders compare and make choices between an organization and its competitors. An organization of good reputation also recruits the best employees and has a satisfied personnel. Grunig and Hon (1999) argue that organizations, which have a reputation of being concerned about the welfare of all key publics, encounter more support and less opposition from their publics. Thus, a good reputation is considered to add value to the organization.

The term image, which is a much used, but also a disputed concept, is closely related to reputation within public relations. According to Grunig (1993) the confusion about image production and consumption stems from not distinguishing the difference between concepts of image as a message produced by the organization and image as some kind of composite in the minds of people. Consequently, image is used as an umbrella term covering, on one hand, all of the communication activities of an organization and, on the other hand, the effects that occur between an organization and its public. Instead of using the term image making, Grunig (1993) prefers either the communication of symbols or the giving of messages.

Vos and Schoemaker (2006) consider the concepts of reputation and corporate image quite similar both pointing to the importance of public perception for an organization. According to them the above mentioned confusion with the term image is avoided by defining the corporate image to consist of public's impressions and evaluations with regard to the organization as a whole. Thus, image is based on personal or indirect experiences of various publics. This means that the image formation results not only from communication activities, but also from the organization's actions. Hence, corporate image refers to perceived reality, which can be seen to add up to form a reputation over time among the publics. (Vos & Schoemaker 2006) Finally, corporate reputation being based on evaluations about an organization's qualities, trustworthiness and reliability, and being built up over time can also be argued to be more durable than image (Balmer 1998; Fombrun & van Riel 1997).

In the rhetorical enactment approach to public relations the view of reality is considered to be a social construct, in which also reputation has a role. This means that ideas about another party grow, not only, in one's mind, but also through social interaction (Heath 2001). Consequently, the role of reputation is not in direct control of an organization in the process of relationship management. Aula and Mantere (2005) argue that reputation cannot be managed by an organization, an organization can only aim to influence the stories told about it. Likewise, Vos and Schoemaker (2006) point out the role of direct and indirect experience in the case of image formation. They define indirect experience of an organization as experience gained by means of communication with others than the organization itself. Contacts within networks of informal and formal linkages as well as mass media create the sources for indirect experience. According to Vos and Schoemaker (2006) organizations can still pursue for a proper corporate image by using the networks for purposes to influence behaviour. They also claim for active media relations, which are based on a good knowledge of the media operations.

Grunig and Huang (2000) differentiate the term reputational relationships from experiential relationships. The former term describes organization-public relationships, which are not based on first-hand experience, while the latter ones have been built on direct experience and good familiarity with an organization. They also point out that active communication behaviors of publics and familiarity in the form of an experiential organization-public relationship are likely to result in favourable organizational reputation.

Reputation research is very closely connected to trust research. Ganesan (1994) shows a link between supplier reputation and buyer trust finding that good reputation for fairness leads to increased credibility, one of the dimensions of trust. Doney and Cannon (1997) examine reputation as an antecedent of the buying firm's trust in the supplier firm. In their study reputation represents one of the characteristics of the supplier firm. According to their findings, reputation might be expected to play a stronger role early in a relationship when personal experience is not available to evaluate partner trustworthiness. Also Aula and Mantere (2005) propose that reputation will define, whether a relationship is founded on trustworthiness. Thus, it has an effect on perceived attractiveness of an organization among its publics.

In reputation research public's familiarity with an organization appears to be connected with organizational reputation. The term familiarity is commonly referred to the amount of knowledge, which the public has acquired of an organization by direct or indirect experience (Bromley 2000). Familiarity has also been used interchangeably with the terms of visibility and awareness (Fombrun & Van Riel 2003). In his test of theoretically hypothesized relations between organization-public relationship, reputation, communication behaviors, and familiarity, Young (2007) finds that organization-public relational outcomes are positively associated with favourable reputation of the organizations studied. The examined relationship outcomes are trust, commitment, satisfaction, and control mutuality initially identified by Huang (1997). The results show also that public's familiarity with organizational performance increased favorability of organization's reputation.

In this study, the definitions of reputation by Aula and Heinonen (2002), as well as, Yang and Grunig (2005) are brought together. The reputation of the wood products industry is studied through young people's perceptions of the stories told in connection with behaviors of the wood products industry. Further, perceived reputation is based on assessments about reliability, credibility, and responsibility of those behaviors defined by Fombrun (1996) as the most essential aspects of reputation for potential employees. Reliability means the extent to which the wood products industry is generally perceived to be honest in its dealings with its stakeholders. Credibility refers to the level of competence of the sector in regard to innovative and high-quality performance in production and human resources management generally known among its stakeholders. Responsibility means the extent to which the sector is generally perceived to be fair and concerned about its stakeholders.

In accordance with the rhetorical enactment approach, perceptions of reputation are based on stories told about the wood products industry in the local community and in the society in large. Thus, reputation is presumed to develop among young people, primarily, through mass media, social media and within networks of informal and formal linkages. Young people finishing comprehensive school seldom have personal experience from the wood products industry as an employer. According to Grunig and Huang (2000) their relationship with the wood products industry is a reputational one. At the same time those young people already studying the field are more familiar with it representing experiential

relationship with the industry sector. Thus, in accordance with the study by Doney and Cannon (1997), the reputation of the wood products industry is thought to play a different role in the process of relationship management among the little and highly involved young people.

### 3.4 Values

Grunig and Huang (2000) state that effective organizations are able to achieve their goals because the values of strategic stakeholder groups both inside and outside of the organization are incorporated into organizational goals. By that means, effective organizations tend to maximize support from publics. Unlike the rhetorical enactment approach, Grunig and Huang (2000) underline the values of strategic stakeholder groups, which they define as active or potentially active publics.

Morgan and Hunt (1994: 26) define *shared values* as

*“the extent to which partners have beliefs in common about what behaviors, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong”.*

They discover direct relations between shared values and relationship trust and commitment. Doney and Cannon (1997) find that similarity in interests and values between buyers and salespeople enhances trust through a better understanding of the salesperson's motivations and, thus, predicting the future behavior. In the employment settings, shared values have been successfully used as a measure of the person-organization fit (Chatman 1991).

Within relationship marketing, Gummesson (2002) underlines the importance of company's values in relation to consumers, for example, when its motives in environmental and health considerations are concerned. He recognizes three drives of companies to deal with these considerations: law drive, public relations drive, and value drive. The law driven companies escape environmental issues unless forced to address them by court orders. Green issues seem to be trendy for public relations driven companies and they apply mainly “green washing strategy”. They do not, however, implement any essential changes. Value driven companies, on the other hand, tend to have a genuine interest in environmental issues and voluntarily manufacture green products. It can be argued that the view of public relations that Gummesson (2002) presents in this connection represents a reactive, asymmetrical standpoint, whereas the rhetoric enactment approach brings public relations closer to a proactive, value driven standpoint. It suggests that organizations need to participate in the creation of the opinion environment to reduce the extent to which they find themselves at odds with it.

As environmental issues have been much discussed within the forest industries, the different drives of values have also been examined. In their study of the integration of environmental issues into business values and marketing planning Kärnä, Juslin, and Hansen (2003) classify the surveyed companies of forest industry in Finland, Sweden, Germany, and UK according to the values concerning environmental business responsibilities. The results of the study regarding the industry sectors indicate that nearly half of the wood products industry represent reactive green marketers emphasizing pursuing sustainability under governmental balancing. Instead, about one third of the sector appeared to belong to proactive marketers emphasizing redirection of customers towards sustainability and free market system the rest representing consumption marketers with

lower emphasis on sustainability. As young people are assumed to be highly conscious of environmental issues, it is to be examined, whether their perceptions of environmental values of the wood products industry and their own value perceptions coincide.

According to both systems perspective and the rhetorical enactment approach to public relations, organizations are suggested to build effective relationships, when they keep to the values of key publics. New eras bring about different sets of criteria by which key publics evaluate the performance of organizations. For example, for decades, tobacco was seen as a tool for relaxation and pleasure and a symbol of freedom, until it became a symbol of early death. Another example could be the standards of corporate social responsibility, which have significantly changed, among other things, employee policy. (Heath 1992).

Within the rhetorical enactment approach, values or ethical standards are defined through dialogue with members of the community. Thus, the limit of one ethical standard is the presence of a more compelling one. Values that lead to choices are eventually made evident through the actions each community takes (Heath 2001). Publics expect organizations to act in ways that do not offend their self-interests, which are value-laden. Thus, values of key publics are to be identified in order to serve the interests and needs of those publics in the area of relationship management. On the grounds of these statements, Heath (2001) considers one of the public relations activities being to inform executives on which values most appropriately suit the interests of their publics. Consistently, an organization may demonstrate its identification with these interests and choices, enacting the values it believes to be highest.

Similarity of values is defined in this study in accordance with Morgan and Hunt (1994): the extent to which young people and the wood products industry have beliefs in common about what behaviors, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong. According to the rhetorical enactment approach, young people are assumed to hold value-laden interests in relation to their field of study and work, when considering future carrier. In other words, they are looking for means of identification with the field of work being at the same time, more or less, aware of their own values. Thus, the perceived similarity of values is argued to reflect young people's level of identification with the wood products industry.

The values of the wood products industry are assumed to be evaluated by young people on the basis of the actions and policies of the industry sector, as well as, information available from them. In this study, the similarity is examined from the viewpoint of young people, only. The results of this study are likely to be considered useful within the wood products industry, as it plans public relations activities and message contents on the basis of revealed values of young people. Identification may be enhanced by using facts and information, arguments and evidence, narratives, or persona in the message contents of the wood products industry. The evaluation conducted by the wood products industry concerning its own values and their relation to those of young people remain to be done within the industry sector.

### **3.5 Trust in relationship management**

Trust is a construct connected with relationship management both in its early stages and in later development phases. Besides being a prime mover in the beginning of a relationship, trust is also found in several studies to be a crucial element in maintaining an ongoing relationship. Within trust research the scholars tend to view the construct dynamically, but

they focus on specific phases of trust in their framework. For example, in theories of relationship marketing it is proposed that customers may vary in their relationships with a company on a continuum from transactional to highly relational bonds (Berry 1995). The central idea suggests that differences in trust and commitment are the features that most distinguish customer partners from customers with an orientation toward single or repeat transactions (Morgan & Hunt 1994). In this study the construct of trustworthiness is examined as a facet of trust, defined as trustworthiness of the wood industry perceived by young people.

### *3.5.1 The role of trust*

Grönroos (1994) emphasizes the concept of promise in relationship marketing and states, that by making promises a company may attract new customers. However, only by keeping those promises can the company succeed in maintaining and enhancing relationships. In the models of trust building, trust is examined either as a cause, effect, or mediator. In their key mediating variable model of relationship marketing, Morgan and Hunt (1994) examine ongoing relationships. They classify trust and commitment to be essential ingredients for successful long-term relationships. In their model, commitment refers to an enduring desire to maintain a valued relationship, whereas trust is seen to be already present in initial stage of cooperation as parties look for trustworthy partners. Morgan and Hunt (1994) find trust and commitment to mediate between five antecedents and five outcomes. They also posit trust to be a major determinant of relationship commitment.

In addition to studying relational evaluations of a group of customers, Garbarino and Johnson (1999) examine how evaluations might vary for customers with strong or weak relational bonds to a company. They analyze the relationships of the summary constructs of consumer satisfaction, trust and commitment. The conclusion they arrive at is that trust and commitment are peripheral evaluations for customers with weak relationships, while overall satisfaction is a central evaluation for them having a significant influence on their future intentions. Instead, for relational consumers, trust is the major determinant of future intentions (Garbarino & Johnson 1999).

In this study the construct of trustworthiness is expected to work among the less and highly interested young people for greater satisfaction with the relationship having, however, different patterns of effect. In order to reveal these patterns, the perceived trustworthiness of the industry sector is studied among low- and high-involved young people.

### *3.5.2 The concept of trust*

So far, a universally accepted definition of trust or trustworthiness has been lacking in the field of trust research. Trust is defined broadly as a

“willingness to rely on an exchange partner in whom one has confidence”  
(Moorman, Zaltman, & Deshpande 1992: 315).

Within relationship marketing, Morgan and Hunt (1994) expand the definition to include the object of confidence in the form of exchange partner's reliability and integrity. In addition, Anderson and Narus (1990) argue that a firm's trust can appear two-fold. On the one hand, it is present in the firm's beliefs about the positive outcomes of the partner's actions, and on the other hand, in beliefs about partner restraining from actions resulting in negative outcomes for the firm. Finally, Rousseau, Sitkin, Burt, and Camerer (1998: 395)

extract common themes in the different conceptual definitions of trust to propose a consensus definition as follows:

*“Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another”.*

According to the above definitions and the research on trust, it can be seen that this has cognitive, affective, and behavioral components: First, according to *the expectancy conceptualization of trust*, it relates to positive expectations about an exchange partner's trustworthiness that results from the partner's expertise, reliability, or intentionality. Second, trust relates to one's intentions to rely on the exchange partner accepting vulnerability and is referred to as *the behavioral conceptualization of trust* (Singh & Sirdeshmukh 2000; Moorman, Zaltman & Deshpande 1992). Thus, trust is founded upon past experiences and knowledge and, at the same time, upon expectations for the future. Apart from interpersonal level, trust has also been studied at the organizational level (Doney & Cannon 1997; Ganesan & Hess 1997).

In this study the focus is on the expectancy conceptualization of trust, which is defined as perceived trustworthiness of the wood products industry from the viewpoint of young people. Rather than studying trust as a summary construct, this study examines perceived trustworthiness captured as a multidimensional concept. This concept is suggested to play a central role in the evaluation of the relationship between the wood products industry and young people already early and also later in the relationship. In this study perceived trustworthiness is examined with three antecedents and a consequence. Thus, the focus is both on the levels of relational evaluations of young people and on the structural relationships of their evaluations. The following chapters give a closer view of the concepts of trust and trustworthiness and also their definition for the purposes of this study.

### The dimensions of trust

Trust has been conceptualized and operationalized in a number of ways and at a variety of levels. The above definitions suggest that trust is a complex, multi-dimensional concept, which varies depending on the type of social relationship, situation and system under consideration. In marketing literature it is suggested that separating the expectancy and behavioral conceptualizations of trust provides opportunities to study trust processes, and also the nature and relative importance of them on specific relationship contexts (Singh & Sirdeshmukh 2000; Smith & Barclay 1997).

Within the research of interpersonal trust, Ganesan (1994) finds, that the multidimensional approach provides greater possibilities of diagnoses in relation to the effect of trust on long- and short-term orientation. Furthermore, Singh and Sirdeshmukh (2000) propose, that unidimensional conceptualizations are likely to hide substantive insights when the underlying construct has a *wide bandwidth* and theoretical considerations prefer *a differential type of effects*.

Wide bandwidth refers here to a construct, which can vary both in scope and degree. The scope of trustworthiness, in this study, can be understood to mean the expansiveness of the expectations that young people hold. On the other hand, the intensity with which those expectations are held reflect the degree of trustworthiness. Thus, as the construct of trustworthiness in this study can vary in scope and degree, it has a wide bandwidth. This, according to Singh and Sirdeshmukh (2000), favours a multidimensional conceptualization of it. In addition, the interest of the study lies in the differential pattern of effects, which are

examined through structural connections of the evaluations among low- and high involved young people.

In their study of agency and trust mechanisms in consumer satisfaction and loyalty judgements, Singh and Sirdeshmukh (2000) conceptualized two distinct attribute dimensions of trust, *competence and benevolence*, to define overall consumer trust. Within their relationship studies in public relations, Grunig and Hon (1999) define trust as a multidimensional concept consisting of three dimensions: *integrity, dependability, and competence*:

*“Integrity refers to the belief that an organization is fair and just, dependability on the belief that an organization will do what it says it will do, and competence on the belief that an organization has the ability to do what it says it will do”.* (Grunig & Hon 1999: 3).

Similarly, several researchers in marketing have provided an intermediate level of specification for the trust construct: *credibility and benevolence* are considered to be two dimensions of a higher-order construct of trust or trustworthiness (Singh & Sirdeshmukh 2000; Ganesan & Hess 1997; Smith & Barclay 1997; Kumar, Sheer & Steenkamp 1995).

Definitions of credibility in relationship marketing studies emphasize the partner's intention and ability to keep promises or the reliability of the partner's word or written statement. A credible salesperson is expected to perform effectively and reliably. (Doney & Cannon 1997; Ganesan & Hess 1997) Instead of credibility, the notion of competence or technically competent role performance has also been used in trust research (Singh & Sirdeshmukh 2000). It has been suggested that in a knowledge-based economy competence, ability, and expertise become increasingly important as indicators of partners' capability to act as expected (Rousseau, Sitkin, Burt & Camerer 1998).

The other dimension of trustworthiness, benevolence, is defined as the evidence of:

*“the focal partner's genuine concern for the partner through sacrifices that exceed a purely egocentric profit motive”.*

(Ganesan & Hess 1997: 440)

In other words, a benevolent partner is genuinely interested in the other partner's welfare and is motivated to seek joint gain (Doney & Cannon 1997).

Ganesan and Hess (1997), who studied credibility and benevolence on both interpersonal and organizational levels, came to the conclusion that individuals differentiate between the *credibility and benevolence* dimensions of trust. On the basis of their results they made the proposition that organizational credibility would affect commitment in the initial and build-up phases of a relationship. Further, they found that organizational benevolence was a crucial predictor of commitment in ongoing relationships.

### The concept of trustworthiness in this study

As relationships are fundamentally based on trust, it is a core construct in this study. Trust is understood here through a dual conceptualization: expectancy and behavioral trust. The focus is on the expectancy conceptualization of trust, defined as perceived trustworthiness of the wood products industry by young people. The low level of behavioral trust, which is manifested in the unwillingness of young people to study and work in the field of the wood products industry forms the premises of this study. According to the context of the study, trustworthiness is operationalized as organizational trustworthiness of the wood products industry perceived by individual young people.

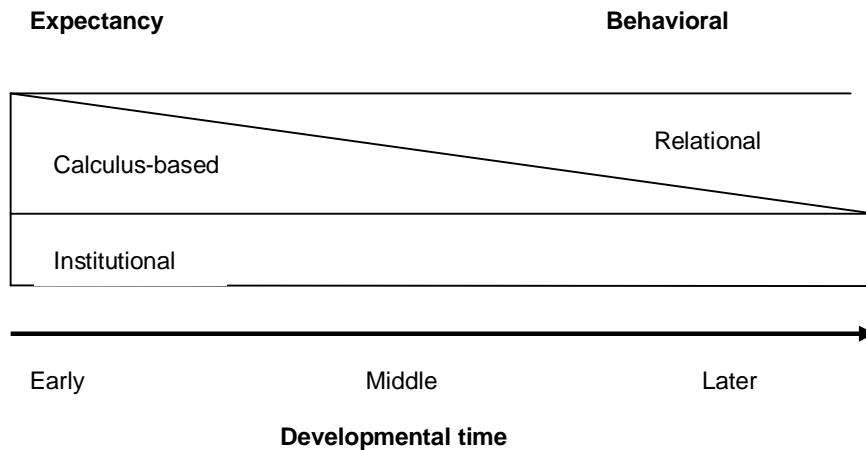
Perceived trustworthiness is assumed to work both among the less and highly interested young people for greater satisfaction with the relationship. By the above definitions, organizational trustworthiness is examined in this study as a multi-dimensional construct, which consists of the dimensions of credibility and benevolence. The dimension of credibility is defined as both the perceived competence of the wood products industry and its perceived intention to keep promises. Benevolence stands for the extent to which the wood products industry is perceived to be interested in the welfare of young people as future employees and by this standard, it also includes the motivation to seek joint gain with them. These dimensions of trustworthiness are argued to have a different impact on overall satisfaction with the relationship among the less and highly interested young people.

### *3.5.3 The development of trust*

In literature, the development of trust is suggested to consist of different processes or forms. Doney and Cannon (1997) explain the development of trust through five distinct processes: 1) calculative, 2) capability, 3) intentionality, 4) prediction, and 5) transference process. By the calculative process, the authors mean the calculation of costs and/or rewards of another party cheating or staying in the relationship. The capability process relies on one party's assessment of the other party's ability to meet its obligations. When developing through intentionality process, trust emerges by the means of interpretation of other party's motives. In the prediction process, the development of trust requires one party's ability to forecast another party's behavior. Finally, the transference process relies on a third party's statement of another as a basis for defining that other as trustworthy. It is worth mentioning here that some factors can initiate multiple trust-building processes (*ibid.*).

In their pursuit of a description of the trust processes, Rousseau et al. (1998) introduce three forms of trust: 1) institutional, 2) calculus-based, and 3) relational. The researchers suggest that institutional trust based, for example, on legal systems, acts as a basis for the other trust forms. In the context of this study it can refer not only to the laws regulating the work conditions within the sector but also the position of the trade unions in the society and their relation to the industry sector in focus. Calculus-based trust rests upon rational choices emerging from perceived positive intentions and credible information regarding those intentions or competence of another. This information may be provided, for example, by others referring to reputation, media or other source creating the feeling of proximity, which in turn forms the basis for trust. Thereby, it works in the early stages of a relationship, whereas relational trust forms during repeated interactions over time consisting of attachments and information from within the relationship itself. The earlier definition of trust consisting of both expectancy and behavioral conceptualizations can be traced in the three forms of trust: calculus-based trust and institutional trust can be understood to represent the expectancy conceptualization of trust, whereas relational trust develops within the concept of behavioral trust (**Figure 8**).

From a closer view, these three forms of trust are at least partly overlapping with the five processes of trust. Similarities can be seen between the institutional trust and prediction process and further, the calculus-based trust and capability and intentionality processes; these all refer to rational choice in relation to expectations. In addition, the transference process relies on information provided by others, which may be the case, also, in calculus-based trust. The calculative process by definition appears to work in an ongoing exchange



**Figure 8.** The development of expectancy and behavioral trust.

Source: adapted from Rousseau, Sitkin, Burt & Camerer 1998.

relationship and refers to behavioral conceptualization of trust, one's intentions to rely on the exchange partner accepting vulnerability. When the investments in the relationship are large, the costs of cheating would also be high and therefore the investing party can be trusted.

In this study, perceived trustworthiness between the wood products industry and young people is presumed to be formed through several processes. The capability process is in use when young people evaluate the reliability of the wood products industry in addition to its competence. The intentionality process means that the words and/or actions of the wood products industry perceived by young people indicate concern for them. The prediction process of developing trustworthiness relies on the ability of young people to forecast the behavior of the wood products industry. This process includes e.g. the regularities in the field, as well as, the promises and past behavior of the industry sector. Thus, the perceived similarity of values is assumed to play a role in the prediction process. Information provided by a third party refers here to the messages of the public media and the reputation of the wood products industry representing the transference process. This suggests that the perceived trustworthiness of the wood products industry can be transferred among young people most easily when less direct experience is available.

## 4 THEORETICAL FRAMEWORK

### 4.1 Theoretical framework and its operationalization

The theoretical framework is based on the purpose and theoretical background of the study. The challenge of the wood products industry to better attract young people with different relational orientation is approached in this study through a relational view. The relational elements discussed in the previous chapters are examined in the form of antecedents, relationship state, and consequences (**Figure 9**), the design suggested by several scholars of public relations (Hutton 2001; Grunig & Huang 2000; Broom, Casey & Ritchey 1997).

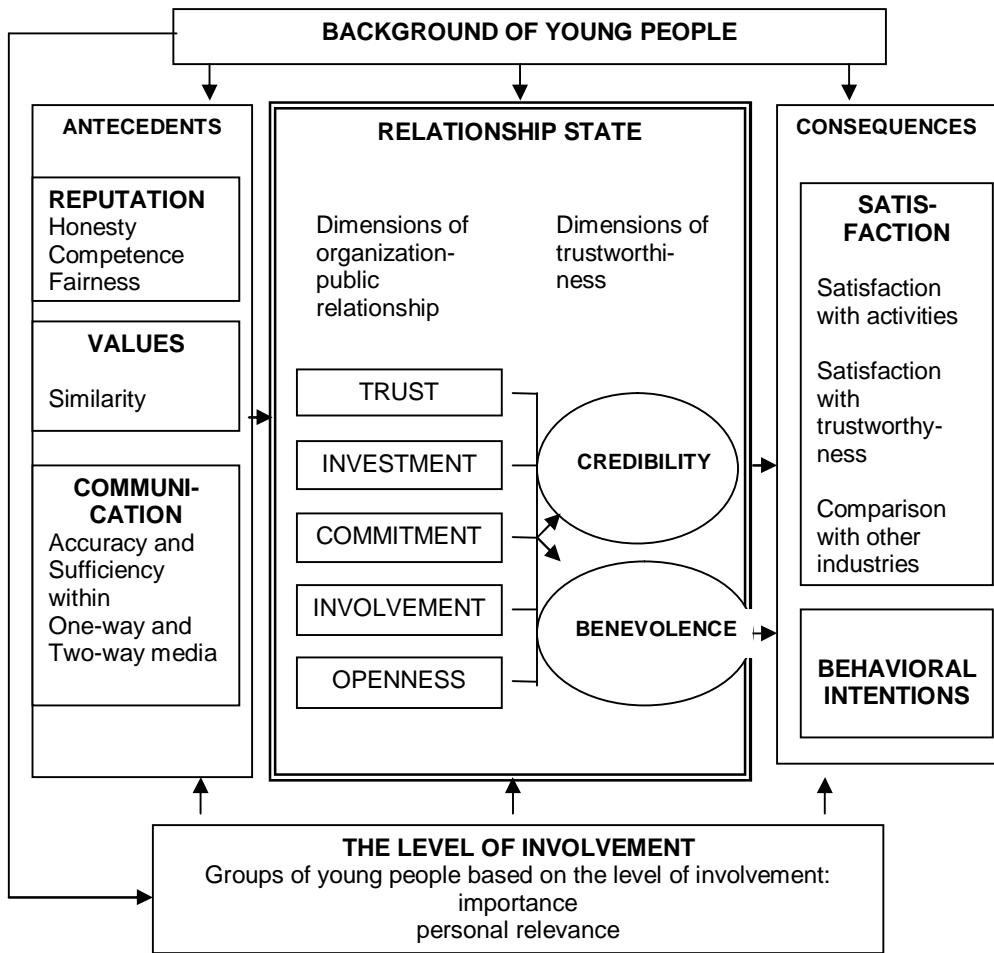
#### 4.1.1 Theoretical framework

From the viewpoint of this study young people are defined as key publics of the wood products industry forming involvement groups on the basis of the importance and personal relevance of the industry sector. The relationship between young people and the wood products industry is to be described and analyzed in terms of individual perceptions of young people concerning the relationship state, its antecedents and consequences. These perceptions are related to the whole sector of industry, the wood products industry.

The focus group consists of young people finishing their studies at comprehensive school and young people already studying in the field of the wood products industry. Young people with low involvement in the wood products industry are assumed to come mainly from the former group, the latter group representing the majority of those young people, who already appear to be involved in the sector. For the purposes of the study, the sample of young people is split into categories and the relational perceptions are analyzed in different involvement groups of young people. In addition, the connection between the different involvement groups and background factors of young people is analyzed. The aim is to trace those relational elements and items that need particular attention and improvement of public relations activities in each involvement group.

The relationship state is reflected by five indicators of the organization-public relationship and two dimensions of perceived trustworthiness. The dimensions of the organization-public relationship, adopted from Ledingham and Bruning (1998), refer to the relational behaviors of the wood products industry. They are used to evaluate the relationship in the groups of little and highly involved young people. Further, the dimensions of the organization-public relationship are proposed to be compatible with the dimensions of trustworthiness. Examining them together is assumed to increase the understanding about the constructs which work for greater satisfaction with the relationship among the less and highly interested young people. The hypotheses presented below proposes the connections between the relational constructs in the two phases of relationship management within the context of this study.

The constructs of reputation, similarity of values, and communication have been found to be relevant independent variables in the process of relationship management. In this study, the perception levels of these antecedents are examined in the interest groups of young people. In addition, the antecedents are proposed to influence the perceived trustworthiness differently among little and highly involved young people. Trustworthiness is anticipated to have an effect on the perceived level of overall satisfaction, accordingly.



**Figure 9:** Theoretical framework of the study.

Eventually, the impact of overall satisfaction on behavioral intentions of young people to study or work in the wood industry, as well as, satisfaction with other industrial branches is tested.

#### 4.1.2 Operationalizations

Operationalization is the process of transforming abstract constructs into a set of concrete indicators that can be observed and measured. The operationalizations follow the rules of correspondence between the concepts and the empirical phenomena. The theoretical framework of the study is converted into multi-item measures for each construct in order to cover the different facets of the phenomena and strengthen reliability and construct validity. The choice of items has been guided by the theories and literature of public relations and

communication, trust research in relationship marketing and closely related theories and concepts of publics, involvement, reputation and values. Also topical articles and other information concerning the phenomenon and, finally, intuition of the researcher are used. In addition, discussions with student counselors of comprehensive school and teachers of wood products industry have given insight into the item selection. Constructs and their operationalizations are described in the subsequent sections. Finally, the research hypotheses are formulated. The questionnaire used is presented in appendix 3.

### Background of young people

The background factors of the study are proposed to have a bearing on the personal relevance of young people towards the wood products industry and its general importance perceived by them. They are also assumed to influence young people's perceptions of relational elements. The background variables are measured using categorical scales. The background variables in connection with young people are as follows:

1. Gender.
2. The province of residence during the last year at comprehensive school.
3. Place of residence during the last year at comprehensive school.
4. The vocational school of the district having a training program of the wood industry.
5. The wood products industry located in the place of residence.
6. Parents working in the wood products industry.
7. Having taken a volunteer course of technical work or woodwork at school.
8. Having been in a company of the wood products industry during a course of "Introduction to work".
9. Having visited a company of the wood products industry.
10. Having been working in the wood products industry.

### Level of involvement

For the purpose of this study the level of involvement is defined according to Barki and Hartwick (1994) as an interest of young people in the wood products industry showing itself in *perceived importance and personal relevance*. Young people are classified into different involvement groups on the basis of their level of perceived importance and personal relevance to the wood products industry. The perceptions of relational elements and items are suggested to differ in the various involvement groups.

The items applied to measure the level of involvement in the wood products industry among young people are similar to those used by Barki and Hartwick (1994). The level of involvement is evaluated by nine Osgood's semantic differentials (Osgood, Tannenbaum & Suci 1957), five for perceived importance and four for personal relevance, between bipolar statements on a five-point scale.

11. Importance of the wood products industry as an industrial sector in the minds of young people:
  - essential / nonessential
  - trivial / fundamental
  - significant / insignificant
  - important/ unimportant
  - not needed / needed

12. Personal relevance of the wood products industry for young people:

- irrelevant to me/ relevant to me
- of no concern to me/ of concern to me
- does not matter to me/ matters to me
- means nothing to me / means a lot to me

Antecedents: Reputation

Reputation captures the general perceptions of an organization's reliability and fairness. In this study, the operationalization of reputation is related to the definitions of Aula and Heinonen (2002), as well as, Yang and Grunig (2005). The interest lies in the perceptions young people have of the stories told in connection with behaviors of the wood products industry. This means that young people are assumed to judge reputation mainly through the words and actions of other people: parents, relatives, friends, classmates, teachers and so on.

In this study a favourable reputation is, further, defined according to Fombrun (1996) as the extent to which the wood products industry is generally perceived to be honest, competent and concerned about its stakeholders. Consequently, reputation is considered to consist of items relevant in the context of the study. These items are included also in reputation defined by Aula and Mantere (2002) as a six dimensional construct, which in itself would have been too extensive for the purposes of this study. Both honesty and competence are assessed on four items, while fairness is evaluated on five items. The items of reputation are evaluated on a six-point Likert scale (anchors: Strongly disagree/Strongly agree).

13. Reputation of honesty:

- The wood products industry is generally found to be honest in its dealings
- The wood products industry is known to be reliable as an employer
- The wood products industry is generally considered to be an industrial sector with high ethical standards
- Reputation of the wood products industry concerning dependability is good

14. Reputation of competence:

- The quality of the products of the wood products industry is known to be high
- The wood products industry is known for its investments in new technology
- The know-how is generally considered to be high within the wood products industry
- The wood products industry is known to be an employer with high competence

15. Reputation of fairness:

- The wood products industry is known to be responsible for environment
- The wood products industry has a reputation for being fair
- The wood products industry is known to work for long-term employment
- The wood products industry is found to be active in its community policies
- The wood products industry is known to offer training opportunities for young people

### Antecedents: Values

Values of the wood products industry are suggested to become evident for young people through the actions the industry sector takes. It is proposed, that young people think favourably or less favourably about the values relevant in their relationship with the wood products industry. The level of identification with the interests of young people in the wood products industry is suggested to be seen in the perceived similarity of values among young people.

In this study, the examination of the similarity of values is based on the co-orientation model of relationships between organization and publics (Dozier & Ehling 1992; Broom & Dozier 1990). It is, however, evaluated here from the viewpoint of young people, only. A perceived agreement between young people's views of values and young people's estimate of the wood industry's view is assessed. Thereby, it is to be examined, whether there is a difference between the values of young people and those of the wood products industry in the minds of young people.

The similarity of values is defined in accordance with the concept of the shared values of Morgan and Hunt (1994). Thus, it means here the extent to which young people and the wood products industry have beliefs in common about what behaviors, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong from economic, environmental, and social point of view.

In accordance with the co-orientation model of relationships (Dozier & Ehling 1992; Broom & Dozier 1990), young people are asked to assess the values of their own and the values of the wood products industry perceived by them. For both evaluations there are five items, which reflect the values suggested to be relevant in their relationship with the industry sector. The measure employs six-point Likert scale (anchors: Strongly disagree/Strongly agree).

16. The perceptions of young people concerning the values of the wood products industry:

- The wood products industry favours environmentally sound policies, even, when they cost more than other policies
- The wood products industry does not dismiss employees simply in order to get a good return in the short run
- The wood products industry works together with different organizations in order to contribute to the job opportunities for young people in their community
- The wood products industry takes into account environmental values in its wood supplies
- The wood products industry contributes to the people in need in its community

17. The values of young people:

- Organizations should favour environmentally sound policies, even, when they cost more than other policies
- Industrial companies should not quit employees just to get a good return in the short run
- Industrial companies should work together with different organizations in order to contribute to the job opportunities for young people in their community
- Organizations should take environmental values into account when supplying raw material
- Organizations should contribute to the people in need in their community

### Antecedents: Communication

In this study, communication includes all forms of public relations and marketing communication, which is in use on the part of the wood products industry to enhance the perceived trustworthiness among young people. Through effective communication of relational behaviors, an organization itself pursues to establish the basis for perceptions of trustworthiness among its publics. Furthermore, in this study communication also encompasses messages, which are sent by others than the industry sector itself like messages in mass media and discussions with friends, parents and students counselors at school.

As the focus of this study is on the relationships, the interest lies in the perceptions of young people concerning the two-way elements of communication, not forgetting the information sharing and publicity. Communication is operationalized following the media groups of one-way and two-way communication adapted from the media categories of Hallahan (2001). One-way communication is represented by public media and controlled media. The former includes TV, radio, newspapers, and magazines, whereas the latter contains brochures, newsletters, direct mail, sponsored magazines, annual reports, and books published or sponsored by the wood products industry.

Two-way communication makes feedback possible consisting of interactive media, events and groups communication, and one-on-one communication. Here, interactive media includes the Internet and e-mail. Events and group communication provides opportunities to listen to and comment or ask questions of representatives of the wood products industry in exhibitions, demonstrations at schools and mills, sponsored events, and contests. One-on-one communication involves interpersonal communication between a representative of the wood products industry and young people during personal visits and telephone calls. Also, discussions with students counselors at school and other influential persons are suggested to represent one-on-one communication. It is to be noticed that information delivered by mass media, students counselors at school and other influential persons represent information, which is out of the direct control of the wood products industry.

From the viewpoint of this study relevance, accuracy and sufficiency of information are essential in the production of chances for co-creation and co-management of meanings between young people and the wood products industry. In accordance with Heath (2001), the operationalization takes into account the perceived sufficiency and accuracy of messages within the media categories.

Accuracy of information refers here to its compatibility with reality, consistency of information in different media groups, and the amount of negative information compared to that which is positive. Sufficiency of information, in turn, refers to the needs of young people concerning the amount of information in use by them through different media categories. The relevance of the information is evaluated through the perceptions that young people hold about the values and the relational behaviors of the wood products industry. Within the groups of one-way and two-way communication the sufficiency and accuracy of information are both assessed on the basis of three items, using a six-point Likert scale (anchors: Strongly disagree/Strongly agree).

18. The perceptions of young people concerning sufficiency and accuracy of one-way communication in connection with the wood products industry:
  - The messages in mass media concerning the wood products industry are compatible with reality (accuracy)

- Positive messages in mass media concerning the wood products industry are more common than negative messages (accuracy)
  - There is enough information concerning the wood products industry in mass media (sufficiency)
  - The information concerning the wood products industry in mass media is consistent with brochures of the industry sector (accuracy)
  - There are enough brochures at hand about the wood products industry (sufficiency)
  - The wood products industry is active in sending information to young people (sufficiency)
19. The perceptions of young people concerning sufficiency and accuracy of two-way communication in connection with the wood products industry:
- There are enough excursions and other events organized by the wood products industry (sufficiency)
  - The wood products industry has been sufficiently introduced in discussions with the students counselor at school, when planning for future studies (sufficiency)
  - Interactive www-pages have been useful in the web-sites of the wood products industry (sufficiency)
  - The information given by different persons about the wood products industry is more positive than negative (accuracy)
  - The information given by the representatives of the wood products industry is consistent with other sources (accuracy)
  - The information given by different persons about the wood products industry is consistent with reality (accuracy)

#### Relationship state: The dimensions of organization-public relationship

In this study, it is assumed that building public relations behaviors of the wood products industry around the relationship dimensions and communicating them to the public of young people will enhance the forming of mutually beneficial relationships. These processes are also proposed to result in greater satisfaction among young people. Further, the dimensions of organization-public relationship represent not only the elements of relationship management but also indicate the quality of a relationship. Thus, the perceptions young people have of the wood products industry are evaluated using the five organization-public relationship dimensions of Bruning and Ledingham (2000): trust, investment, involvement, commitment, openness.

For the purposes of this study, the dimensions of organization-public relationship are defined as following:

- trust consists of both the perceived reliability and professional competence of the wood products industry
- investments of the wood products industry refer to the perceived contribution to the spheres of interest or needs of young people
- involvement on the part of the wood products industry includes perceived activities to improve social and economic aspects of the community, as well as, activeness in the topical issues of young people
- commitment of the wood products industry stands for perceived desire to make it easy for young people to get into the field

- openness of the wood products industry means the perceived level of its information disclosure

In operationalization of the dimensions of organization-public relationship several items are formulated to each dimension. The items are related to the elements of relationship management and quality of the relationship between young people and the wood products industry. Further, they reflect the perceived organizational responsibility in actions from the viewpoint of young people as potential employees. Nine items stand for trust, four of which are related to reliability and five for competence. Six items focus on investments, eight on involvement, six on commitment, and seven on openness of the wood products industry in its relation to young people. All the items employ a six-point Likert scale (anchors: Strongly disagree/Strongly agree).

20. The perceptions of young people concerning trust in their relationship with the wood products industry:

- The promises of the wood products industry are reliable (reliability)
- The wood products industry is honest in dealing with its employees (reliability)
- The wood products industry is sincere in actions when problems arise (reliability)
- The wood products industry is consistent in its words and actions (reliability)
- The wood products industry is able to offer challenging tasks (competence)
- The wood products industry is able to offer possibilities to advance in career (competence)
- The wood products industry is able to offer continuous employment (competence)
- The wood products industry is able to pay competitive salaries (competence)
- The wood products industry possesses high competence in its field (competence)

21. The perceptions of young people concerning the *investments* of the wood products industry in the fields of their interests or needs:

- The wood products industry actively engages in an attempt to make the field known among young people
- The wood products industry sponsors issues and events significant for young people
- The wood products industry contributes to vocational education in the field
- The wood products industry makes investments in the welfare of employees
- The wood products industry makes investments in the improvement of young employees' skills
- The wood products industry offers opportunities for practical training

22. The perceptions of young people concerning the *involvement* of the wood products industry in activities improving economic and social well-being in the community and also topical issues relevant to young people:

- The wood products industry is involved in recruitment fairs and events
- The wood products industry is active in its cooperation with comprehensive schools
- The wood products industry is present in connection with issues relevant to young people
- The wood products industry is involved in actions that promote the welfare of the community
- The wood products industry is involved in environmental affairs
- The wood products industry does not cause inconveniences to the community

- The wood products industry makes efforts to protect the environment
  - The wood products industry takes care of the safety of its employees
23. The perception of young people concerning the commitment of the wood products industry to young employees:
- The wood products industry is committed to creating continuous employment for young people
  - The wood products industry is committed to skilled, young employees
  - The wood products industry is sensitive to the opinions of young employees
  - It is easy for young people to obtain a training placement within the wood products industry
  - The wood products industry encourages young employees
  - The wood products industry shows commitment to make it easy for young people to gain entry into the field
24. The perceptions of young people concerning the *openness* of the wood products industry in its information disclosure:
- The wood products industry is open about its plans for the future
  - The wood products industry informs the audience openly about negative news
  - The wood products industry gives information to the audience concerning the steps of progress in the field
  - The wood products industry is open about its environmental policies
  - The wood products industry is open about its economic state
  - The wood products industry provides young people with timely information
  - The wood products industry does not hold back information

#### Relationship state: Trustworthiness

To get more insight into the development of trust, perceived trustworthiness is treated in this study as a two-dimensional concept comprising perceived credibility and benevolence of the wood products industry. Further, credibility is defined as perceived reliability and competence of the industry sector. The construct of perceived trustworthiness being composed of credibility and benevolence is suggested to be compatible in definition with the dimensions of the organization-public relationship. The dimensions of trustworthiness are suggested to function as mediators between antecedents and consequences of the relationship state in the groups of low- and high- involved young people.

Reliability and benevolence are operationalized similar to Ganesan and Hess (1997), whereas items related to competence are based on those of Grunig and Hon (1999). Four items focus on reliability, three on competence of the wood products industry and five are related to benevolence of the industry sector. The dimensions of trustworthiness are evaluated using a six-point Likert-scale (anchors: Strongly disagree/Strongly agree).

25. The perceptions of young people concerning *credibility* of the wood products industry:
- Promises made by the wood products industry are reliable (reliability)
  - The wood products industry is frank in its dealings (reliability)
  - The wood products industry is honest about problems, if they arise (reliability)
  - The wood products industry is consistent in terms of its policies (reliability)
  - The products of the wood industry are of high quality (competence)
  - The wood products industry is capable of carrying out its promises (competence)

- The wood products industry has resources enough to accomplish its obligations (competence)
26. The perceptions of young people concerning benevolence of the wood products industry:
- The wood products industry offers young people opportunities to visit their plants
  - The wood products industry is actively involved in educational events organized for young people
  - The wood products industry arranges adequate opportunities for practical training
  - The wood products industry takes a lot of trouble to make it easier for young people to gain employment in the field
  - The wood products industry treats young people fairly and justly

#### Consequences: Satisfaction

In this study, the consequences of perceived trustworthiness consist of the evaluation of overall satisfaction with the wood products industry, satisfaction in comparison with other industrial branches and the intentions to study or work in the field.

Overall satisfaction is intended to capture an evaluation of behaviors of the wood products industry and also evaluation of its perceived trustworthiness by young people. Also, comparison of overall satisfaction with other industries is carried out. Finally, satisfaction is assumed to provide an insight into the variables preferred by young people within the dimensions of organization-public relationship constituting perceived trustworthiness.

In this study, operationalization of satisfaction consists of three items, the first of which focuses on satisfaction with the behaviors of the wood products industry, the second is related to satisfaction with trustworthiness, and the third to satisfaction with the wood products industry in comparison with other industries. The items are adopted from Garbarino and Johnson (1999). Satisfaction is assessed using a six-point Likert scale (anchors: Strongly disagree/Strongly agree).

27. The level of satisfaction with the wood products industry among young people:
- How do young people rate their satisfaction level with the behaviors of the wood products industry
  - How do young people rate their satisfaction level with trustworthiness of the wood products industry
  - How do young people rate their satisfaction level with the wood products industry compared to other industrial branches

#### Consequences: Intentions

In addition, the intentions among young people to study or work in the field of the wood products industry are examined:

28. The intentions of young people to study or work within the wood products industry.

## 4.2 Hypotheses

The hypotheses propose that there is a relation between young people's perceptions of trustworthiness, satisfaction, their background and the level of involvement. The objective of the hypotheses is, also, to test the connections between the elements of relationship management in the groups of less and highly involved young people. This process is presumed to help in identifying elements, which are the key drivers of the relationship between the wood products industry and young people among the less and highly interested young people. These elements are suggested to be taken into account when planning public relations actions of the industry sector, accordingly. The constructs of reputation, similarity of values, communication, trustworthiness compatible with the indicators of organization-public relationship, and satisfaction are suggested to be separately identified constructs. The hypotheses propose the role of these constructs in influence pathways that result in satisfaction with the field of industry in the groups of low- and high- involved young people. Hypotheses are as follows:

1. The following background variables of young people have an influence on the perceived trustworthiness of the wood products industry:
  - Gender.
  - The province of residence during the last year at comprehensive school.
  - Place of residence during the last year at comprehensive school.
  - Awareness of the vocational school of the district having a training program of the wood industry.
  - Awareness of the wood products industry located in the place of residence.
  - Parents working in the wood products industry.
  - Having taken a volunteer course of technical work or woodwork at school.
  - Having been in a company of the wood products industry during a course of "Introduction to work".
  - Having visited a company of the wood products industry.
  - Having been working in the wood products industry.
2. High-involved young people perceive the wood products industry to be more trustworthy than low-involved.
3. For both low- and high-involved young people, reputation of mechanical wood industry is positively related to the perceived trustworthiness.
4. Reputation has a greater impact on the perceived trustworthiness for low-involved rather than high-involved young people.
5. For both low- and high-involved young people, the perceived similarity of values is positively related to the perceived trustworthiness.
6. For both low- and high-involved young people perceptions of communication are positively related to the perceived trustworthiness.
7. For low-involved young people perceptions of one-way communication has a greater impact on perceived credibility than perceived benevolence.
8. For high-involved young people perceptions of two-way communication has a greater impact on perceived benevolence than perceived credibility.
9. For both low- and high-involved young people perceived credibility and benevolence are positively related to satisfaction.
10. For low-involved young people perceived credibility has a greater impact on satisfaction than perceived benevolence.

11. For high-involved young people perceived benevolence has a greater impact on satisfaction than perceived credibility.

In the hypotheses presented above, perceived trustworthiness is treated as a two-dimensional concept comprising perceived credibility and benevolence of the wood products industry. To gain more insight into the trust development by the means of relational behaviors within public relations, the compatibility between the dimensions of trustworthiness and organization-public relationship is first analyzed.

The hypotheses concerning the background factors are based, to a great extent, on the familiarity of the wood products industry among young people. Familiarity is defined here as knowledge about the industry sector, which is obtained by direct or indirect experience. For example, young people, who have visited the wood industry or have attended optional woodwork courses at school, are likely to have more knowledge and experience about it than other young people. Also the connections between the background and the involvement groups are examined. Further, the perceptions of relational elements are proposed to be dependent on the level of involvement.

It is suggested, that the higher the perceived trustworthiness of the wood products industry, the higher the level of overall satisfaction among young people. In addition, the dimensions of perceived trustworthiness, credibility and benevolence, are proposed to make a difference to the intensity of impact on satisfaction among the groups of low and high involved young people. As the characteristics of credibility are more objectively observable than those of benevolence, credibility is considered to play a greater role in relationship perceptions among low-involved young people. Benevolence, in turn, is based on perceived intentions for concern and goodwill beneficial to the partner. By that means, it is to be realized more in actual interaction between the wood products industry and young people. Accordingly, benevolence is assumed to have a greater impact on the level of satisfaction among highly involved young people.

A good reputation, which represents stories told about the behaviors remembered by public, is found to form a favourable surrounding for relationships. Young people finishing comprehensive school seldom have personal experience of the wood products industry as an employee. Perceptions of the wood products industry are presumed to develop among young people not only on the basis of the information they are exposed to, but also in their interaction with other people. Those young people already studying the field normally also have their own experience from the industry sector. Thus, it is assumed that the perceived trustworthiness of the wood products industry is based on reputation the more easily the less direct experience of the sector is available for young people. Consequently, reputation is suggested to play a different role in relationship management among low- and high-involved young people.

The similarity of values is proposed to work favourably for the perceived trustworthiness of the wood products industry among both low- and high-involved young people. As similarity of values enable young people to more accurately understand and predict the other's objectives and behaviors, it is assumed to have a greater effect on perceived trustworthiness in the initial stage of the relationship.

Through effective communication of organizational behaviors an organization itself pursues to establish the basis for positive perceptions of trustworthiness among its publics. Besides this, there are also other sources of information, like public media, students counselors at school and other influential persons, who are not in the direct control of the wood products industry. All the elements of communication, including the sufficiency and

accuracy of one-way and two-way communication, are likely to have an impact on the evaluations of perceived trustworthiness of the wood products industry.

In addition, it is suggested that a difference is found in the intensity of the impact on the dimensions of trustworthiness, credibility and benevolence, when examining the perceptions of one-way and two-way communication among low- and high-involved young people. The core task of one-way communication is to make the field more visible, that is to build awareness and provide information. This is essential at the beginning of the relationship. Thus, perceptions of one-way communication are thought to have a stronger effect on credibility than benevolence of the industry sector among the low-involved young people. On the other hand, the means of two-way communication are commonly in use when relationships are already developing. In this study, two-way communication is proposed to have a stronger influence on the perceived benevolence than credibility of the wood products industry among high-involved young people. Finally, the impact of perceived credibility and benevolence on overall satisfaction is analyzed.

#### **4.3 Measure development**

The measure development was carried out in two successive pilot schemes. First, three final year students of comprehensive school completed the questionnaire and were subsequently interviewed. Second, the questionnaire was filled in by three final year classes of comprehensive schools and students of a vocational school studying the basics of the wood industry. The task of the pilot schemes was to assess the reliability and validity of the measuring instruments of the study.

Hunt, Sparkman and Wilcox (1982) suggest three categories of items to be pre-tested: 1) items about the questionnaire, 2) items about specific questions and 3) items about data analysis. In this study, each of these items were assessed in two successive pilot schemes. First, the layout and the instructions of the questionnaire were examined accompanied by the format of the questions and their sequencing. The length of the questionnaire was also evaluated. Secondly, the objective was to test whether the language was clear, simple and unambiguous, or whether it was confusing containing terminology unfamiliar to young people. Finally, the suitability of the survey questionnaire for providing data of sufficient quality and quantity was estimated from the viewpoint of the objective of the research. In this study, the pilot schemes also operated as a device to estimate the response rate for the questionnaire.

A preliminary test of the operationalizations and measures was carried out by asking three final year students of comprehensive schools, two boys and one girl, to answer the questionnaire in the autumn of 2004. They were asked to give their comments on the questionnaire with particular reference to the items mentioned by Hunt et al. (1982). Generally, all the young people found the questionnaire easy to answer. The length of the questionnaire was considered to be reasonable; it was filled in within 15-25 minutes. A few expressions and words were found to be ambiguous and these were later changed in the questionnaire.

Hunt et al. (1982) suggest the pilot sample size to be a function of the instrument and the target population. In this study, a relatively large sample was chosen due to the length of the questionnaire and the unforeseeable responsiveness of the target population. An actual piloting of the questionnaire was accomplished in three last year classes of comprehensive schools and in one vocational school among students studying the basics of

wood industries in the spring of 2005. One of the comprehensive schools is located in a town, the other one being a rural school. The testing was carried out by the researcher in one upper level of comprehensive school and vocational school. There was no uneasiness felt by the students, neither questioning the relevance of the survey questionnaire nor opposition to answering it. According to the students, the instructions were clear and the questions comprehensible to answer.

In addition, the questionnaires were sent by post to one comprehensive school, where they were filled out by two classes during lessons. The comments of the students counselor concerning the survey situation, questionnaire, and readiness of the students to complete it were all positive. The students counselor did not see any problem to carry out the survey herself. According to her, there are several surveys per year in their school. Thus, this pilot scheme strengthened the perceived suitability of sending the questionnaires by post to the schools of cluster sampling.

In the pilot scheme, there were 55 final year students of comprehensive schools and 21 students of the program of wood industry in the vocational school. Eleven questionnaires were not found fit for further analysis: these discarded questionnaires had several missing values, systematic answers or the same choice for several items or measures. The unfit data concerned different items and measures in the questionnaire.

Finally, 65 questionnaires were used in the analysis based on the pilot scheme. As a result of it, the wording of ten items was turned from negative to positive. Young people did not, in general, recognize the negative questioning techniques which came forward as low bivariate correlations of all the negative items in the measures. The weak correlations showed up also in the correlation matrix of factor analysis. Osgood's semantic differentials in the involvement measures were also changed into the same order as all the other measures of the Likert scales: from negative to positive characteristics.

In addition, one item of the first involvement measure was discarded, as it had a relatively weak correlation with the other items of that measure. Finally, the place of the measure concerning the perceived values of the wood products industry was changed in the questionnaire in order to avoid direct comparison with the other value measure.

## 5 DATA AND ANALYSIS

### 5.1 Data collection

#### 5.1.1 Population and sample size

Communication and marketing research usually studies a proportion of the total population in order to make generalizations about the entire population. In this study, the starting point for the sampling lies in the fact that a great number of young people finishing comprehensive school are not interested in studying or working in the wood products industry. In order to be able to compare the perceptions of less and highly interested young people according to the framework of the study, the sampling also took into account young people who were studying in the field. Therefore, the entire target population consisted of both the last year students of the comprehensive schools and the students of the vocational schools studying the basics of the joinery, sawmill and plywood industries. The population

of the final year students of comprehensive schools in Finland was about 61 000 in the year 2005, with those studying the basics of the wood industry in vocational education being 1 500 (Opetushallitus).

In this study, systematic cluster sampling was considered to be a time-saving and financially efficient sampling method, as schools represented the clusters, in the first stage. Systematic cluster sampling was carried out randomly in two different survey populations. Among both comprehensive schools and vocational education the schools stood for primary sampling units, and the sampling among them was carried out by a systematic random method (Pahkinen & Lehtonen 1989).

The final sampling units, classes and students were selected within the randomly chosen comprehensive schools by the teachers to assure the minimum cooperation of the students. In the primary sample units of vocational schools, the first and second year classes of students studying the basics of the joinery, sawmill and plywood industries represented the final sampling. The reason for limiting the sampling to the first and second year classes was the probable absence of third year students in practical training.

The final sample size of students was decided separately in both populations on the basis of the size and homogeneity of the population in respect to the topic of the study. A further aim of the sampling was also to secure a number of students interested in the wood products industry. Hence, the relative size of the students already studying in the field was bigger than the corresponding size of the final year students of comprehensive schools. In addition, the data requirements of multivariate statistical methods were taken into account. A sufficient sample size of the final year students was estimated to be 400 persons, whereas the sample size of students studying the basics of the wood industry at vocational schools was set to be 200 persons.

### Vocational schools

The list of vocational schools, which have a program of the basics of the joinery, sawmill and plywood industries in youth education, was selected from the latest issue of the book entitled "Guidebook of education" (Koulutusopas 2005). Thus, the sampling frame consisted of 44 vocational schools to create the survey population of the study.

In order to carry out systematic cluster sampling, the vocational schools were put in order according to their postal code from the smallest number to the largest one. As the final sample size needed was 200 students and the size of a class was estimated to be 10-20 students, the cluster sample of vocational schools consisted of fifteen schools at the first stage. Thus, the sampling interval used was three. The sampling started at a random point and fifteen vocational schools were selected going both upward and downward the list of the postal codes.

### The upper levels of comprehensive schools

The lists and addresses of the upper levels of comprehensive schools were provided by the education departments of five County Administrative Boards of Finland. There were a total of 897 upper levels of comprehensive schools to create the total population. The final survey population consisted of 604 Finnish speaking upper levels of comprehensive schools run by the municipality. Schools in a foreign language or with a special curriculum were discarded.

The sampling of upper levels of comprehensive schools was carried out similarly to that of vocational schools. In estimation of the sample size, variation of class size and the proportion of survey answers unfit for analysis (14 %) according to the pilot scheme were

also considered. As the sample size was about 400 students and the class size about 15-20 students in each school, twenty five upper levels of comprehensive schools were chosen in the first stage.

Finally, in the sample there were a total of 25 upper levels from all parts of the country, with more schools in areas where population density is high. One upper level of comprehensive school refused to partake in the survey due to heavy loading of the students with different official surveys at the time. This school was substituted by the nearest school in the list, at random.

### *5.1.2 Survey procedure and handling of the data*

The names and contact addresses of the head teachers were found in the web-pages of the schools. The head teachers were asked for their permission to carry out the survey in their school. They were also briefed about the survey, its objects and the method of implementation via e-mail. Confidentiality of the study was emphasized and a summary of the results was promised to the schools partaking in the survey. In some cases, it was necessary to make a phone call later to confirm the permission and the details of arrangements. Usually, after giving their permission for the survey, the head teacher directed the task to the students counselor, in the vocational schools the teacher of wood technology, with whom the arrangements were agreed.

Copies of survey questionnaires were sent to the schools with return envelopes, postage prepaid. A short brief of the background of the survey and detailed instructions for carrying out the survey in a class were enclosed. In order to standardize the procedure in all the classes, as far as possible, it was asked that the instructions be read aloud before handing out the questionnaires. Confidentiality of the study was emphasized in the instructions. Furthermore, in the comprehensive schools a transparency of different fields of the wood products industry was asked to be shown in class in order to ensure everyone had the same field of industry in their mind.

In the vocational schools the survey questionnaire was completed by the first and second year students during weeks 40-50 in 2005. In the comprehensive schools the head teacher or the students counselor chose an average final year class for the survey. It was emphasized that the class should not be the best class, not a problem class. The data was collected in a lesson with the students counselor during weeks 4-10 in 2006. Generally, the personnel of the contemporary and vocational schools were very cooperative.

After returning the questionnaires, those persons who carried out the survey at schools, were contacted once more with thanks for performing the task. In the same connection they were asked, if they had noticed anything special concerning the survey situation. One students counselor commented that the situation was quite normal and young people were responsive to completing questionnaires; others did not have any comments.

After conducting the survey there were, in total, 719 questionnaires: 487 questionnaires of upper levels of comprehensive schools and 232 questionnaires of vocational schools offering the basics of the wood industry. The usability of the questionnaires was checked. Altogether 106 questionnaires were found to be unfit for further analysis: discarded questionnaires had the same choice for several items or measures and/or more than five missing values or systematic answers. The incomplete data concerned different items and measures in the questionnaire. The unfit questionnaires were found in all but two upper levels of comprehensive schools and two vocational schools.

The questionnaires were coded to a data file. The numerical and logical conformity of the file was checked, and any missing values, invalid codes and other mistakes were checked using a frequency table. In total, there were 193 missing responses to be replaced out of 64 365 values of variables. Missing values were substituted by the mean response to the variable of the sub-sample in questions. No missing values were found in 40 items out of 105. The most, two items contained twelve missing values. In addition, there were 106 answers giving two alternative responses to the same item. In such cases, the mean response of the sub-sample being closest to the alternatives was chosen.

### *5.1.3 Structure of the sample*

The representativeness of the sample was evaluated separately in the primary and secondary sampling units of the two survey populations. The cluster sampling provided 40 schools: 25 upper levels of comprehensive schools and 15 vocational schools. The total number of questionnaires suitable for further analysis was 613, comprising 425 questionnaires of upper level students and 188 students from vocational schools. Thus, the size of the sample is consistent with the sample size pursued on the basis of the estimation.

After having discarded the questionnaires that were unsuitable for the analysis, the response rate was calculated to be 85 %. The loss was greater among the vocational schools (19 %) than upper levels of comprehensive schools (13 %). However, in both sub-samples the background profile of the respondents who did not answer the questionnaire properly did not differ significantly from those respondents who were included in the sample.

In all, the sub-samples offered a fair representation of their survey populations with only minor limitations (**Table 3**). The school sample of the upper levels of comprehensive schools represented extensively the survey population in the provinces of Finland. In the sample of students the proportion was slightly smaller in the provinces of Southern and Eastern Finland, whereas it was larger in the province of Western Finland and Lapland compared to the survey population. Deviation between the proportions of schools and students within the provinces was most probably due to different class size.

The sample of vocational schools with the basics of the wood industry represented the whole country with minor deviations. Within the sample of vocational schools, the difference between the proportions of schools and students was, in part, great. This is due to the substantial regional differences in the number of students studying the basics of the wood industry in vocational education. For the same reason the share of questionnaires in the analysis in each province differed from the total share of students of vocational schools the proportion being greater in the province of Southern Finland and smaller in the provinces of Western and Eastern Finland.

In Finland there are slightly more upper levels of comprehensive schools located in towns than in rural areas. However, the sample share of rural upper levels of comprehensive schools and questionnaires is higher than the proportional average in the country. As for the vocational schools, they are mainly located in towns. Consequently, there is only one rural vocational school in the sample.

The share of male and female students is equal in the population and this is reflected in the sample of the upper levels of comprehensive schools. On the other hand, at vocational schools the large majority studying the basics of the wood industry are male students. Hence, the total number of questionnaires contains more male students than females (appendix 6).

**Table 3.** The distribution of the survey samples over the provinces of Finland.  
Source: Koulutusopas 2005; Opetushallitus.

<b>Provinces</b>	Upper levels of comprehensive schools 2005	%	Sample of upper levels from comprehensive schools	%	Final year students from comprehensive schools 2005	%	Questionnaires in analysis	%
Southern Finland	220	36	9	36	23 549	39	139	33
Western Finland	215	36	9	36	20 994	34	159	37
Eastern Finland	56	9	2	8	7 395	12	37	9
Oulu	68	11	3	12	6 382	11	48	11
Lapland	45	7	2	8	2 611	4	42	10
<b>Total</b>	<b>604</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>60 931</b>	<b>100</b>	<b>425</b>	<b>100</b>
<b>Provinces</b>	Vocational schools with a programs of wood industry 2005	%	Sample of vocational schools with a programs of wood industry	%	Students from vocational schools in the programs of wood industry 2005	%	Questionnaires in analysis	%
Southern Finland	9	20	3	20	420	28	68	36
Western Finland	16	36	5	33	565	38	57	31
Eastern Finland	7	16	2	13	211	14	19	10
Oulu	8	18	3	20	225	15	34	18
Lapland	4	9	2	13	60	4	10	5
<b>Total</b>	<b>44</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>1 481</b>	<b>100</b>	<b>188</b>	<b>100</b>

## 5.2 Analysis

### 5.2.1 Frame of analysis

The objective of the analysis of the empirical data can be derived from the purpose of the study as described in section 2.1: How to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation to study and work in the sector? Thus, the main tasks of the empirical analyses are:

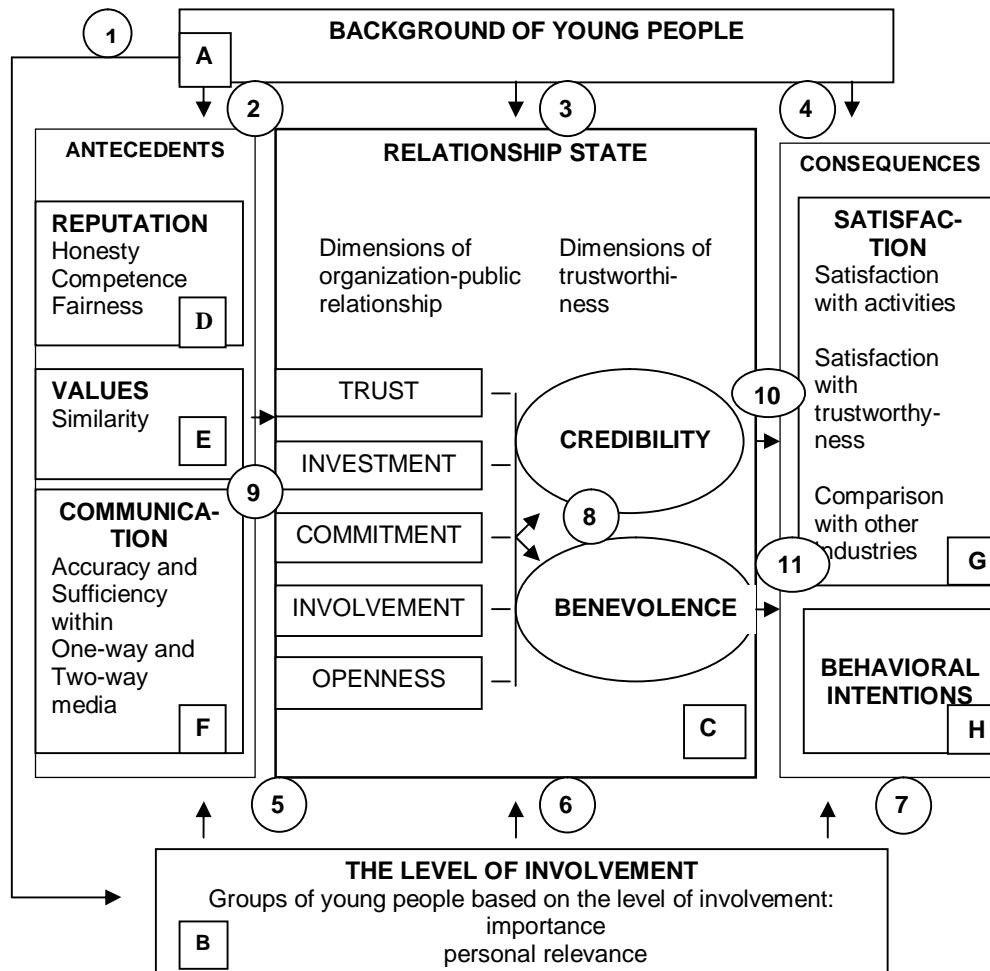
1. to form the instrument for conducting the study based on examining of young people's perceptions of the concepts and their dimensions
2. to describe young people according to their background and level of interest in the wood products industry
3. to find those relational elements, which are poorly perceived in different background and interest groups in order to enhance the relationship
4. to find those relational elements, which work for greater satisfaction with the relationship among the less and highly interested young people

The aim is to understand general trends instead of individual thoughts or perceptions of young people. The frame of analysis based on the theoretical framework of the study (**Figure 9**, p. 61) is presented in **Figure 10**. Each block in the frame of analysis contains a variable or a group of variables describing the phenomenon under study. The arrows between the blocks describe the relationships or connections of interest. First, the background profile of young people was analyzed. Second, young people of the study were classified into interest groups on the basis of the involvement measurement. The connections between the background factors and the interest groups of young people were examined. Third, differences in young people's perceptions of the relational elements were studied in different background and interest groups. Further, the connections between young people's perception of the relational elements were analyzed following the frame of analysis, below. The objective together with the frame of the study has guided the choice of the methods of analysis. **Table 4** (pp. 82-83) presents the areas of analysis according to the frame of analysis and the methods to be used in descriptive and connective analyses.

### 5.2.2 Methods of analysis

The empirical analysis of the data was guided by the purpose and theoretical framework of the study. The choices of the methods of analysis and their technical implementation are described in the sections that follow. The analyses were conducted with a statistical software package, SPSS Base 14,0 and Partial Least Squares Modeling Graph 3.0 program. Both univariate and multivariate methods of analysis were used.

The literature, which is referred to in the discussion of analysis methods section, consists of a number of sources. The main authors guiding the choice of methods in this study have been Tabachnick and Fidell (2007), Malhotra and Birks (2003), Metsämuuronen (2003), Toivonen (1999), Chin (1998), Gopal, Bostrom and Chin (1993), Bollen (1989; 1984), Wold (1985; 1981, 1980), Fornell and Bookstein (1982), Valkonen (1981), Anderberg (1973).



**Figure 10.** The problem areas and methods of analysis.

Prior to the empirical analysis of the data the fit between the distributions of the variables and the assumptions of multivariate analyses were checked. One of the preconditions in using multivariate analysis is that the variables are measured with interval scales. However, the variables describing relational elements in this study were measured with an ordinal scale following the practise of behavioral sciences, in which ordinal-level measures are generally used as if they were measured by interval scales (Malhotra & Birks 2003; Valkonen 1981).

Arithmetic means and distributions were used as univariate statistical techniques in the description of the data. For clearer interpretations of the results, connections between background variables referring to the students' familiarity with the wood industry were examined and a summated variable was formed using five variables.

Statistical tests were used to support the interpretation of differences and to assess whether the conclusions can be applied to the survey population. The connections between background variables, interest groups and intentions were analyzed by cross-tabulations with  $\chi^2$ -test. Statistically significant differences in the relationship perceptions of students with different background and interest group were identified by comparing the means of component score coefficients using t-test and one-way ANOVA with Bonferroni-test. Connections between the dimensions of organization-public relationship and trustworthiness were examined using correlation analysis. Only statistically significant results were reported.

*Principal components analysis.* Principal components analysis with varimax rotation was used to examine the dimensions of relational elements inherent in the data. Like factor analysis, principal components analysis is a multivariate method used to identify a relatively small number of components that can be used to represent relationships among sets of many interrelated variables.

According to Tabachnick and Fidell (2007) the mathematical difference between these two methods comes from the amount of variance analyzed. Principal components analysis examines the total variance in the set of variables, whereas in factor analysis, the interest focuses on the part of variance that is shared by the variables. In addition, theoretically, the difference lies in the reason that variables are related to a factor or a component: in principal component analysis, the variables produce the components, while in factor analysis the variables are caused by factors based on a theory. Principal components analysis was used here, as testing a theory is not the aim of this study.

In principal components analysis, linear combinations of the observed variables are formed. The first principal component is the combination that accounts for the largest amount of variance in the sample. The second principal component accounts for the next largest amount of variance and is uncorrelated with the first. When all components are included in the solution, all of the variance of each variable is accounted for. The further examination of the dimensions of relational elements requires a calculation of component scores per observation.

*Cluster analysis.* K-means cluster analysis was used to form interest groups of students. Cluster analysis is a class of techniques used to classify observations into relatively homogeneous groups called clusters. Contrary to discriminant analysis, no a priori information about the group membership for any of the objects is required. It provides a tool to deal with multidimensional phenomena and developing the optimal grouping of the observations (Malhotra & Birks 2003). The use of cluster analysis is supported by Anderberg (1973) contrary to the grouping of observations based on a plot or chart by visual judgement, in which multidimensionality could possibly be misinterpreted.

K-means clustering is a procedure which can be used to efficiently cluster large numbers of cases. The advantages of K-means cluster analysis were also its qualities of grouping cases instead of variables and allowing the number of clusters to be specified a priori. Determining cluster membership in K-means cluster analysis is based on the nearest centroid sorting. A case is assigned to the cluster with the smallest distance between the case and the center of the cluster centroid. If the cluster centers are not known, as in this study, they are iteratively estimated from the data. The variables used in clustering should be based on past research, theory, or a consideration of the hypotheses being tested (Malhotra & Birks 2003; Metsämuuronen 2003). In this study the variables were similar to the involvement measure used by Barki and Hartwick (1994).

*PLS modelling.* The causal modelling approach used to test the research model was the partial least squares (PLS), which is a structural equation modelling (SEM) technique. Compared to regression techniques, SEM techniques provide more detailed information about the extent to which the research model is supported by the data (Gefen, Straub & Boudreau 2000). PLS is a component-based approach for latent variable path modelling used to analyze research models containing variables that are not directly observed. It is similar to regression analysis, but simultaneously models the structural paths between theoretical relationships among latent variables and measurement paths, relationships between a latent variable and its indicators (Chin, Marcolin & Newsted 2003).

Using the iterative estimation technique, PLS provides an approach that encompasses, among other techniques, canonical correlation, redundancy analysis, multiple regression, multivariate analysis of variance, and principal components (Fornell & Bookstein 1982). The primary components of the PLS approach are indicators referring to observed measures, latent variables or constructs and path relationships. To obtain path estimates and the weights and loadings for indicators, the PLS approach uses a three-stage estimation algorithm (Chin 1998).

Compared to the factor based covariance fitting approach for latent structural modelling, e.g. LISREL, the component based PLS avoids two problems: inadmissible solutions and factor indeterminacy (Fornell & Bookstein 1982). As the former specifies the residual structures, PLS explicitly specifies the estimates of the latent constructs. The philosophical distinction between these approaches is, whether to use the technique for theory testing and development or for predictive applications. For applications and prediction, a PLS approach is often considered more suitable (Fornell & Bookstein 1982).

PLS also has minimal demands for measurement scales, sample size, distributional form for measured variables and residual distributions. Being a component-based approach, the PLS technique assumes that all the measured variance is useful variance to be explained. (Chin 1998; Fornell & Bookstein 1982). Wold (1980) states, that although, the PLS procedure is partial in the sense that no total residual variance or other overall criterion is set up for optimization, it is coherent in the sense that all residual variances are minimized jointly. Moreover, attempts to explicitly model formative indicators in the traditional structural equation modelling have been shown to result in identification problems.

PLS estimates the latent constructs as exact linear combinations of the observed measures. Hence, it avoids the indeterminacy problem and provides an exact definition of component scores for predictive purposes. As a consequence of using an iterative algorithm consisting of a series of ordinary least squares analyses, identification is not a problem for recursive models. Moreover, sample size can be as small as five times the number of items on the scale with the most items, which is ten items in the case of this study. (Gopal, Bostrom & Chin 1993) In this study, the partial least squares method was used, as it is primarily intended for causal-predictive analysis in situations of high complexity but weak or tentative theoretical information. In addition, it is flexible in its assumptions of the data and also the mode of indicators.

**Table 4.** The frame of analysis.

DESCRIPTION OF VARIABLES		
Letter	AREA OF ANALYSIS	METHOD OF ANALYSIS
<b>A</b>	Background of young people - familiarity	Distributions Inter-item correlation, Summated variable
<b>B</b>	The level of involvement: - interest groups of young people	Means and distributions Cluster Analysis
<b>C</b>	Dimensions of organization-public relationship: - trust - investment - commitment - involvement - openness Dimensions of trustworthiness: - credibility - benevolence	Means and distributions Principal component analysis Component scores Summated variable
<b>D</b>	Reputation: - honesty - competence - fairness	Means and distributions Principal component analysis Component scores Summated variable
<b>E</b>	Similarity of value	Means and distributions Principal component analysis Component scores Summated variable
<b>F</b>	Communication: - one-way media: accuracy, sufficiency - two-way media: accuracy, sufficiency	Means and distributions Principal component analysis Component scores Summated variable
<b>G</b>	Satisfaction: - satisfaction with activities - satisfaction with trustworthiness - comparison of overall satisfaction with other industries	Means and distributions Principal component analysis Component scores Summated variable
<b>H</b>	Behavioral intentions	Distributions

CONNECTIONS BETWEEN VARIABLES		
Arrow	AREA OF ANALYSIS	METHOD OF ANALYSIS
1	Relationship between background and interest groups	Cross tabulation $\chi^2$ - test
2	Relationship between background and reputation, values, and communication	Means of component scores by classes T-test ANOVA
3	Relationship between background and dimensions of organization-public relationship	Means of component scores by classes T-test ANOVA
4	Relationship between background and satisfaction Relationship between background and behavioral intentions	Means of component scores by classes T-test ANOVA Cross tabulation $\chi^2$ - test
5	Relationship between the interest groups and reputation, values, and communication	Means of component scores by classes ANOVA
6	Relationship between the interest groups and dimensions of organization-public relationship	Means of component scores by classes ANOVA
7	Relationship between the interest groups and satisfaction Relationship between the interest groups and behavioral intentions	Means of component scores by classes ANOVA Cross tabulation $\chi^2$ - test
8	Relationship between dimensions of trustworthiness and dimensions of organization-public relationship	Correlation of component scores
9	Relationship between reputation, values, communication and dimensions of trustworthiness	Inter-item correlation Correlation of component scores PLS Modeling
10	Relationship between dimensions of trustworthiness and satisfaction	Inter-item correlation Correlation of component scores PLS Modeling
11	Relationship between dimensions of trustworthiness and behavioral intentions	Inter-item correlation Correlation of component scores PLS Modeling

### *5.2.3 Validity and reliability of the data*

Measurement validity is defined by Metsämuuronen (2003) as the property of the measurement scales to give unbiased information of the desired traits intended to be measured. Reliability refers to measuring a variable in a consistent and stable manner. Validity and reliability are not independent, on the contrary, neither is meaningful without the other. A measurement which lacks reliability is completely random and, consequently, lacks also validity. However, a measurement can be reliable but not necessarily valid. Thus, reliability is a necessity, but not a sufficient prerequisite for a valid measurement (Frey, Botan & Krepps 2000).

Measurements are never perfectly reliable. Instead, every observed score of any measurement consists of two elements: a true score and a certain amount of measurement error. A true score would be obtained if there were no measurement errors, which in turn can be further divided into systematic and random errors. Systematic errors diminish validity whereas random errors decrease reliability and thus also validity (Valkonen 1981). In this study, several procedures have been followed to reduce the measurement errors. These include: piloting of the questionnaire, keeping the setting in different schools as consistent as possible and following the same procedures in every class (see chapters 4.3 and 5.1.2, appendix: instructions).

Further, there are two kinds of validity: external and internal. External validity is related to the sampling theory and the generalizability of the results to the total population. Thus, it depends on the sample used in the research (Frey et al. 2000). In this study, systematic cluster sampling was used as the sampling method. In the first stage, where schools represented the clusters, sampling was carried out randomly in two different survey populations: upper levels of comprehensive schools and vocational schools with a program of wood products industry. The final sampling units, classes and students in them, were separately selected within the randomly chosen comprehensive schools and vocational schools. The sub-samples represented their survey populations fairly well (see chapter 5.1.3).

However, multistage cluster sampling might lead to a situation where the elements within a cluster are more homogeneous than are all the elements comprising the total population (Metsämuuronen 2003). In this study, as the subject examined is not clearly connected to the school-life or class, it is presumable that there is no significant conformity in students' perception of the wood products industry caused by the sampling method. In addition, according to Metsämuuronen (2003) the problems, which are caused by smaller variance in cluster samples than among samples selected randomly one by one, are actually relevant when comparing small special samples with a few observations in them. Thus, the external validity of this study can be classed as good, so providing a basis for applying the conclusions from the study to young people of similar age in Finland.

Internal validity refers to such a design and conduct of the research that it leads to accurate findings about the phenomenon being investigated. The internal validity of measurement consists of content validity and construct validity, which are assessed at a conceptual level. Content validity can be established by making sure that the concept and its operationalization used in measurement instrument reflect the construct as it is defined conceptually. (Metsämuuronen 2003, Valkonen 1981) In this study, internal validity relies partly on the measurement items and instruments, which are mainly based on or derived from previous research. The organization-public relationship measure of Bruning and

Ledingham (2000), which is validated in several studies (Bruning & Ledingham 1999; Bruning & Ledingham 1998; Ledingham & Bruning 1998), is developed in this study to include several items for each of the relationship dimensions.

Construct validity is inferred from theory. It refers to the extent to which a particular measure relates to other measures, expectedly, in a consistent way with the theory. When theory has gained support from the study, the assumption that the operationalizations used are rational measures of theoretical concepts, is supported, too. (Metsämuuronen 2003, Valkonen 1981) In this study, construct validity of the measurements has been assessed along with the principal components analysis examining the dimensions of organization-public relationship and partial least squares analysis examining the connections between antecedents, relationship state and consequences as suggested in the theoretical framework of the study.

The extent to which the theoretical model is true is determined partly by the strength of the path relations among latent composite scores and partly by the loadings of reflective indicators and the weights of formative indicators as estimated by the procedure. With the formative indicators used in this study, the PLS algorithm provides latent variable weight estimates such that the latent variable scores are maximally predicted by their block of indicators. Thus, the reliability of formative indicators is not demonstrated by internal consistency (Bollen 1984). Instead, as the indicators are to represent all facets of the construct, too narrow a set of items undermines construct validity. Moreover, when formative indicators are in use, the PLS procedure does not provide any goodness-of-fit estimates for the model itself (Bollen & Lennox 1991). However, the mediating role of credibility and benevolence was found to be relevant for several of the antecedents in both interest groups of the students supporting the internal validity of the measurement.

## 6 RESULTS

### 6.1 Background of the students

A total of 613 students were included in the analysis: 425 final year students of comprehensive schools and 188 students of vocational schools studying the basics of the wood industry. The background variables related to school type, gender and geographical issues were addressed in detail in the Data section (5.1.3). This section aims to answer the research question “What is the background of young people?” with regard to the other background variables.

The variables concerning awareness of the wood industry programs and sawmills were prepared (appendix 5) to correspond to their actual existence. Nearly half of all the students were unaware of the wood industry programs. By contrast, two thirds of the students were aware of the wood products industry in the neighborhood.

More than half of the students had chosen volunteer wood work at school. In spite of this, the students had, only to a lesser degree, closer contacts with the sector in the form of training or visiting. In addition, only the parents of a small minority of the students were employed in the wood industry. The frequencies of the background variables are described in appendix 6. Further, the objective of this section is to describe, how familiar the students

were with the wood products industry and how well-known the local wood industry programs were for them.

Summated variable describing the students' familiarity with the wood products industry was based on the following variables:

- Awareness of the wood products industry located in the place of residence.
- Having taken a volunteer course of technical work or woodwork at school.
- Having been in a company of the wood products industry during a course of "Introduction to work".
- Having visited a company of the wood products industry
- Having been working in the wood products industry

Before summation connections between the background variables related to familiarity with the wood products industry were examined to be sure that they were measuring the same issue (appendix 7). Three categories were formed for familiarity by combining the two smallest, two largest and two middle values of the six point scale of the summated variable. Further, the categories were organized into rising order: not familiar, fairly familiar, and familiar. In the following, familiarity with the wood products industry and awareness of the wood industry program are described by school type and background variables (**Tables 5 and 6**).

**Table 5.** Familiarity with the wood products industry by school type and background variables.

<b>Background</b>	<b>Students' familiarity with wood industry</b>	
	<b>Good</b>	<b>Poor</b>
School type	Vocational school	Comprehensive school
Gender	Male	Female
Place of residence	Rural area	Town
Parents' work	In wood industry	In other sectors
Awareness of the wood industry program in the neighborhood	Aware	Unaware

**Table 6.** Awareness of the wood industry program by background variables and familiarity of the wood industry.

<b>Background</b>	<b>Students' awareness of the wood industry program in the neighborhood</b>	
	<b>Good</b>	<b>Poor</b>
School type	Vocational school	Comprehensive school
Province	Eastern Finland	Lapland
Place of residence	Town	Rural area
Parents' work	In wood industry	In other sectors
Familiarity with wood industry	Familiar	Unfamiliar

Overall, it seems that there is much to be desired in terms of both the awareness of the wood industry programs and familiarity of the sector among the students. At comprehensive schools, in excess of half of the students were neither familiar with the wood industry nor aware of the wood industry program in the neighboring school. Students of vocational schools had, naturally, a greater awareness of the wood industry programs just as they were also more familiar with the sector. The students familiar with the wood industry lived in rural areas, whereas students aware of the wood industry programs were from towns. The latter might be due to the fact that the vocational schools are typically located in towns.

The province or area the students come from does not seem to play a role in their familiarity with the wood industry, but seems to make a difference to their awareness of the wood industry programs, especially in northern Finland where the awareness was poor. Naturally, parents' work in the wood industry seems to be connected both to better familiarity with the sector and better knowledge of the wood industry programs. Finally, familiarity with the industry sector means, typically, better awareness of the wood industry programs (appendices 8 & 9).

## **6.2 Description of the students' relationship perceptions related to the wood products industry**

The purpose of this section is to answer the question "What are young people's perceptions of the central relational elements interacting in the relationship between young people and the wood products industry?" In effect, the instrument is formed for conducting the study based on examining young people's perceptions of the relational concepts and their dimensions.

Further, the relationship between young people and the wood products industry is described and analyzed in terms of individual perceptions of young people concerning measures of relationship antecedents, relationship state, and consequences found to be relevant in this context. Consequently, the focus is on such relationship measures which are prone to affect young peoples' perceptions of the wood products industry as a field to study and work in. In this section the structures of the measures, which comprise the framework of the study (Section 4.1.1), were examined using principal components analysis. The component scores acquired were also used in further analyses.

Principal components analysis, which aims at extracting maximum variance from the data set, was chosen. Each of the measures of relationship antecedents, state, and consequences consisted of several items, which were together presumed to compose a construct (appendix 10). The operationalizations of these relational elements were presented in Section 4.1.2. The items were assessed using a six-point scale (anchors: Strongly disagree/Strongly agree). The factorability of the variables on the basis of correlation matrices were analyzed. Both Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (.670-.965) and Bartlett's test for Sphericity ( $p<.0001$ ) indicated that the variable set was appropriate for principal component analysis.

The levels of perceptions were evaluated based on individual items (see appendix 10) and summated variables, which were formed of the extracted principal components. Summated rating scales were made of variables constituting the principal components with the highest loadings. Then the mean of the summated rating scale for each principal

component was calculated. The mean scores attained for each principal component and the means of the items in them were then both examined. As most of the means were above the mean of the scale (3,5), the results indicate that the students had, generally, rather positive perceptions in relation to the wood products industry. However, the lower means of a few relationship measures and items indicate that there are also clear needs in relationship management between young people and the wood industry.

When each of the relationship measures were subjected to principal components analysis, the preliminary results of Cattell's Scree test showed that most of the constructs consisted of more than one principal component. Based on the examination of the eigenvalues of the reduced correlation matrix, one to six components were extracted for the relationship measures. The varimax rotation was performed for 1-6 principal component solutions. For interpretation of the principal components the variables and their means were presented in descending order according to their loadings. The consistency of the components was assessed by Cronbach's  $\alpha$ .

#### *6.2.1 Dimensions and levels of relationship antecedents*

The antecedents of relationship state which were found to be relevant in this study are the reputation of the wood industry as perceived by young people, value similarity evaluated on the basis of young people's perceptions, as well as, sufficiency and accuracy of one-way and two-way communication.

##### Reputation

Favourable reputation is defined in this study as the extent to which the wood products industry is generally perceived to be honest, competent and concerned about its stakeholders. Perceived reputation of the wood products industry was measured by 13 variables. The correlation matrix of variables describing the perceived reputation of wood industry was subject to principal components analysis. Based on the examination of the eigenvalues, varimax rotation was performed for 1-3 factor solutions. The most interpretable was the two-principal-component solution, which was also supported by the examination of the eigenvalues of the principal components solution. **Table 7** provides the two-principal-components solution for reputation with varimax rotation.

**Table 7.** Dimensions of perceived reputation of the wood products industry.

<b>Variable</b>	Mean (1-6)	Principal	Principal	$h^2$
		component 1	component 2	
Loadings				
Reputation of reliability as an employer	4.11	.76	.16	.60
Reputation of ethical standards	4.18	.76	.19	.61
Reputation of being fair	4.05	.73	.33	.65
Reputation of honesty	4.21	.73	.22	.57
Reputation of dependability	4.18	.71	.32	.60
Reputation of environmental issues	3.98	.70	.25	.55
Reputation of long term employment	4.07	.68	.29	.55
Reputation of community policy	3.78	.65	.38	.45
Reputation of competence as an employer	4.12	.55	.17	.45
Reputation of training opportunities	3.82	.46	.25	.28
Reputation of investing in technology	4.26	.18	.82	.70
Reputation of product quality	4.65	.27	.75	.64
Reputation of know-how	4.37	.31	.75	.66
Eigenvalue		6.18	1.10	7.28
Total variance (%)		47.6	8.45	56.0
Reliability coefficient Alpha (of variables in bold)		.893	.755	

As all the means of the items are above the scale mean (3.5), this indicates that the reputation of the wood industry is fairly high among the students (**Table 7**). The results show that perceived reputation of the wood products industry as a producer of quality goods is especially high. In comparison with other items, the reputation is perceived to be the poorest in activeness in community policies.

The two-component solution explains 56% of the total variance of the variable set. On the first principal component variables describe perceived reputation of the wood products industry as a reliable and fair employer. The variable based on reputation of employer reliability gets the highest loading. The first principal component is called “*reputation of employer reliability and fairness*”. On the second principal component variables describing

perceived reputation of competence based on the reputation of investing in technology get the highest loadings. The second principal component is called “*reputation of technical competence*”.

The means of summated rating scales constituting the principal components with the highest loadings show that the reputation of the industry sector seems to be rather good:

The mean for “reputation of employer reliability and fairness” is 4.1 with standard deviation of .736 and for “reputation of technical competence” 4.4 with standard deviation of .840. Although, the students found the wood products industry regarded as a reliable and fair employer, the industry sector was, first of all, perceived to have a reputation of being technically competent.

### Similarity of values

Similarity of values here means the extent to which students and the wood products industry have common beliefs about the appropriate behaviors, goals, and policies. In operationalization, the values which were assessed as relevant in the relationship between students and the wood products industry, were used. The value perceptions of young people were evaluated by two measures: perceived values of the wood products industry perceived by young people and value appreciations of the same items by young people. The value measures consisted of five items each. Next, the similarity between the two value measures was estimated. The difference between the value appreciations of young people and their perceived values of the wood products industry was calculated: After the subtraction remainder zero represented the highest similarity and plus/minus five the lowest. The scale was changed into absolute values added with one in order to make a six-point scale from one to six. The scale was, further, recoded to make high numbers indicate higher similarity of values in accordance with the scales of other relationship measures. **Table 8** presents the one-principal-component solution of value similarity.

**Table 8.** The dimensions of perceived similarity of values between the students and the wood products industry.

<b>Variable</b>	Mean(1-6)	Principal	$h^2$
		component	
Value similarity in raw material supply	4.79	.74	.55
Value similarity in environmental policy	4.81	.67	.45
Value similarity in job opportunities	4.67	.66	.44
Value similarity in community policy	4.45	.62	.38
Value similarity in employment policy	4.50	.62	.38
Eigenvalue			2.20
Total variance (%)			44.0
Reliability coefficient Alpha		.675	

**Table 8** shows that the means of all value similarity items are high, which indicates a good similarity between the values of the students and their perceptions concerning the values of the wood industry. The biggest difference lies between community and employment issues: the value assessments of the students seem to indicate that they value social contribution and stable employment policies more than the industry sector was perceived to. Otherwise, it appears that the students seem to share values with the wood industry to a great extent.

The component of value similarity accounts for 44 % of the total variance of the variable set. Also the communalities are relatively low. This indicates that the scope of value concept is of a wide range, which could only partly be covered by the variables used in this study. This component is called "*similarity of values*".

The mean for the variables constituting the principal component of similarity of values is 4.6, with the standard deviation being .787. This means that values of the students and their perceptions of the wood industry's values are in fact quite similar. The examination of the original means of the students' values and their original perceptions of the values of the wood industry reveal that the means of value perceptions of the students are generally higher than the means of the students' perceptions of values of the wood industry (see appendix 10).

#### Communication

In this study, communication includes all forms of public relations and marketing communication used by the wood products industry. Also, messages concerning the wood industry, which are sent by those other than the industry sector itself are in focus: public media, student counselors at school and other influential persons. Communication is operationalized following the media groups of one-way and two-way communication, as well as, the sufficiency and accuracy of the information. The measurement instrument of communication consisted of 12 items.

The correlation matrix of variables describing communication was subjected to principal components analysis, and varimax rotation were performed on the 1-4 principal components selected. The most interpretable was the three-principal-component solution, which was also supported by the examination of eigenvalues of principal components solution. **Table 9** presents the three-principal-component solution for communication with varimax rotation.

Compared to the scale mean, there are several low means among the items of communication in **Table 9**. This indicates that the students have rather poor perceptions of communication concerning the wood products industry. In particular, the amount of excursions arranged by the wood industry was found to be inadequate. It also seems that the students were more satisfied with the sufficiency and accuracy of information provided through mass media than by the industry sector itself. For example, the students did not find the Internet a very useful tool in their interaction with the wood industry.

The first three principal components account for 57 % of the total variance of the variable set. On the first component the variables with the highest loadings are those describing the information given to the students by the wood products industry. It consists of both one-way and two-way elements of communication, the most important variables relating to information controlled by the industry sector. Heavy loading is found also with one-on-one communication with the student counselor at school, when planning for future

**Table 9:** Dimensions of perceived communication.

<b>Variable</b>	Mean (1-6)	Principal	Principal	Principal	$h^2$
		component 1	component 2	component 3	
Activity in sending information to young people	3,20	.81	.05	.20	.70
Enough brochures	3,40	.74	.04	.33	.66
Enough excursions	2,87	.73	.28	.01	.62
Discussions with student counselor	3,29	.72	.25	.03	.58
Positive information from different persons	3,85	.02	.76	.19	.62
Interactive information consistent with reality	3,77	.17	.75	.18	.62
Consistent information from representatives of wood industry	3,78	.24	.71	.16	.59
Usefulness of Internet	2,74	.39	.49	.12	.40
Positive messages in mass media	3,99	.06	.10	.76	.59
Messages in mass media compatible with reality	4,08	-.03	.32	.67	.55
Consistent information in mass media	3,69	.31	.11	.67	.55
Enough information in mass media	3,58	.35	.20	.46	.37
Eigenvalue		4.28	1.44	1.13	6.85
Total variance (%)		35.6	12.0	9.4	57.0
Reliability coefficient Alpha (of variables in bold)		.801	.709	.645	

studies. Consequently, the component generally describes sufficiency of the communication for recruitment purposes. Thus, the first component is termed “*sufficiency of recruiting communication*”. The variables with the highest loadings on the second component describe personal communication, especially, the accuracy of it. This component is called “*accuracy of interactive communication*”. Finally, where the third component is concerned, the variables with the highest loadings are those describing one-way communication through mass media; this is called “*information in public media*”.

The three principal components attained for communication fit the media groups of Hallahan (2001) relatively well. “Sufficiency of recruiting communication” represents the group of controlled media, in this case, controlled by the wood industry. “Accuracy of interactive media” consists of several media groups of two-way communication: interactive

media, events and group communication and one-on-one communication. Finally, public media of Hallahan (2001) equates with “information in public media” representing one-way communication. As the means for the dimensions of communication show, the perceptions of communication, are in general, rather low:

	Mean	Std. Deviation
Sufficiency of recruiting communication	3.2	1.019
Accuracy of interactive communication	3.5	.836
Information in public media	3.8	.728

Only perceptions of information in public media are considered to be on a reasonable scale.

#### *6.2.2 Dimensions and levels of relationship state*

In this study, relationship state between young people and the wood industry is evaluated by both dimensions of organization-public relationship and dimensions of trustworthiness of the industry sector.

#### Organization-public relationship

Students' perceptions of the wood products industry were evaluated using statements covering the five organization-public relationship dimensions of Bruning and Ledingham (2000): trust, investment, involvement, commitment, openness. Each dimension consisted of several items, which reflect the perceived organizational responsibility in actions from the viewpoint of young people as potential employees. In order to examine the dimensionality of organization-public relationship in this context, the measurement instrument of 36 items was examined using principal component analysis.

The correlation matrix of all the variables describing organization-public relationship was subjected to principal components analysis and varimax rotation, which was performed on the 1-6 principal components selected (**Table 10**). The six-principal-component solution was the most interpretable, and theoretically the most significant. It was also supported by the examination of eigenvalues of principal components solution. The results bring forth six dimensions of organization-public relationship including all the five original dimensions of Bruning and Ledingham (2000). In addition, in this study the dimension of involvement consists of two sub-dimensions.

**Table 10** shows that the means of the relational items are, generally, above the scale mean referring to a fairly good relationship between the students and the wood products industry. However, there are a few items which have rather low means, with the lowest related to involvement in and sponsoring of issues relevant for young people and ways of making the field known to them. However, the students perceived the industry sector to represent high competence in its field. Further, the field is perceived to offer challenging tasks.

**Table 10.** Dimensions of organization-public relationship.

Variable	Mean 1-6)	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	$h^2$
		1	2	3	4	5	6	
Loadings								
Reliability of promises	3.77	.76	.21	.19	.18	.09	.12	.71
Honesty with employees	3.96	.74	.19	.15	.18	.10	.20	.69
Continuous employment	4.09	.69	.07	.11	.14	.26	.18	.61
Consistency in words and actions	3.89	.64	.31	.18	.09	.14	.22	.61
Sincerity in problem situations	3.88	.63	.32	.17	.16	.10	.21	.60
Competitive salaries	3.92	.62	.08	.18	.12	.28	.03	.52
High competence	4.68	.58	.05	-.16	.12	.53	-.08	.67
Openness about negative news	3.45	.18	.73	.22	.20	.03	.08	.66
Openness about the state of economy	3.63	.10	.70	.23	.08	.13	.17	.60
Openness about plans of the future	3.46	.26	.63	.18	.28	.13	.07	.59
Openness about progress in the field	3.77	.09	.63	.13	.22	.30	.14	.57
Openness about environmental issues	3.71	.21	.62	.21	.26	.17	.27	.64
Holding back of information	3.57	.27	.61	.22	.19	.08	.15	.56
Openness about timely information	3.59	.12	.48	.40	.23	.21	.20	.54

<b>Variable</b>	Mean 1-6)	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	$h^2$
		component 1	component 2	component 3	component 4	component 5	component 6	
Loadings								
Involvement in issues relevant for young people	3.28	.13	.23	<b>.75</b>	.18	.04	.19	.70
Sponsoring of issues significant for young people	3.25	.13	.22	<b>.73</b>	.22	.17	.06	.68
Cooperation with comprehensive schools	3.32	.10	.25	<b>.67</b>	.20	.14	.15	.60
Making the field known to young people	3.25	.26	.23	<b>.66</b>	.25	.22	.03	.66
Involvement in community welfare	3.43	.10	.20	<b>.63</b>	.19	.06	.33	.60
Commitment to provide training opportunities	3.65	.06	.25	.26	<b>.70</b>	.14	.05	.65
Commitment to get young people into the field	3.75	.17	.32	.27	<b>.63</b>	.15	.09	.63
Encouragement of young employees	3.75	.16	.30	.23	<b>.62</b>	.22	.26	.67
Commitment to skilled young people	3.68	.27	.26	.20	<b>.61</b>	.14	.25	.63
Long term employment	3.55	.39	.16	.25	<b>.55</b>	.22	.25	.65
Sensitive to opinions of young people	3.46	.26	.23	.40	<b>.52</b>	.10	.33	.66
Challenging tasks	4.35	.44	.09	-.07	-.01	<b>.56</b>	.31	.62
Offering opportunities for training	3.95	.13	.23	.34	.27	<b>.55</b>	.02	.56

<b>Variable</b>	Mean 1-6)	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	Principal compo-	$h^2$
		component 1	component 2	component 3	component 4	component 5	component 6	
Loadings								
Investments in skillfulness of young people	3.92	.20	.29	.35	.24	<b>.54</b>	.16	.62
Investments in vocational education	3.95	.18	.21	.35	.35	<b>.52</b>	.10	.60
Possibilities to advance in career	4.09	.37	.18	.17	.00	<b>.49</b>	.27	.51
Safety of employees	4.13	.25	.18	.04	.20	<b>.48</b>	.45	.57
Involvement in events and fairs	3.77	.24	.05	.35	.33	<b>.45</b>	-.03	.50
Contribution to well being of employees	3.73	.25	.28	.36	.24	<b>.43</b>	.18	.55
Inconveniences for community	3.69	.24	.16	.20	.14	.06	<b>.72</b>	.66
Environment protection	3.71	.21	.29	.20	.18	.16	<b>.67</b>	.68
Active in environmental issues	3.78	.18	.24	.25	.30	.20	<b>.51</b>	.54
Eigenvalue		15.02	2.50	1.40	1.15	1.06	.96	22.09
Total variance (%)		41.7	7.0	3.9	3.2	2.9	2.7	61.4
Reliability coefficient Alpha (of variables in bold)		.874	.876	.864	.881	.856	.688	

The first six principle components account for 61.4% of the total variance of the variable set. Within the component solution, principal component 1 receives the strongest loadings on reliability of promises and is called “*reliability as an employer*”. It consists of seven items of original trust dimensions. The loadings on principal component 2 are all connected to perceived openness of the wood products industry in its information disclosure. It is consistent with the original openness dimension and is named “*openness of information disclosure*”.

On the third principal component variables describe involvement of the wood industry in issues relevant for young people. In addition to the three items of original involvement measure, this component includes two items related to investments in significant issues for young people and making the field known to them. It is called "*involvement in issues relevant for young people*" referring to the visibility of the wood sector in contexts natural to the students. Principal component 4 receives the highest loadings on commitment to provide training opportunities and to get young people into the field. As it consists of the original commitment measure of six items; the fourth component is named "*commitment to employ young people*".

The highest loadings on the fifth principal component refer to investments in young people's craftsmanship. Along with the four original items of investment measure, it consists of challenging tasks and career related items of trust, as well as, two former involvement items. This component describes the investments of the wood industry in cultivating skills and vocational development of young employees; this is called "*investments in young people's skills*".

The highest loadings on the last principal component describe involvement in activities improving environment and community welfare. It consists of three items of original involvement measure and is named "*involvement in socially responsible activities*". It is considered to form a component of its own, as its eigenvalue is very near to one and it consists of items with similar content and high loadings.

The principal components attained for organization-public relationship are close to those of Bruning and Ledingham (2000): trust, investment, commitment, involvement, and openness. When comparing the theoretical and empirical dimensions of organization-public relationship, it can be noted that four theoretical dimensions obtained closely matching counterparts in the empirical dimensions: reliability as an employer, investments in young people's skills, commitment to employ young people, openness of information disclosure. Instead, theoretical dimension of involvement was split into two separate empirical dimensions: involvement in issues relevant for young people and involvement in socially responsible activities.

The means and standard deviations for dimensions of organization-public relationship show that the levels of perceptions are mainly above the scale mean:

	Mean	Std. Deviation
Reliability as an employer	4.0	.810
Openness of information disclosure	3.6	.861
Involvement in issues relevant for young people	3.3	.962
Commitment to employ young people	3.6	.896
Investments in young people's skills	4.0	.805
Involvement in socially responsible activities	3.7	.990

Perceptions of reliability as an employer are good. The evaluations also indicate that the students perceived the industry to make an effort to train the skills of young people interested in the field in several ways.

Instead, the activities of the wood industry were perceived to be inadequate in the following areas: involvement in issues relevant to the students, openness in its information disclosure and commitment to young employees. In particular, the students seem to want

the wood products industry to be more visible and for the field to be better known and to sponsor issues significant for young people (**Table 10**, pp. 94-96). The openness of the wood industry about its future plans and about negative news was also regarded as inadequate. Finally, there appears to be a concern about the commitment of the industry sector to creating continuous employment and also about its sensitivity to the opinions of young employees.

### Trustworthiness

In this study, the perceived trustworthiness consisted of two dimensions: credibility and benevolence. Further, credibility was defined as perceived reliability and competence of the industry sector, whereas, benevolence referred to perceived good-will, a genuine interest in young people's affairs and motivation to seek joint gain. Reliability and benevolence were operationalized similar to Ganesan and Hess (1997), whereas items related to competence were similar to those highlighted by Grunig and Hon (1999). The measurement instrument of trustworthiness consisted of 12 items. The correlation matrix of variables describing perceived credibility and benevolence was subject to principal components analysis. On the basis of the eigenvalues of principal components solutions, the construct of trustworthiness turned out to form a two-component solution (**Table 11**).

On the basis of the means of the items, it seems that both the credibility and benevolence of the wood products industry are rather well perceived by the students. Under the scale mean, however, two items can be found: perceived involvement in educational events and visiting opportunities for young people. The components are named according to the original dimensions of trustworthiness "*credibility of wood industry*" and "*benevolence of wood industry*". The components account for 64.8% of the total variance of the variable set. Thus, the principal components obtained for trustworthiness appear to be compatible with the dimensions used by Ganesan and Hess (1997): credibility and benevolence, credibility also including the notion of competence in accordance with Grunig and Hon (1999).

The examination of means and standard deviations of the dimensions of trustworthiness shows that the students perceived the wood industry as being more a competent employer (credibility) than a benevolent partner interested in issues relevant for them and motivated to seek joint gain:

	Mean	Std. Deviation
Credibility	4.0	.839
Benevolence	3.6	1.011

It is, also, worth noting that the reputation of reliability, fairness, and competence (see p. 90) were all perceived to be slightly better than the students' evaluations of credibility and benevolence. This might imply that the stories generally told concerning the past behaviour of the wood industry exceed the students' expectations of the future of the sector.

**Table 11.** Dimensions of perceived trustworthiness.

<b>Variable</b>	Mean (1-6)	Principal component 1	Principal component 2	$h^2$
		Loadings		
Frankness in dealings	3.88	.79	.26	.69
Capability to carry out promises	4.06	.77	.18	.62
Consistency in policies	3.92	.74	.26	.62
Reliable promises	3.66	.74	.30	.63
High quality products	4.43	.73	.10	.54
Enough resources to accomplish obligations	4.14	.72	.28	.60
Honesty about problems	3.71	.67	.35	.57
Involvement in educational events	3.42	.18	.83	.72
Opportunities enough for practical training	3.55	.25	.82	.73
Visiting opportunities for young people	3.44	.17	.82	.70
Efforts to get young people into the field	3.59	.32	.78	.71
Justness for young people	3.76	.45	.67	.65
Eigenvalue		6.22	1.56	7.78
Total variance (%)		51.8	13.0	64.8
Reliability coefficient Alpha		.890	.888	

### 6.2.3 Dimensions and levels of relationship consequences

Overall satisfaction comprised of evaluation of activities of the wood products industry by students and evaluation of its perceived trustworthiness. In addition, the comparison of overall satisfaction with other industries was assessed. Consequently, operationalization of satisfaction consisted of three items, which were adopted from Garbarino and Johnson (1999). (**Table 12**)

One-component solution was reached for overall satisfaction in the principal component analysis. The component accounts for 71.6% of the total variance of the variable set. The means of satisfaction items indicate that the students are fairly satisfied with the wood products industry. In addition, satisfaction with trustworthiness and activities of the wood industry, as well as, satisfaction compared with other industries are equal at all levels.

**Table 12.** The dimensions of perceived satisfaction.

<b>Variables</b>	Mean (1-6)	Principal component	$h^2$
		Loadings	
Satisfaction with activities of wood industry	4.17	.88	.78
Satisfaction with trustworthiness of wood industry	4.09	.88	.78
Satisfaction compared with other industries	4.08	.77	.59
Eigenvalue			2.15
Total variance (%)			71.6
Reliability coefficient Alpha		.801	

#### 6.2.4 Summary of the relationship description

In summary, it seems that, although, both awareness of the wood industry programs and familiarity with the sector were rather poor, the students' perceptions concerning antecedents, relationship state, and consequences varied from moderate to fairly good. Nevertheless, some issues were quite poorly perceived. Students evaluated as most unsatisfactory the amount of recruiting information and involvement of the wood industry in issues relevant to young people. Further, they had rather low perceptions of accuracy of interactive communication, wood industry's openness of information disclosure and commitment to employ young people. It can also be said that the students perceived the wood industry as a more credible actor than a benevolent partner. Instead, levels of perceptions concerning value similarity, reputation of technical competence, and the overall satisfaction with the sector were the highest of all.

The principal component scores for dimensions of antecedents, relationship state and consequences above were used in further analyses. First, the students were classified according to their level of interest toward the wood industry. Second, connections between the background variables and interest groups were studied. Third, differences between the extracted principal components by background and interest group were examined. Finally, the connections between the dimensions of antecedents, trustworthiness and consequences of the relationship among highly and less interested students were studied.

### 6.3 Classification of the students

#### 6.3.1 Interest groups of the students

The purpose of this section is to answer the research question "How can young people be classified according to their level of interest in the wood products industry?" The total sample of young people, which consisted of both the final year students of comprehensive schools and the first and second year students of the wood industry program at vocational schools, was divided into interest groups using cluster analysis. The goal of cluster analysis

is to identify homogeneous groups or clusters by exploring the data. In this study, the K-means cluster analysis procedure was used, as it groups cases instead of variables. It is also an efficient procedure with large numbers of cases. K-means cluster analysis is a non-hierarchical clustering method, in which the number of clusters might be specified a priori and the selection of cluster centers is arbitrary (Malhotra & Birks 2003).

The groups were formed on the basis of the involvement measure: perceived importance of the industry sector and its perceived relevance to young people. A case was assigned to the cluster with the smallest distance between the case and the centre of the cluster. First, an initial cluster solution of four clusters was found on the basis of hierarchical clustering (between-groups linkage). Then, three and four cluster solutions were formed on the basis of the final cluster centres (centroids) iteratively estimated from the data by the K-means cluster analysis procedure (Malhotra & Birks 2003; Metsämuuronen 2003).

The cluster solution of four interest groups appeared to be the most suitable on the basis of the clustering procedure and practical considerations of the study: in each interest group, the variability within a cluster was less than the variability between the clusters. In addition to the groups of less and highly interested students, two clearly different interest groups in between them were also found to be relevant to the study (**Table 13**). The quality of the clustering results was checked by making multiple runs using different order of cases, as in non-hierarchical K-means clustering the solution may depend on the order of cases in the data set. (Malhotra & Birks 2003).

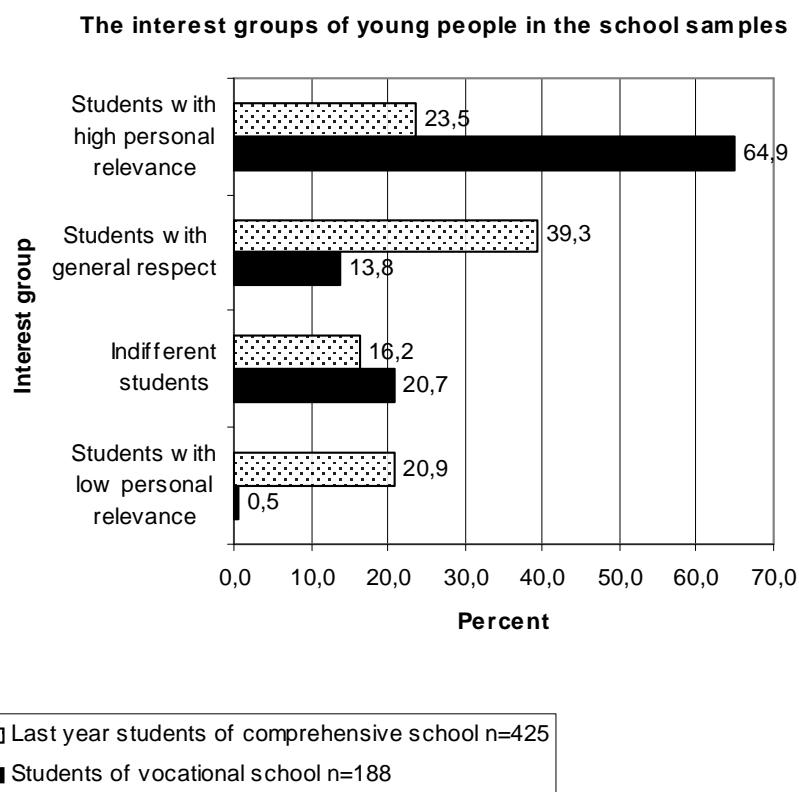
**Table 13.** Final cluster centers produced by the K-means cluster analysis procedure.

<b>The variables of involvement (Osgood's five point scale)</b>	<b>Interest group N = 613</b>			
	<b>Students with low personal relevance n=90</b>	<b>Indifferent students n=108</b>	<b>Students with general respect n=193</b>	<b>Students with high personal relevance n=222</b>
<b>Cluster centers</b>				
<b>Importance in Finland</b>				
Necessity in Finland	4	3	4	4
Relevance in Finland	4	3	4	5
Importance in Finland	4	3	5	5
Usefulness in Finland	4	4	5	5
<b>Personal relevance</b>				
Usefulness for me	2	3	3	4
Importance for me	2	3	3	4
Necessity for me	2	3	3	4
Relevance for me	2	3	3	4
<b>Combined cluster centers</b>	24	25	30	35

The cluster centers represent the mean values of the objects which are contained in the cluster on each of the variables. Thus, the centers were used to interpret each cluster and to assign it a name (**Table 13**). The four interest groups attained were labelled as following:

- 1 = students with low personal relevance
- 2 = indifferent students
- 3 = students with general respect
- 4 = students with high personal relevance

According to the combined cluster centers, the interest groups of “students with low personal relevance” and “indifferent students” were quite close to each other. On the basis of the cluster centers, the students of these groups, however, perceived both the wood industry’s importance and personal relevance slightly differently. The group of “students with general respect” did not differ from indifferent students in their perceptions concerning personal relevance of the wood industry, whereas they had higher perceptions of the wood industry’s importance in Finland. Finally, the group of “students with high personal relevance” perceived the wood industry both as important in Finland and personally relevant.



**Figure 11.** Students in the interest groups by school types.

**Figure 11** shows the connection between school type and interest group. More than half of the students studying the program of wood industry at vocational school represented the group of “students with high personal relevance” compared to a quarter of the last year students of comprehensive school. On the other hand, a big proportion of final year students at comprehensive school perceived the industry sector to be generally respected. A great number of students studying in the field felt indifferent toward it, which might indicate a low level of motivation to study and work in the sector. Finally, students with low personal relevance were found in comprehensive schools, exclusively. About one fifth of the students in this grade represented the lowest interest group. In the next section, the significant connections between the four interest groups and the background variables are displayed.

### 6.3.2 *Profile of different interest groups*

The purpose of this section is to answer the research question ‘How is the background of young people connected to their interest in the wood products industry?’’. Thus, it specifies those background factors that contribute to the differences in the level of interest among young people. Connections between the interest groups, the background variables, and intentions of the students were analyzed to present a profile of the interest groups. Statistically significant differences between the interest groups were found by gender, awareness of the wood industry programs and familiarity of the industry sector. **Figure 12** shows the different interest groups characterized by the background variables and, in addition, intentions to study or work in the wood industry (appendices 11 & 12).

On the whole, it seems that the low level of interest towards the wood industry is related to female students, unawareness of the neighboring wood industry program and unfamiliarity with the sector. It is, however, to be noticed that the connection between the students’ background factors and the low level of interest does not, necessarily, determine the direction of influence. Consequently, the students might be uninterested in the sector because they are not familiar with it or unaware of the possibilities to study it in the neighborhood or vice versa.

Interestingly, indifferent students were more aware and familiar with the wood industry than students who felt general regard for it. More than half of them also intended to study or work in the field. This might result from the greater share of students of vocational school in the group of indifferent students. Further, male students represented the majority of this interest group. On the other hand, the greatest share of female students felt the wood products industry to be of high general importance in Finland. Still, they were not very familiar with the sector.

Male students represented, typically, the group of high personal relevance. It is also worth noticing that students with high personal relevance were more familiar with the wood industry than aware of nearby possibilities to study in the sector. Finally, only half of the students with high personal relevance intended to study or work in the sector.

<b>Students with low personal relevance</b>
<ul style="list-style-type: none"> <li>- Mainly female students</li> <li>- Most students are unaware of the neighboring wood industry program</li> <li>- Most students are unfamiliar with wood industry</li> <li>- Most students have no intentions to study or work in wood industry</li> </ul>
<b>Indifferent students</b>
<ul style="list-style-type: none"> <li>- Mainly male students</li> <li>- More than half of the students are aware of the neighboring wood industry program</li> <li>- Half of the students are familiar with wood industry</li> <li>- Less than half of the students have no intentions to study or work in wood industry</li> </ul>
<b>Students with general respect</b>
<ul style="list-style-type: none"> <li>- Equal number of male and female students</li> <li>- Half of the students are aware of the neighboring wood industry program</li> <li>- More than half of the students are unfamiliar with wood industry</li> <li>- More than half of the students have no intentions to study or work in wood industry</li> </ul>
<b>Students with high personal relevance</b>
<ul style="list-style-type: none"> <li>- Mainly male students</li> <li>- Most students are well aware of the neighboring wood industry program</li> <li>- Most students are familiar with the industry sector</li> <li>- Half of the students intend to study or work in wood industry</li> </ul>

**Figure 12.** Factors characteristic of the different interest groups.

#### 6.4 Differences in students' perceptions by background and interest group

The purpose of this section is to answer the question "How do young people with different background and interest in the wood products industry differ in their perceptions of the relational elements?" Thereby, it pursues to find those relational elements, which are poorly perceived and require more attention of relationship management in different background and interest groups in order to enhance the relationship. Differences in students' perceptions by background and interest group were analyzed by comparing the means of component scores in a t-test and one-way ANOVA. Differences in perceptions were proposed to reveal such public relations activities of the wood industry which need improvement among young people.

##### 6.4.1 Differences in perceptions by background

Differences in perceptions between students with different background were analyzed by a t-test and one-way analysis of variance based on the means of component scores. The t-test was used for dichotomous variables and one-way analysis of variance for variables with several answer alternatives. In the case of the latter, the equality of variance was assessed by Levene's test. In addition, a multiple comparison procedure, Bonferroni test (sig. level 0.05), was used to determine which means of composite scores were significantly

different from each other. The Bonferroni test enables the adjustment of the observed significance level based on the number of comparisons made (see appendices 13-18). **Tables 14 to 18** present statistically significant differences in perceptions concerning dimensions of antecedents, state, and consequences of the relationship by background variables. In addition connections between background and intentions of the students to study or work in the wood industry were analyzed.

#### Antecedents

The examination of differences by background concerning dimensions of antecedents of the relationship state covered dimensions of reputation, similarity of values and communication (**Table 14**).

The perceptions of sufficiency of recruiting communication differed significantly by several background variables. Interestingly, female students and students in town considered the amount of communication regarding recruiting to be inadequate. Also students unfamiliar with the sector found that there is not enough recruiting communication concerning the wood industry. As a whole, unfamiliarity with the wood industry seemed to be related to low perceptions on several dimensions of antecedents, among others reputation. This seems to be consistent with Young's (2007) findings, according to which public's familiarity with organizational performance increased favorability of organization's reputation. It also appeared that the male and female students' value perceptions with regard to assessed values of the wood products industry differed from each other being more similar among male students. The students seemed to be homogenous only in relation to information of the wood industry in public media (**Table 14**).

**Table 14.** Differences in students' perceptions by background variables concerning dimensions of relationship antecedents.

DIMENSIONS OF ANTECEDENTS	Students' perceptions by background variables N = 613		
Reputation	Good	Significance of differences between background groups	Poor
Reputation of employer reliability and fairness	Students familiar with the industry sector	p < .000	Students unfamiliar with the industry sector
Reputation of technical competence	Students aware of the neighbouring wood industry program	p < .008	Students not aware of the neighbouring wood industry program
	Students familiar with the industry sector	p < .029	Students unfamiliar with the industry sector
<b>Similarity of values</b>	Male students	p < .006	Female students
<b>Communication</b> Sufficiency of recruiting communication	Male students	p < .038	Female students
	Students living in rural area	p < .004	Students living in own
	Parents work in wood industry	p < .004	Parents work in other sectors
	Students familiar and fairly familiar with the industry sector	p < .015	Students unfamiliar with the industry sector
		p < .007	
Accuracy of interactive communication	Students aware of the neighbouring wood industry program	p < .011	Students not aware of the neighbouring wood industry program
	Students familiar and fairly familiar with the industry sector	p < .000	Students unfamiliar with the industry sector
		p < .000	

### Relationship state

The examination of differences by background in dimensions of relationship state consisted of dimensions of organization-public relationship and trustworthiness.

**Table 15.** Differences in students' perceptions by background variables concerning dimensions of organization-public relationship.

<b>DIMENSIONS OF RELATIONSHIP STATE</b>		<b>Students' perceptions by background variables N = 613</b>	
<b>Dimensions of organization-public relationship</b>	<b>Good</b>	<b>Significance of differences between background groups</b>	<b>Poor</b>
Openness of information disclosure	Male students  Students familiar and fairly familiar with the industry sector	p < .001  p < .008  p < .027	Female students  Students unfamiliar with the industry sector
Involvement in issues relevant for young people	Male students  Parents work in wood industry  Students familiar and fairly familiar with the industry sector	p < .000  p < .003  p < .000  p < .000	Female students  Parents work in other sectors  Students unfamiliar with the industry sector
Investments in young people's skills	Students living in the province of Lapland  Students aware of the neighbouring wood industry program  Students familiar with the industry sector	p < .000  p < .000  p < .003  p < .032  p < .004  p < .015	Students living in Southern Finland  Eastern Finland Oulu Western Finland Students not aware of the neighbouring wood industry program Students unfamiliar with the industry sector
Involvement in socially responsible activities	Students living in Western Finland	p < .027	Students living in Southern Finland

Students' perceptions concerning dimensions of organization-public relationship differed mainly by gender, geography, familiarity with the wood industry, and awareness of the neighbouring wood industry programs at vocational school. Female students had poorer perceptions of several dimensions of the relationship state than male students. Further, students, especially, in Southern and Eastern Finland perceived the wood industry to invest less in young people's skills than students from Lapland. Additionally, students living in Southern Finland perceived the wood industry's involvement in socially responsible activities poorer than students in Western Finland. Finally, unfamiliarity with the sector seemed to mean lower perceptions of several dimensions compared to students who were familiar with the wood industry. Instead, the students were rather homogenous in connection with the wood industry's reliability as an employer and its commitment to employ young people (**Table 15**).

**Table 16.** Differences in students' perceptions by background variables concerning dimensions of trustworthiness.

DIMENSIONS OF RELATIONSHIP STATE		Students' perceptions by background variables N = 613	
Dimensions of trustworthiness	Good	Significance of differences between background groups	Poor
Credibility	Students living in town	p < .017	Students living in rural area
	Students aware of the neighboring wood industry program		Students not aware of the neighboring wood industry program
	Students familiar with the industry sector		Students unfamiliar with the industry sector
Benevolence	Male students	p < .000	Female students
	Students living in a rural area		Students living in town
	Students aware of non-existence of a neighboring wood industry program		Students not aware of the neighboring wood industry program

The first hypothesis of the study (p. 70) suggests that there is a relationship between the background of young people and their perceptions of the wood industry's trustworthiness, that is, its credibility and benevolence. In the following, the hypothesis is evaluated on the basis of the results above related to the dimensions of trustworthiness.

*H1: The background variables of young people have a connection with the perceived trustworthiness of the wood products industry.*

The hypothesis was partially supported. According to the results, four background variables out of six were connected to perceived trustworthiness of the wood products industry. First, students unaware of the wood industry program in the neighborhood found it a less trustworthy partner than more knowledgeable students. Second, students unfamiliar with the wood industry and students living in a rural area found it to be a less credible partner. Finally, female students and students living in towns considered it to a lesser extent a partner interested in their welfare and motivated to seek joint gain (**Table 16**).

#### Consequence

The examination of differences by background in students' perceptions concerning consequences of the relationship state consisted of satisfaction. Unfamiliarity with the wood industry and unawareness of the possibility to study in the field in neighboring vocational schools were clearly related to low satisfaction with the wood industry among the students (**Table 17**). These background variables were also related to weak intentions to study or work in the wood industry. Furthermore, male students and students living in the province of Oulu had stronger intentions to study or work in the sector than female students and students in other parts of the country (**Table 18**).

**Table 17.** Differences in students' perceptions by background variables concerning the dimension of satisfaction.

<b>RELATIONSHIP CONSEQUENCE</b>	<b>Students' perceptions by background variables</b> <b>N = 613</b>		
	<b>Good</b>	Significance of differences between background groups	<b>Poor</b>
<b>Satisfaction</b>			
Overall satisfaction	Students aware of the neighboring wood industry program  Students familiar and fairly familiar with the industry sector	p < .002  p < .001  p < .001	Students not aware of the neighboring wood industry program  Students unfamiliar with the industry sector

**Table 18.** Students' intentions to study or work in the wood industry by background variables and interest group.

Intentions to study or work in the wood industry	Students' intentions by background variables N = 613		
	Strong	Significance of differences between background groups	Weak
Male students		p < .000	Female students
Students living in the province of Oulu		p < .024	Students living in other provinces of Finland
Students aware of the neighboring wood industry program		p < .000	Students unaware of the neighboring wood industry program
Students familiar or fairly familiar with wood industry		p < .000	Students unfamiliar with wood industry

On the whole, unfamiliarity with the wood industry and unawareness of the programs in the neighbourhood pertaining to the wood industry were, typically, connected to low perceptions concerning dimensions of antecedents, state, and consequence of the relationship among students. They were also related to students' intentions not to study or work in the wood industry (appendix 12).

#### 6.4.2 Differences in perceptions by interest group

Differences of perceptions concerning antecedents, state, and consequence of the relationship between the four interest groups of young people were evaluated by one-way analysis of variance with Bonferroni test. The homogeneity of variance in the groups was assessed by Levene's test. First, the groups were arranged into rising order of interest based on the combined cluster centers (see **Table 13**, p.101): "students with low personal relevance", "indifferent students", "students with general respect", and "students with high personal relevance".

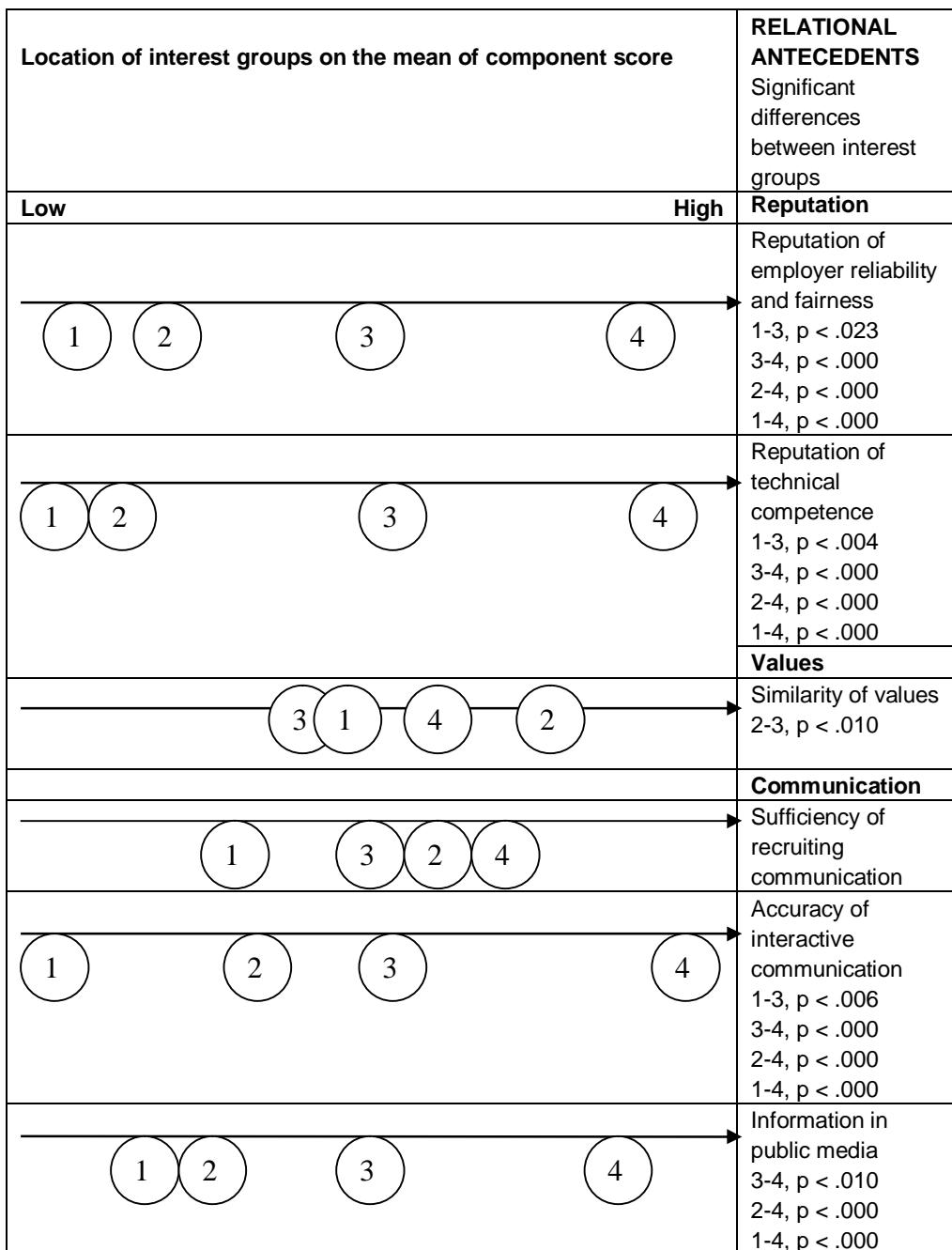
Differences in perceptions between the interest groups were intended to reveal such public relations activities of the wood products industry which need improvement in an interest group with significantly low levels of perceptions (appendices 19a, 19b, 19c). Differences in perceptions of antecedents, state, and consequence of the relationship between interest groups can be seen in **Figures 13-16**. The interest groups are numbered in the figures as follows:

- 1 = Students with low personal relevance
- 2 = Indifferent students
- 3 = Students with general respect
- 4 = Students with high personal relevance

## Antecedents

The examination of differences by interest group in dimensions of relationship antecedents consisted of dimensions of reputation, similarity of values and communication (**Figure 13**). Generally, the students perceived reputation and communication to be more favorable when they considered greater relevance of the wood industry for themselves. Students with high personal relevance perceived most of the dimensions of antecedents to be better than other groups. Also students with general respect differed from the two groups of lower interest concerning the reputation of the wood industry, accuracy of interactive communication, and information in public media.

On the whole, the students appeared to be relatively homogenous in connection with their interpretation of the sufficiency of recruiting communication. Still, the group with high personal relevance found the amount of recruiting communication to be somewhat poorer than other dimensions of communication. This outcome is supported by the results indicating poor awareness of the neighboring wood industry programs among those students, who have intentions to study in the field (appendix 12). It is also consistent with the ELM – theory of Petty, Cacioppo and Schumann (1983): in high involvement conditions individuals have been shown to be motivated to devote more attention to the message quality and invest greater cognitive effort to comprehend information. Further, the result support the findings of an earlier study (Taloustutkimus, 2001), in which the information given at comprehensive schools concerning the wood industry was perceived to be inadequate among students already studying in the field. On the other hand, the results might also refer not only to the need of more information in the form of brochures, but also to greater desire of two-way communication in the recruitment processes. Finally, students seemed to have quite similar values with the wood industry in all interest groups. Still, value similarity among students with general respect was significantly poorer than among indifferent students.

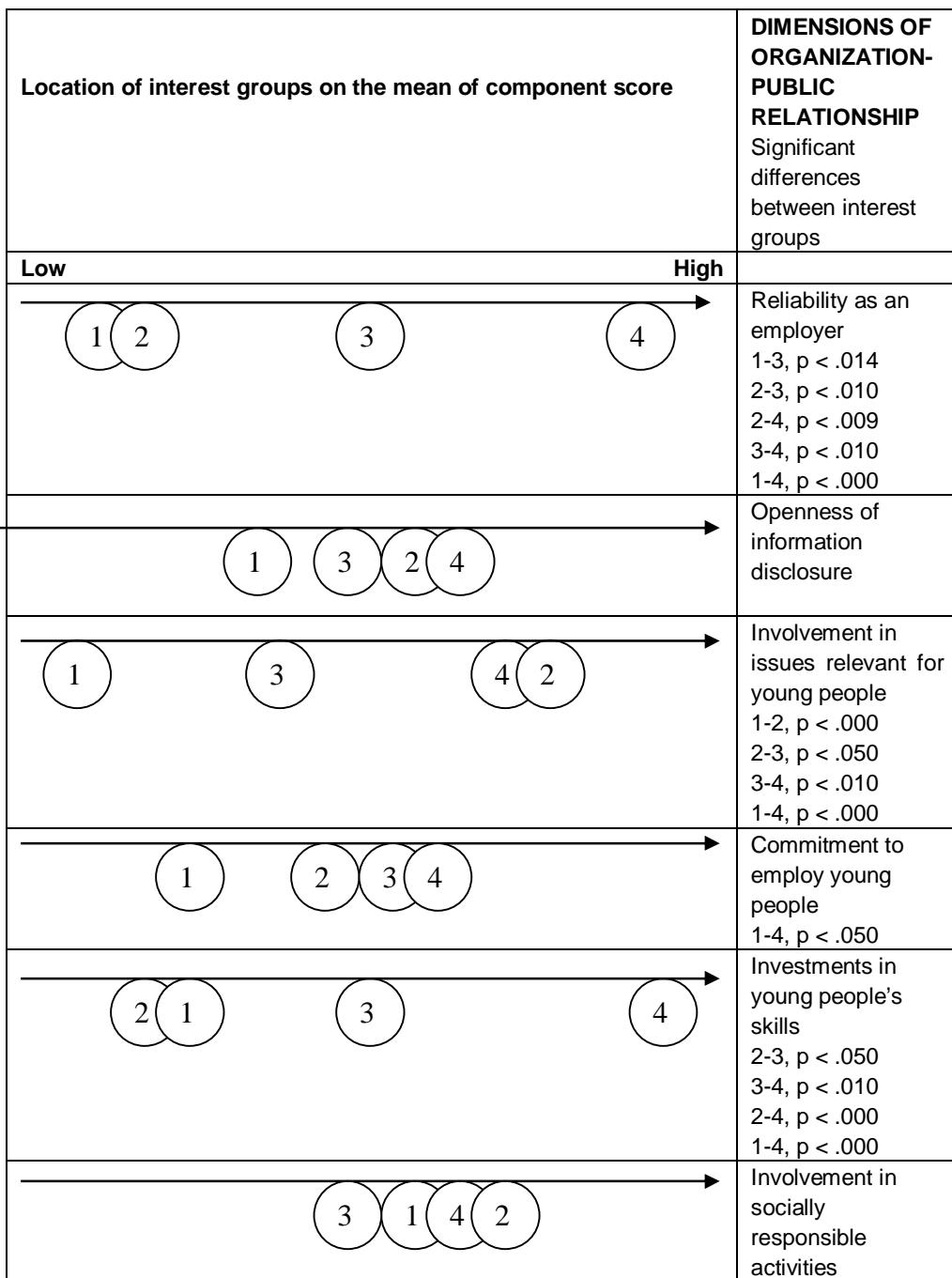


**Figure 13.** Differences in students' perception concerning dimensions of relationship antecedents by interest group

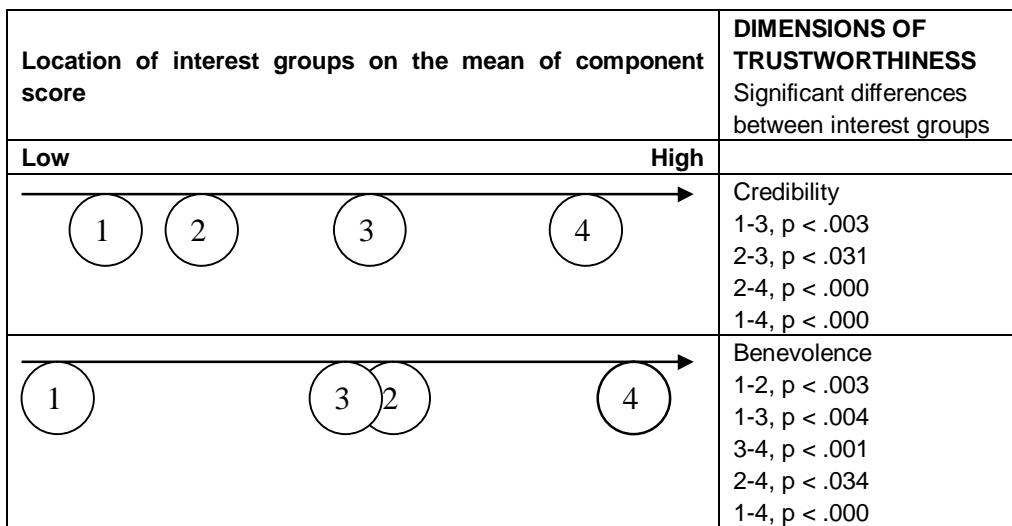
### Relationship state

The examination of differences by interest group concerning dimensions of relationship state covered dimensions of organization-public relationship and trustworthiness (**Figures 14-15**).

Typically, the students with high personal relevance had higher perceptions of activities of organization-public relationship than students of the other interest groups. Several interest groups differed from each other in their perceptions concerning the wood industry's reliability as an employer, in addition to its involvement in issues relevant for young people and investments in young people's skills. Instead, the students appeared to be quite homogenous in their perceptions concerning the wood industry's commitment to employ young people, openness of information disclosure and involvement in socially responsible activities. Still, the group of students with high personal relevance had lower perceptions of these issues than other aspects of organization-public relationship. (**Figure 14**)



**Figure 14.** Differences in students' perceptions concerning dimensions of organization-public relationship by interest group.



**Figure 15.** Differences in dimensions of trustworthiness by interest group.

The second hypothesis of the study (p. 70) suggests that there is a connection between the level of interest toward the wood industry and young people's perceptions of the wood industry's trustworthiness, that is, its credibility and benevolence. In the following, this hypothesis is evaluated on the basis of the results shown above.

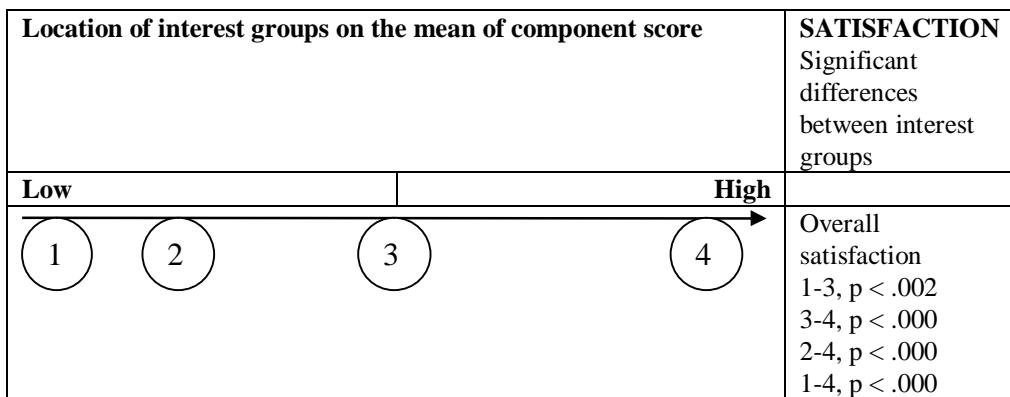
H2: *High involved young people perceive the wood products industry to be more trustworthy than low involved.*

The examination of the differences by interest group provided support for hypothesis H2. Both dimensions of trustworthiness, credibility and benevolence, were appreciated substantially more by students with high personal relevance than those students with low personal relevance. (**Figure 15**)

#### Consequence

The examination of differences in perceptions by interest group concerning relationship consequence contained the dimension of satisfaction. The students with high personal relevance differed in their perceived satisfaction with the wood industry from the students with a lower level of interest (**Figure 16**).

According to the results, a statistically significant difference in perceptions were found between those students who perceived the wood industry to be generally important in Finland and those students who perceived it to be highly relevant for themselves. Typically, the difference in perceptions between these two groups also meant significant differences between the students with high personal relevance and the two other interest groups. This indicates that the highly interested students perceive their relationship with the wood industry to be considerably better than students of other interest groups. Still, the indifferent students' perceptions of value similarity and the wood industry's involvement in issues relevant for young people were the highest of all interest groups. This may be explained by the fact that a great share of indifferent students actually studied in the field.



**Figure 16.** Differences in overall satisfaction by interest group.

#### 6.4.3 Summary of the differences in students' perceptions

*Unawareness of the wood industry programs in the neighborhood and unfamiliarity with the wood industry* were mostly related to low level of interest toward the wood industry and low perceptions of dimensions of antecedents, state, and consequences of the relationship among the students. Further, *female students* had lower perceptions than males students. These background variables were connected, especially, with dimensions of *openness of information disclosure, involvement in issues relevant for young people and investments in young people's skills*. As for the forms of communication *sufficiency of recruiting communication* was, typically, perceived inadequate by female students, unfamiliar students and those students living in towns. An overview of differences found between students living in different *provinces of Finland* is presented in **Table 19**. The results indicate, that at least in some respect, students' perceptions of the wood industry are better in Western and Northern Finland compared to Southern and Eastern Finland.

**Table 19.** Differences in levels of perceptions and intentions of students by province.

		<b>Differences in levels of perceptions by province</b>		
<b>Perceptions and intentions of students</b>	<b>High</b>	Significance of differences between background groups	<b>Low</b>	
Investments in young people's skills	Students living in the province of Lapland	p < .000 p < .000	Students living in Southern Finland Eastern Finland	
Involvement in socially responsible activities	Students living in Western Finland	p < .027	Students living in Southern Finland	
Intention to study or work in wood industry	Students living in the province of Oulu	p < .024	Students living in other provinces of Finland	

Typically, the differences in perceptions of relationship antecedents reveal poor perceptions in interest groups other than students with high personal relevance. Especially, perceived *reputation*, *inaccuracy of interactive communication* and, also, deficiencies of *information in public media* were related to low levels of interest toward the wood industry. Further, the following dimensions of relationship state had differences between several interest groups demonstrating, mainly, rather poor perceptions in the other interest groups than students with high personal relevance:

- reliability as an employer
- involvement in issues relevant for young people
- investments in young people's skills
- credibility
- benevolence

Thus, public relations activities around these dimensions are especially interesting from the viewpoint of improving the relationship between the wood industry and the students with lower levels of interest.

It is worth noticing that the students with high personal relevance perceived *sufficiency of recruiting communication* to be somewhat unsatisfactory. Also perceptions related to all the dimensions of relationship state, which did not include significant differences in perceptions mentioned above, appeared to be the poorest in this interest group of students:

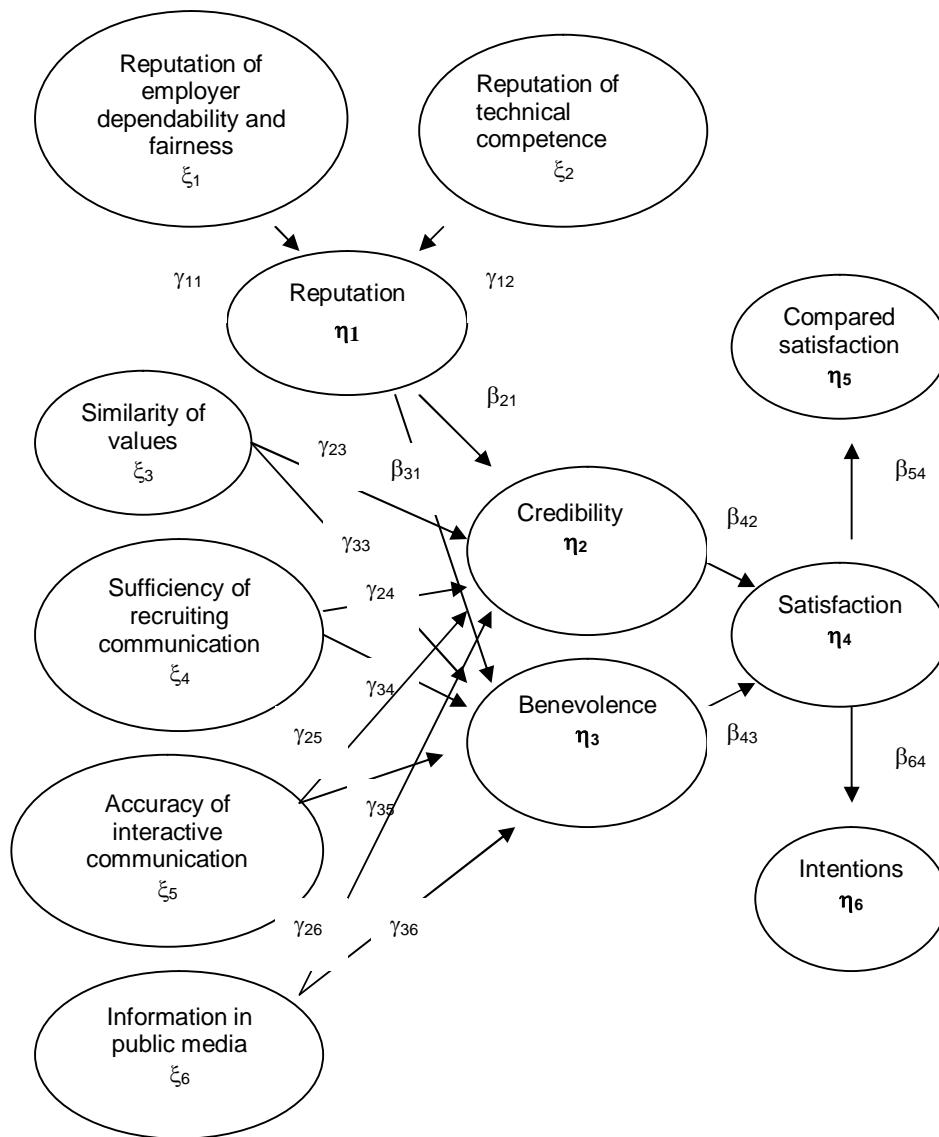
- openness of information disclosure
- commitment to employ young people
- involvement in socially responsible activities

Consequently, development of public relations activities around these dimensions could contain possibilities to develop further the relationship between highly interested students and the wood industry. Finally, overall satisfaction with the wood industry was significantly higher among the students with high personal relevance than in the groups of lower interest.

## **6.5 Connections between antecedents, relationship state and consequences among less and highly interested students**

The purpose of this section is to answer the question “What are the connections between the relational elements in the groups of young people with interests varying from high to low?” It examines the connections between antecedents, relationship state and consequences of the relationship in order to identify the central relational elements working for greater satisfaction with the relationship among the less and highly interested young people.

Connections in the research model were tested using the causal modelling approach called the *partial least squares modelling*, PLS. As a component based approach for latent variable path modelling, it offers a technique to examine the hypothesized connections between antecedents, relationship state and consequences in this study (**Figure 17**). In this examination relationship state consisted of the dimensions of trustworthiness: credibility and benevolence.



**Figure 17.** The model with latent variables of antecedents, relationship state and consequences for PLS analysis.

The evaluation of the connections was carried out separately in two groups of the students. The groups were based on the interest groups produced by K-means cluster analysis. The interest groups of students with low personal relevance and indifferent students represented the *less interested students*, as their combined cluster centers were close to each other (Table 13, p.101). The group of high personal relevance formed *highly interested students*, alone.

As was suggested in the theoretical framework of the study (**Figure 9**, p.61), to a great extent, the results of bivariate correlation examination support the compatibility between the dimensions of trustworthiness and organization-public relationship. The dimensions of *reliability as an employer, openness of information disclosure* and *involvement in socially responsible activities* correlated more highly in both interest groups with credibility, whereas *involvement in issues relevant for young people, commitment to employ young people* and *investments in young people's skills* produced higher correlations with benevolence in both interest groups. This compatibility gives more insight into developing the activities of public relations and communication to students with different relational orientation toward the wood products industry (appendices 22a, 22b).

As the PLS approach does not accept any "empty" constructs, one second-order construct is measured by observed variables for all the first order constructs. In other words, the second order construct, reputation, repeats the indicators of the lower order constructs, reputation of employer dependability and fairness and reputation of technical competence. While this approach repeats the number of manifest variables used, the model can be estimated using the standard PLS algorithm (Jarvis, Mackenzie & Podsakoff 2003). Instead, the dimensions of communication were measured as first order constructs due to the purposes of the study. On the basis of the hypotheses, the model in **Figure 17** was formed for the PLS procedure.

In this context, the latent constructs comprised of mainly formative indicators. The formative indicators are conceptualized as the mix of variables that together lead to the formation of the latent construct. They are observed variables assumed to cause the construct. Formative indicators may be correlated, but the model does not require it. Moreover, internal consistency is of little importance, because two variables, which are negatively related, can both function as meaningful indicators of a construct (Nunnally & Bernstein 1994).

The reflective indicators reflect the construct: the underlying concept is thought to affect the indicators. In this study, the constructs of *compared satisfaction* and *intentions* consist of reflective indicators. However, with mainly formative indicators in use, the objective of the modelling was to maximize the variance explained at the latent variable level, not the variances of the observed indicators. Hence, the indicators for each block were weighted optimally in order to maximize the correlation between the component scores of latent constructs (Chin 1998).

PLS treats each item separately, thus allowing each indicator to differ in the amount of influence on the construct estimate. Therefore the weights provide information about the makeup and relative importance of each indicator in the formation of the component. (Chin et al. 2003) The weights of PLS analysis and their t-values in this study are displayed in appendix 20. According to Fornell and Bookstein (1982), with formative indicators high correlations between the indicators make it difficult to separate the distinct impact of individual indicators on the latent variable. As the correlation examination between indicators of the constructs did not indicate multicollinearity ( $< 0.70$ ) in either interest group and elimination of indicators carries the risk of changing the construct itself, all the indicators were included (appendices 21a-21i).

In this study, the correlations between constructs based on the PLS procedure support the examination of the research model of antecedents, dimensions of relationship state and their consequences (appendices 23a, 23b, 24a, 24b). The path coefficients ( $\beta$ ), which are equivalent to standardized beta weights in a multiple regression model (Gopal, Bostrom & Chin 1993), and multiple coefficients of determination ( $R^2$ ) are presented in **Figure 18**. In

addition, the statistical significance of the path coefficients at  $p < 0,01$  for two interest groups of the students are presented in appendix 25. In the PLS approach the significance of paths was determined using the bootstrapping statistics resulting from a resampling procedure with 500 resamplings. The bootstrap samples are built with replacement from the original sample (Chin 1998). An  $R^2$  value can be interpreted in a similar way to the traditional regression as the proportion of variation in the dependant variable by its relationship with the variables assumed to impact it. Similar to traditional regression analysis, the  $R^2$  value does not show causal direction. The causal ordering is specified in the research model, and is based on theoretical expectations in accordance with earlier studies (Gopal et al. 1993).

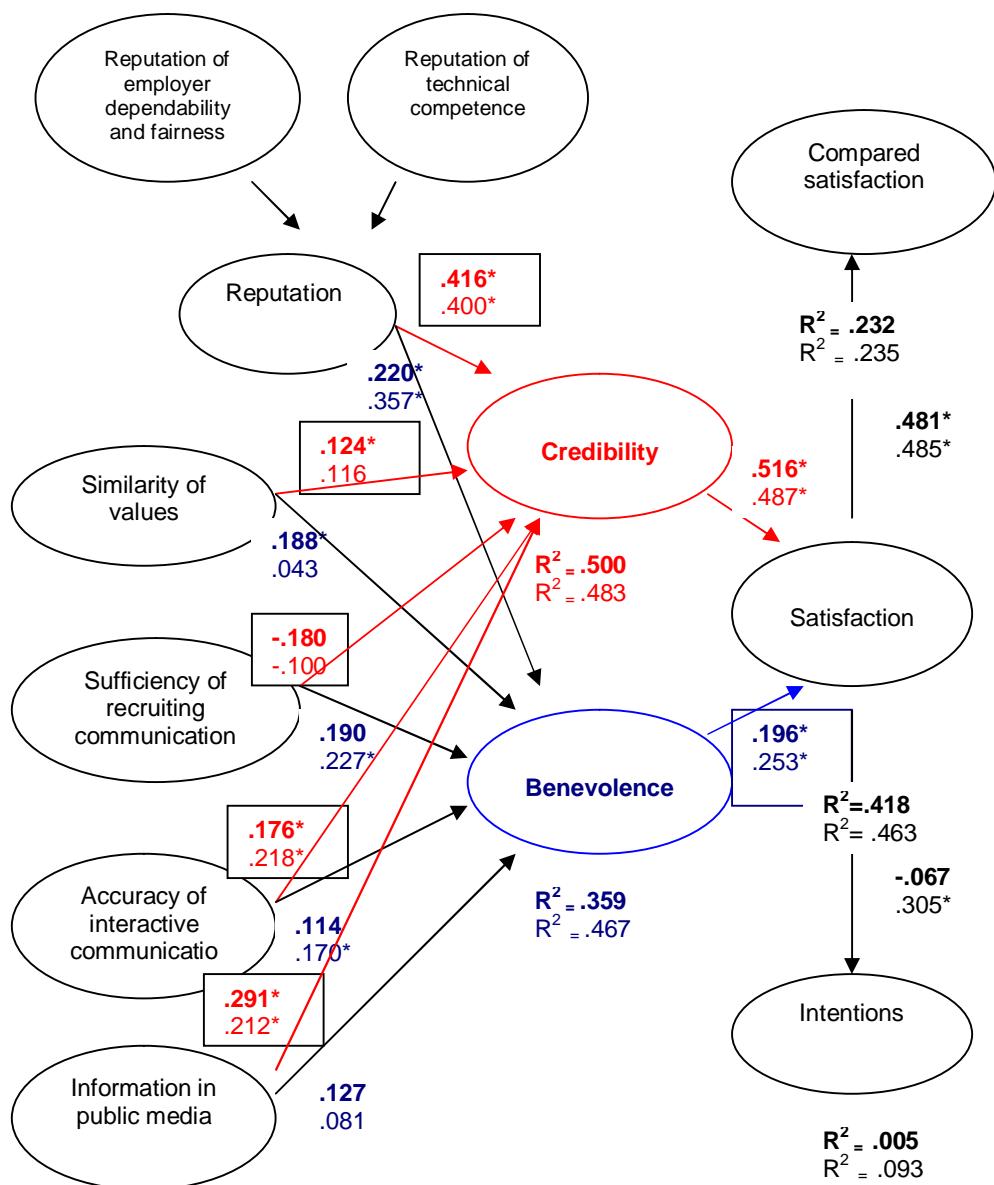
In the research model (**Figure 18**, p.121) the  $R^2$  values of credibility and benevolence indicate that the antecedents together explain 50% of credibility of the wood industry in perceptions of less interested students and 36% of benevolence, accordingly. In the group of highly interested students, 48% of credibility and 47% of benevolence are explained by the antecedents. On the basis of the rather high  $R^2$  value of satisfaction in both interest groups (less interested 42%, highly interested 46%) credibility and benevolence together explain a considerable amount of the variation in satisfaction.

Satisfaction, itself, explains approximately 23% of compared satisfaction with other industries in both interest groups. Instead, only a small proportion of intentions to study or work in the wood products industry are explained by satisfaction with the industry sector: less interested students 1% and highly interested students 9%. Finally, the average multiple coefficient of determination for all constructs (less interested 21%, highly interested 23%) indicating, in its part, the goodness of the model, is fairly good in both interest groups (appendix 25).

#### Mediator examination

As the antecedents, trustworthiness and consequence are hypothesized to occur in a causal sequence; the intervening role of trustworthiness in the research model was examined. For this purpose, according to Baron and Kinney (1986), the relationship between the antecedents and the consequence is examined first. If it is established to be significant, then the importance of the relationship between antecedents and the mediators, credibility and benevolence in this study, is worked out. Finally, in order to be treated as mediators, credibility and benevolence are intended to predict the consequence even after controlling the antecedents. If the relationship between the antecedents and the consequence becomes zero in the last equation, mediation is said to be perfect; if the relationship is diminished, but not to zero, mediation is said to be partial.

The testing of mediation was carried out separately for less and highly interested students. According to the results, mediation is partial among the less interested students between 1) reputation - credibility – satisfaction, 2) information in public media – credibility - satisfaction, and 3) reputation – benevolence - satisfaction. Further, among the highly interested students, mediation is partial between the same constructs (1 – 3) . In addition, both credibility and benevolence work as partial mediators between the accuracy of interactive communication and satisfaction. In both interest groups credibility acts as a strong partial mediator between information in public media and satisfaction, as the relationship goes near to zero, when the antecedents were controlled for (appendices 26a, 26b).



**Figure 18.** Path coefficients and  $R^2$  –values produced by PLS modelling (values in bold refer to less interested students, other values to highly interested students).

Interestingly, it appears that credibility or benevolence are not mediators for similarity of values and satisfaction. In addition, neither dimension of trustworthiness functions as a mediator for sufficiency of recruiting communication and satisfaction. One explanation could be that these antecedents are not non-recursive, but recursive constructs, which the PLS technique could not execute.

#### Testing the hypotheses

Several hypotheses were set for the relationships between antecedents, trustworthiness and consequence of the relationship in the groups of less and highly interested young people. The following hypotheses (H3-H11, see p.70-71) are assessed on the basis of the results from PLS modelling: see correlation matrices (appendices 23a, 23b, 24a, 24b) and path coefficients (appendix 25). As one dimension of communication, “sufficiency of recruiting communication” consists elements of both one- and two-way communication, one-way communication refers here to the dimension of “information in public media” and two-way communication to the dimension of “accuracy of interactive communication”. The results are reported separately on two dimensions of trustworthiness, credibility and benevolence. (**Table 20**)

**Table 20.** The support of hypotheses.

Hypothesis	Less interested students	Highly interested students
<b>Positive relationships between antecedents and trustworthiness</b>	<b>Trustworthiness</b>	<b>Trustworthiness</b>
H3: <i>For both low and high involved young people, the reputation of mechanical wood industry is positively related to the perceived trustworthiness.</i>	Supported	Supported
H5: <i>For both low and high involved young people, the perceived similarity of values is positively related to the perceived trustworthiness.</i>	Supported	Supported

Hypothesis	Less interested students	Highly interested students		
Positive relationships between antecedents and trustworthiness	Trustworthiness	Trustworthiness		
H6: <i>For both low and high involved young people, their perceptions of communication are positively related to the perceived trustworthiness.</i> -Sufficiency of recruiting communication - Accuracy of interactive communication - Information in public media	Supported	Supported		
Impacts of antecedents on dimensions of trustworthiness	Credibility	Benevolence	Credibility	Benevolence
H4: <i>Reputation has a greater impact on perceived trustworthiness among low involved than high involved young people.</i>	Supported	No support		
H7: <i>For low involved young people, perceptions of one-way communication has a greater impact on perceived credibility than perceived benevolence.</i> - Information in public media	Supported			
H8: <i>For high involved young people, perceptions of two-way communication has a greater impact on perceived benevolence than perceived credibility.</i> - Accuracy of interactive communication		No support		

Hypothesis	Less interested students	Highly interested students
<b>Positive relationship between trustworthiness and satisfaction</b>	<b>Satisfaction</b>	<b>Satisfaction</b>
H9: <i>For both low and high involved young people, perceived credibility and benevolence are positively related to satisfaction.</i>	Supported	Supported
<b>Impacts of dimensions of trustworthiness on satisfaction</b>	<b>Satisfaction</b>	<b>Satisfaction</b>
H10: <i>For low-involved young people, perceived credibility has a greater impact on satisfaction than perceived benevolence.</i>	Supported	
H11: <i>For high involved young people, perceived benevolence has a greater impact on satisfaction than perceived credibility.</i>		No support

**Table 21.** Impacts of antecedents on dimensions of trustworthiness in the groups of less and highly interested students.

Antecedents	Impacts of antecedents on dimensions of trustworthiness			
	Less interested students		Highly interested students	
	Credibility	Benevolence	Credibility	Benevolence
Reputation of employer reliability and fairness	X	X	X	X
Reputation of technical competence	X	X	X	X
Similarity of values	X	X		
Sufficiency of recruiting communication				X
Accuracy of interactive communication	X		X	X
Information in public media	X		X	

### Antecedents – trustworthiness

All the antecedent constructs were positively related to both the credibility and benevolence of trustworthiness among less and highly interested students. It also appeared that reputation had the strongest effect on perceived trustworthiness in both interest groups compared to other antecedents. In accordance with the findings of Doney and Cannon (1997) reputation played a stronger role among the less interested young people when personal experience was not available to evaluate partner trustworthiness. Further, the impact of reputation was greater on credibility than on benevolence in both groups of students. Still, when comparing the effect of reputation on benevolence, only, it was stronger among highly interested students than students with less interest. Although, similarity of values affected positively perceptions of trustworthiness, its impact was rather weak and significant only among less interested students.

The amount of recruiting communication did not influence the perceptions of the credibility of the wood industry among the students. Nevertheless, among highly interested students recruiting communication played the second biggest role after reputation in the perceptions of benevolence. Accuracy of interactive communication, in turn, had the greatest impact on credibility. According to less interested students, the credibility of the wood industry was affected the most by information in the public media. Interestingly, no forms of communication seemed to have an impact on benevolence among this interest group.

Finally, it can be said that one-way communication of public media had a greater impact on credibility among less interested than highly interested students. However, the accuracy of two-way communication seemed to play a greater role in perceived credibility and benevolence among highly interested students compared to less interested students (**Figure 18**, p.121). **Table 21** shows the impacts of antecedents on dimensions of trustworthiness in both interest groups.

### Trustworthiness – satisfaction – intentions

Both credibility and benevolence were positively related to overall satisfaction. The connections between the dimensions of trustworthiness and satisfaction were not, however, consistent with the observations of Ganesan and Hess (1997) examining commitment as an outcome construct. It appeared that the perceived credibility of the wood industry played a more important role than benevolence in the students' evaluations concerning their satisfaction with the industry sector in both interest groups. Besides the context, which is different, it might indicate that commitment refers to a deeper relationship than satisfaction, and therefore behaves differently. However, when examining the effect of benevolence only, on satisfaction in both interest groups, it seemed to be greater among highly interested students compared to students with less interest. This might result from credibility being more objectively observable than benevolence, which, in turn is to be realized more in the actual interaction between the wood products industry and young people. Thus, the results clearly show the relevance of favorable behaviors of the wood industry, especially, among highly interested students.

In addition, satisfaction with the wood products industry naturally has a positive effect on satisfaction in comparison to other industries. The impact is approximately the same size on both interest groups. Eventually, overall satisfaction cannot be said to have an influence

on students' intentions to study or work within the wood products industry, as anticipated. Only among highly interested students does satisfaction seem to play some role, when students think about their intentions to study or work within the sector (**Figure 18**, p.121).

In summary, most of the hypotheses related to the group of less interested students and credibility-dimension of trustworthiness were supported by the results of the study. Instead, the dimension of benevolence played a minor role among highly interested students than hypothesized having, however, an important part in prediction of satisfaction among them.

## 7 SUMMARY AND CONCLUSIONS

### 7.1 Background and objectives

The motivation for this study lays in the challenges that the wood products industry faces today related to the recruitment of young people. The declining numbers of primary applicants to study about the wood industry at vocational schools suggest low interest toward the field among young people (Opetushallitus; Metsäsektorin koulutuksen kehittäminen Suomessa 2007; Suomen Puutuoteteollisuus 2020, 2006). It would appear that they do not find it interesting or attractive enough. Thus, the aim of the study arises from the practical needs to better understand the relational perceptions of young people concerning the wood products industry in order to help the industry sector in better attracting young people with different relational orientation as a place to study and work in. In this study, a relational approach was chosen, as it is suggested to contain both behavioral and communicational means to improve the relationship between the wood industry and young people and increase the attractiveness of the sector, accordingly.

There are very few studies addressing young people's interest in the wood products industry. The Master's thesis-level study by Manninen (2001) compared young people's perceptions of the wood industry to the profile pursued by the industry sector. Taloustutkimus (2001) examined the perceptions of the wood industry among several stakeholder groups. However, the conclusions of these studies are to some extent inconsistent mainly regarding communication as a means to influence the quality of perceptions and low popularity of the sector despite of the fairly high occupational regard of it among young people. This study seeks to address these issues with a relational viewpoint including elements suggested to improve satisfaction among young people and attractiveness of the sector, accordingly. Consequently, the interest does not lie only on communication, but also on relational behaviors of the wood products industry. Further, this study is based on extensive and representative data gathered through access to both comprehensive and vocational schools. The primary aim of the study is to produce new information of how to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation.

The focus is on young people's perceptions of the field of industry, which has long traditions, is well-known and economically significant in Finland. The evaluation of the relationship is based on the relationship indicators, which form the organization-public relationship measure. It is useful to underline that the study is concerned with the relational perceptions of young people, not with their knowledge of the sector. These perceptions can

be based partly on facts and young people's own observations, but also on disconnected and casual information.

The study consists of several specific tasks. First, the concepts involved in relationship management within the context of the wood products industry and young people are clarified. This includes also the development of an organization-public relationship scale to include several items for all of the relationship dimensions. Then the instrument is formed for conducting the study by examining young people's perceptions of the relational concepts and their dimensions. The second task is to specify those background factors that contribute to the differences in the level of interest among young people. The third and fourth tasks are to reveal what are those relational elements, which are poorly perceived, but still working for greater satisfaction with the relationship among less and highly interested young people. They are assumed to represent the central relational elements requiring more attention of relationship management in order to enhance the relationship and attractiveness of the wood products industry as a place to study and work in.

## **7.2 Implementation**

### Theoretical framework

The theoretical background of the study combined the theories of public relations and trust research of relationship marketing and related sciences. In addition it was built on theories of communication in public relations, theories of stakeholders, publics, involvement and concepts of reputation and values. In addition, the study made a use of features from both the systems-based relationship studies and rhetorical enactment approach within public relations. Hence, a wider perspective was gained for the examination of relationship between the wood industry and young people, which is typically carried out in a broad social setting. The theoretical framework consisted of dimensions of antecedents, state and consequence of the relationship between the wood industry and young people. Further, the measurement instrument was used to evaluate the relationship between the wood products industry and young people with different backgrounds and levels of interest. The objective of the study was to clarify how the relationship between young people and the wood products industry could be improved in order to better attract young people with different relational orientation to study and work in.

The analysis of the approaches and concepts in public relations revealed a development from striving for publicity to building up responsibility in relationships through both behaviors and communication. As trust is seen to be a fundamental element in relationship management, in this study the compatibility between the dimensions of trustworthiness and organization-public relationship was examined. The previous studies on dimensions of trustworthiness offer a premise to propose hypotheses concerning the connections between trustworthiness and other relationship constructs in different phases of the relationship (e.g. Grunig & Hon 1999; Rousseau, Sitkin, Burt & Camerer 1998; Ganesan & Hess 1997; Ganesan 1994). Thus, the conformity of dimensions of trustworthiness and organization-public relationship were evaluated in order to obtain more insight into the trust development by the means of public relations.

The theoretical framework of the study was formed by the beginning from the clarification of the concepts relevant in relationship management between the wood products industry and young people in Finland. The interest lies in the relationship

constructs that are intended to affect young peoples' perceptions of the wood products industry as a field to study and work in. The theoretical framework consists of relationship constructs which are examined in the form of antecedents, relationship state, and consequences, a design suggested by scholars of public relations (e.g. Grunig & Huang 2000; Broom, Casey & Ritche 1997). In addition, the theoretical framework included background variables of young people and a measure of their level of involvement in the wood industry.

First, the students' background was described. Then, the relationship between students' background and their interest level in the wood industry was examined. This was done to specify those background factors that contribute to the differences in the level of interest among young people. For that purpose, the level of involvement was measured as an interest of young people in the wood products industry showing itself in *perceived importance and personal relevance*. The four-class characterization of the students according to their interest in the wood industry was pursued to establish the features and perceptions of the mediating groups between the two ends: little and highly interested students. In this study the K-means cluster analysis was assumed to draw the group lines maximizing difference between the groups and minimizing it within the groups.

The antecedent constructs of reputation, similarity of values, and communication have been found to be relevant independent variables in the process of relationship management. Favorable reputation was defined as the extent to which the wood products industry is generally perceived to be honest, competent and concerned about its stakeholders. The value perceptions of young people were evaluated using two measures: perceived values of the wood products industry by young people and their own value appreciations of the same items. The difference between the value appreciations of young people and their perceived values of the wood products industry was then calculated for each value item. The examination of communication included perceptions concerning the sufficiency and accuracy of information in different media groups of one-way and two-way communication. Communication consisted, also, of items concerning messages of the wood products industry sent by others than the industry sector itself: e.g. public media and student counselors at school.

In this study, the definition of public relations was not only reduced to symbolic relationship linked to communication. Instead, behavioral relationship was viewed as the focal point of relationship management. The relationship state was reflected by two dimensions of perceived trustworthiness (Grunig & Hon 1999; Ganesan & Hess 1997) and five dimensions of organization-public relationship (Bruning & Ledingham 2000; Ledingham & Bruning 1998), which not only indicate the relationship state between the wood industry and young people, but are also intended to act as building blocks for the relationship. Consequently, they may together be used as a basis for the planning of public relations activities in order to improve the relationship with young people.

Young people's overall satisfaction with the sector and their intention to study or work in the wood industry represent the consequences of the state of the relationship in the framework. Overall satisfaction includes satisfaction with trustworthiness and behaviors of the wood industry, in addition to relative satisfaction in comparison to other industries.

The abstract constructs were operationalized in order to transform them into observable and measurable indicators. As a result, there were multi-item measures for each construct covering the different facets of the phenomena. The measurement items and instruments were mainly based on or derived from previous research. The relational items of survey questionnaires were measured by six-point scales which proved to work well in this

context. Finally, the research hypotheses were formulated. The framework for the empirical analyzes is presented in section 4.1.

### Empirical study

The empirical research was based on cross-sectional data collected by a structured survey questionnaire. First, a pre-test and piloting of the questionnaire were implemented to reduce measurement errors which would decrease the validity and reliability of the study. Second, systematic cluster sampling was used and carried out randomly in two survey populations: final year students at comprehensive schools and basic degree students of vocational education in the wood products sector. These two groups of young people are together assumed to represent young people with both a high and low interest in the wood products industry. Among both comprehensive schools and vocational education, the schools stood for primary sampling units, and the sampling among them was carried out by a systematic random method. The final sampling units, classes and the students were selected at comprehensive schools by the student counselors, whereas at vocational schools the first and second year students of the wood industry participated in the survey.

The final sample included 613 students: 425 last year students of comprehensive schools and 188 students of vocational schools studying the basics of the wood industry. The response rate was 85% after discarding the questionnaires not suitable for the analysis. As the sub-samples represented their survey populations fairly well, the findings of this study can be generalized among the two survey population, last year students of comprehensive schools and students in vocational schools with a program of wood products industry. Besides, as homogeneity within a class is not a problem in this context, the external validity provides a basis for applying the conclusions from the study to young people of similar age in Finland.

### Methods of analysis of the data

Arithmetic means and distributions were the basic univariate statistical techniques used in the description of the data. Principal components analysis was used to ascertain the underlying dimensions of the constructs of antecedents, relationship state, and consequences. The component scores per observation for each dimension were calculated for the subsequent analyzes. K-means cluster analysis was used to form interest groups of students on the basis of the involvement measure. The connections between background variables, interest groups, and intentions were analyzed by cross-tabulations. Statistical tests of  $\chi^2$  - test, t-test and one-way ANOVA with Bonferroni-test were used to support the interpretations of differences and to assess whether the conclusions are to be applied to the survey population. A causal modelling approach, the partial least squares (PLS), was used to test the research model of the antecedents, the state and the consequences of the relationship.

### 7.3 Results

In the following the results based on the specific tasks of the study are presented.

*1. The first task* was to clarify the concepts involved in relationship management within the context of the wood products industry and young people and to form the instrument for conducting the study. Further, young people's perceptions of the relational concepts and their dimensions were examined.

The structures of the relationship measures constituting antecedents, state and consequences of the relationship were examined using principal components analysis. The dimensions of organization-public relationship reflecting the relationship state had not been used in recruiting contexts in earlier studies. In accordance with Ledingham and Bruning (2000), these dimensions were used to draw conclusions of perceived attractiveness of the wood industry among young people and also the needs of public relations activities of the industry sector.

Operationalizations of the multi-item measurement instrument developed for the dimensions of organization-public relationship were proven to be quite efficient: the multi-item approach resulted in empirical dimensions close to those expected supporting the content validity. The levels of perceptions were evaluated based on individual items and summated rating scales for each of the extracted principal components. The results also confirmed the supposition that young people differentiate between the dimensions of trustworthiness: credibility and benevolence. As a whole, the dimensions functioned well in describing the perceptions of students concerning their relationship with the wood industry. Thereby, they were able to tap specific conditions of young people making plans about their future career.

Generally, the students' perceptions concerning antecedents, relationship state and consequences were basically at a moderate level. Still, a few relationship measures and items revealed unfavorable perceptions among all the students. The most unsatisfactory items appeared to be the amount of recruiting communication and involvement of the wood industry in issues relevant for young people. Also, openness of information disclosure and commitment to employ young people were perceived as being poor.

Although, the wood industry was considered fairly trustworthy by the students, it was assessed more as a reliable and competent employer than a benevolent partner interested in issues relevant for students and motivated to seek joint gain. On the whole, similarity of values was fairly good, in addition to the perceived reputation of the wood industry's technical competence. Also, the students seemed to be relatively satisfied with the sector, overall. Further, the relative position of the wood products industry among, generally, unfavorable industrial vocations appeared to be adequate.

*2. The second task* was to specify those background factors that contribute to the differences in the level of interest among young people. First, the results related to young people's background showed clear deficiencies in students' familiarity with the wood products industry and their awareness of neighboring possibilities to study or work in the sector. This outcome was most apparent among students from comprehensive schools. Further, the wood industry programs were more unknown to students in rural areas and in northern Finland compared to towns and other parts of the country. On the other hand, familiarity with the wood industry was poorer in towns and among female students.

Second, the profile of the students was described based on the background and level of interest. It seems that the unawareness of the neighboring wood industry program and unfamiliarity with the sector were related to low levels of interest. Typically, female

students represented the group of students who found the industry to be of low personal relevance. More than half of the indifferent students intended to study or work in the wood industry, probably, due to the fact that a great share of students in this interest group were already studying in the field. Further, a good number of students perceiving the wood industry to be important in Finland represented students unaware of the wood industry programs and unfamiliar with the industry sector. Finally, students with high personal relevance were more familiar with the sector than aware of the program of the wood industry in the nearby vocational schools. However, only half of them had intentions to study or work in the wood industry. Interestingly enough, there appeared to be a good number of students at comprehensive schools who found the wood industry to be highly relevant to themselves.

*3. The third task* was to find those relational elements, which are poorly perceived having significant differences in perceptions between the background variables or interest groups. These dimensions were intended to represent such aspects of relationship management which need improvement of both behaviors of the wood products industry and communication of them to young people. Significant differences in students' perceptions were found in connection with several relationship measures.

Generally, it can be said that male students perceived the wood industry more favorably than females. In addition, students, who were unaware of the wood industry program in their neighborhood or were unfamiliar with the sector, found the relationship measures worse than the more informed and familiar students. Moreover, the differences in relational perceptions were found between all of the four interest groups, which confirmed the choice of the number of them. There appeared to be a tendency, with a few exceptions, that perceptions improved on the way from the group of students with low personal relevance through indifferent students and students with general respect to students with high personal relevance. In the following sections the poorest perceptions of students with low and high personal relevance of the wood industry are discussed regarding the dimensions of antecedents and relationship state (**Figure 19**, p.136).

#### Antecedents

Students with poor awareness of the programs of the wood industry, unfamiliarity with the sector and low personal relevance assessed the reputation of the wood industry poorer than other students. Messages of interactive communication of the wood industry appeared to be more or less inaccurate for all others than highly interested students, who in turn, had relatively poor perceptions of sufficiency of recruiting communication. Furthermore, the amount of recruiting communication was perceived as being low by students living in towns. Finally, perceptions concerning information in public media were considerably poorer in other groups than among the highly interested students.

#### Relationship state

The results indicate that unfamiliarity with the wood industry and unawareness of the wood industry program in neighboring vocational school led to more skeptical perceptions of the wood industry's behaviors. Regional differences were also found: in Southern and Eastern Finland perceptions related to investments in young people's skills were poor. Further, perceptions concerning the wood industry's involvement in socially responsible activities were relatively poor in Southern Finland. The wood industry's reliability as an employer and activeness in issues relevant for young people together with investments in young people's skills, dispersed perceptions of young people, which were remarkably poor in the

lowest interest groups. On the other hand, the lowest perceptions of highly interested students were related to the wood industry's commitment to employ young people and to its openness of information disclosure.

Supporting hypothesis H1, which states that *the background variables of young people have a connection with perceived trustworthiness of the wood products industry*, the empirical results indicate that several background variables had a connection with perceived trustworthiness of the wood products industry. First of all, awareness of the wood industry programs in neighboring vocational schools was connected to greater perceived trustworthiness of the industry sector among young people. Similarly, students familiar with the wood industry perceived it more credible than unfamiliar students. Further, male students and those living in rural areas found the wood industry to be a more benevolent partner with favorable intentions, than others.

The results also supported hypothesis H2, according to which *high involved young people perceive the wood products industry to be more trustworthy than low involved*. Both dimensions of trustworthiness, credibility and benevolence, were appreciated substantially more by students with high personal relevance than students with low personal relevance.

4. *The fourth task* of the study was to identify the central relational elements working for greater satisfaction with the relationship among the little and highly interested young people. The interest groups of low personal relevance and indifference, produced by K-means cluster analysis, were chosen to represent the *less interested students*. The group of high personal relevance formed *highly interested students*, alone. First, the compatibility of the dimensions of organization-public relationship and the dimensions of trustworthiness was examined by correlation analysis. Further, the connections between the relationship constructs relevant in the groups of both less and highly interested young people were analyzed. The causal ordering specified in the research model is based on earlier studies of public relations and trust research. These connections were tested using a causal modeling approach called the partial least squares modeling, or PLS.

In total, the research model of antecedents, trustworthiness and consequences of the relationship showed somewhat good applicability in the empirical examination of the students' perceptions of the wood products industry. Even though there are no earlier studies on connections between antecedent constructs and dimensions of trustworthiness and, further, satisfaction in recruiting context, the mediating role of credibility and benevolence was found to be relevant for several of the antecedents in both interest groups of the students. Thus, the internal validity of the measurement was supported.

First, it appeared that in both interest groups the dimensions of trustworthiness coincide closely with the dimensions of organization-public relationship reflecting the relational behaviors of the wood industry (**Table 22**).

**Table 22.** Compatibility between the dimensions of trustworthiness and dimensions of organization-public relationship.

	Dimensions of trustworthiness	
	Credibility	Benevolence
Dimensions of organization-public relationship	Reliability as an employer	Involvement in issues relevant for young people
	Openness of information disclosure	Commitment to employ young people
	Involvement in socially responsible activities	Investments in young people's skills

Second, the analysis of research model of antecedents, relationship state and consequences indicates that these dimensions are not equally influential, but situationally different, thus having a different impact on the overall satisfaction in the groups of less and highly interested students. The findings supported most of the hypotheses proposed for the connections between the constructs of antecedents and trustworthiness, and trustworthiness and consequences (**Table 23**).

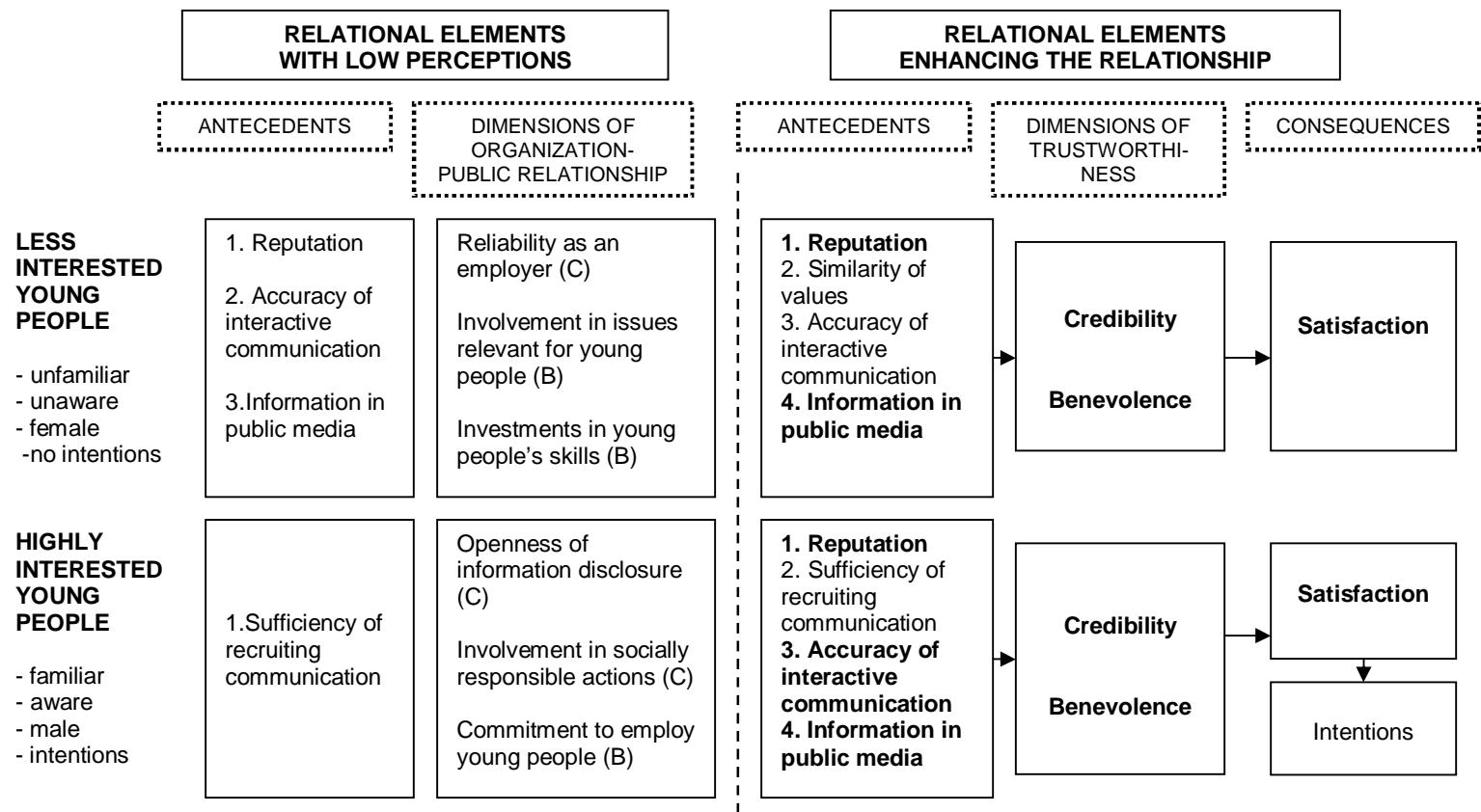
**Table 23.** The support of hypotheses.

Hypothesis	Less interested students	Highly interested students		
Positive relationships between antecedents and trustworthiness	<i>Supported</i>	<i>No support</i>	<i>Supported</i>	<i>No support</i>
H3: <i>For both low and high involved young people reputation of mechanical wood industry is positively related to the perceived trustworthiness.</i>	X		X	
H5: <i>For both low and high involved young people perceived similarity of values is positively related to the perceived trustworthiness.</i>	X		X	

Hypothesis	Less interested students		Highly interested students	
	Supported	No support	Supported	No support
<b>Positive relationships between antecedents and trustworthiness</b>				
H6: <i>For both low and high involved young people perceptions of communication are positively related to the perceived trustworthiness.</i> - Sufficiency of recruiting information - Accuracy of interactive communication - Information in public media	X		X	
<b>Impacts of antecedents on dimensions of trustworthiness</b>	Supported	No support	Supported	No support
H4: <i>Reputation has a greater impact on perceived trustworthiness among low involved than high involved young people.</i>	Credibility	Benevolence	Credibility	Benevolence
H7: <i>For low involved young people perceptions of one-way communication has a greater impact on perceived credibility than perceived benevolence.</i> - Information in public media	X			
H8: <i>For high involved young people perceptions of two-way communication has a greater impact on perceived benevolence than perceived credibility.</i> - Accuracy of interactive communication				X

Hypothesis	Less interested students		Highly interested students	
	Supported	No support	Supported	No support
<b>Positive relationships between trustworthiness and satisfaction</b>				
H9: <i>For both low and high involved young people perceived credibility and benevolence are positively related to satisfaction.</i>	X		X	
<b>Impacts of dimensions of trustworthiness on satisfaction</b>				
H10: <i>For low-involved young people perceived credibility has a greater impact on satisfaction than perceived benevolence.</i>	X			
H11: <i>For high involved young people perceived benevolence has a greater impact on satisfaction than perceived credibility.</i>				X

The central relational elements enhancing the relationship between the wood industry and the less and highly interested students are presented in **Figure 19**.



**Figure 19.** Results of the study presented in the groups of less and highly interested students. Constructs mediated by credibility and benevolence are in bold. Dimensions of organization-public relationship correlated with credibility are marked by (C) and those correlated with benevolence by (B).

### Antecedents

On the whole, it can be said that reputation of the wood industry as a reliable and fair employer and a technically competent actor seems to have the greatest influence on perceived trustworthiness among both less and highly interested students. Instead, the perceived similarity of values made an impact on trustworthiness among students with little interest only.

With regard to communication, among the less interested students perceived credibility of the wood industry was influenced by two dimensions of communication: media information and accuracy of interactive communication. Moreover, they were both perceived to be rather poor in this interest group. Instead, all dimensions of communication had an impact on perceived trustworthiness among the highly interested students. Aside from reputation the greatest role in credibility played information in public media, which represent one-way communication. On the other hand, accuracy of interactive communication representing two-way communication had a major effect on both credibility and benevolence among the highly interested students. Still, sufficiency of recruiting communication, which did not affect credibility in either interest group, had an impact on benevolence in the group of highly interested students.

### Relationship state

The results show that the higher the perceived trustworthiness, the higher the level of satisfaction among the students. In addition, although credibility played a greater role in satisfaction, the impact of credibility and benevolence was different on satisfaction levels among the groups of less and highly interested students. The impact of benevolence was greater on the satisfaction levels among highly interested than less interested student

Finally, when the intervening role of dimensions of trustworthiness in the research model was examined, it revealed that credibility and benevolence work somewhat differently as mediators among the less and highly interested young people. According to the results, mediation is partial among the *less interested students* between the following constructs:

- reputation - credibility – satisfaction
- reputation - benevolence - satisfaction
- information in public media - credibility - satisfaction

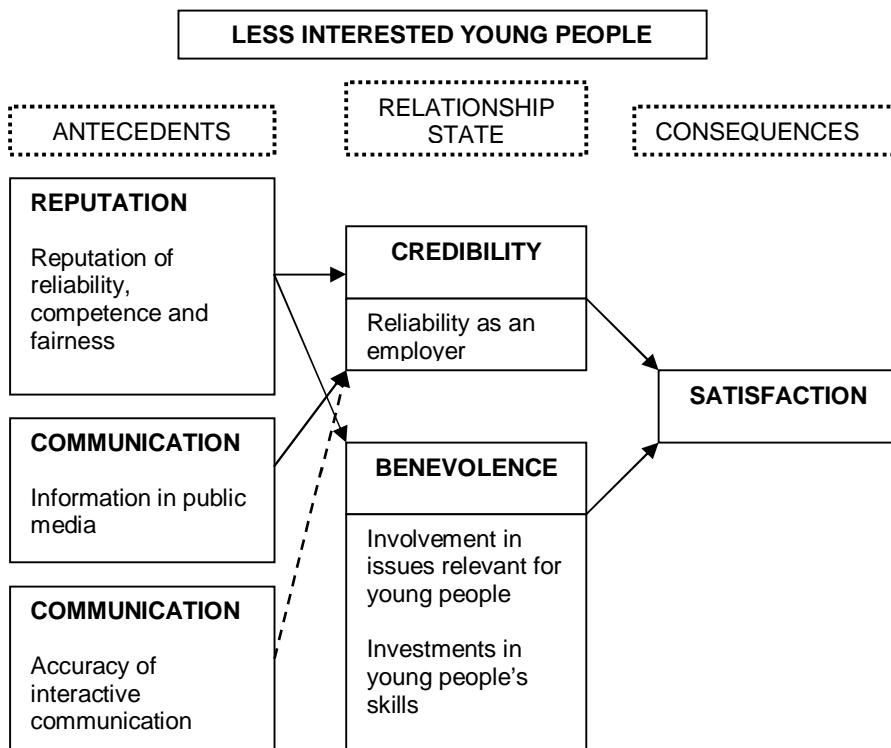
Further, among the *highly interested students*, mediation is partial between the same constructs as in the group of less interested students. In addition, both credibility and benevolence work as partial mediators between accuracy of interactive communication and satisfaction:

- reputation - credibility – satisfaction
- reputation - benevolence - satisfaction
- information in public media - credibility - satisfaction
- accuracy of interactive communication – credibility – satisfaction
- accuracy of interactive communication – benevolence – satisfaction.

*To summarize*, all the dimensions of the organization-public relationship, which were compatible with either the dimensions of credibility or benevolence, and were poorly perceived by the students in each interest group, play a crucial role as indicators of the relationship state and means of enhancing the relationship between young people and the wood industry. They are connected to relational behaviors of the industry sector expressing reliability and competence as an employer, genuine interest in young people as employees

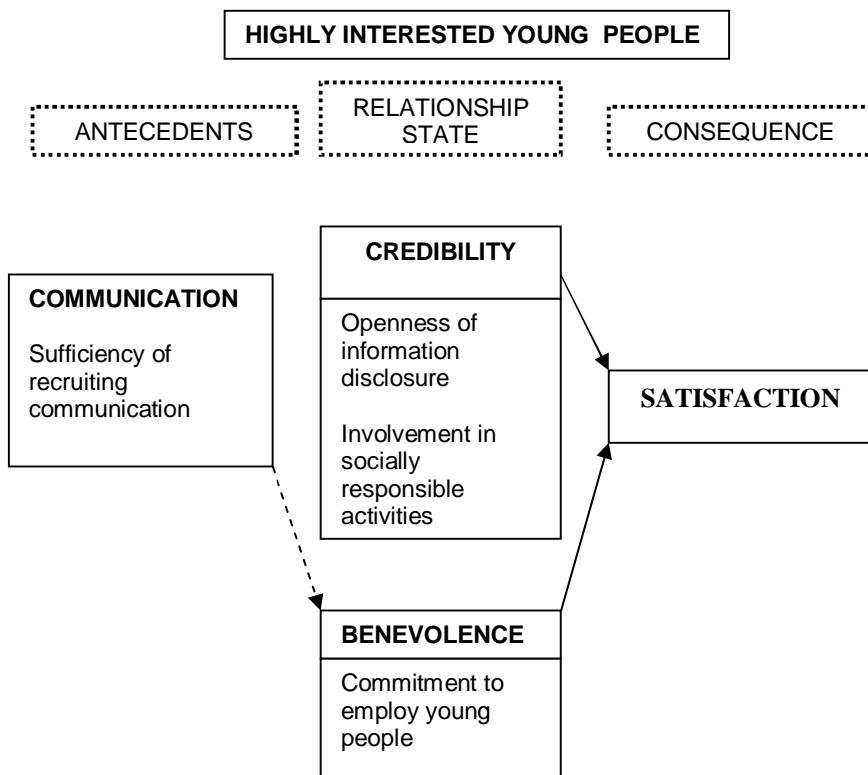
and favorably perceived intentions in actions, accordingly. In addition, antecedents, which were poorly perceived by the students and which influenced satisfaction through credibility or benevolence in each interest group, are of great importance for relationship management in its different phases.

As **Figure 20** shows, antecedents of reputation and information in public media were, on the one hand, poorly perceived but, on the other hand, inclined to enhance satisfaction through either credibility or benevolence among the less interested students. Instead, accuracy of interactive communication was an antecedent of low perceptions having an impact on credibility, only. Poorly perceived relational behaviors, still significant in predicting satisfaction, included reliability as an employer, involvement in issues relevant for young people and investments in young people's skills.



**Figure 20.** Dimensions of antecedents and organization-public relationship poorly perceived, but inclined to enhance satisfaction among less interested young people (NB: direction of impacts of antecedents not involved in the mediation are marked by a broken line).

**Figure 21** below demonstrates that the only antecedent poorly perceived by the highly interested students was sufficiency of recruiting communication. It appeared to have an impact on perceptions of the wood industry's genuine interest in young people, benevolence. Instead, all the antecedents inclined to enhance satisfaction through either credibility or benevolence were fairly well perceived by highly interested students: these included reputation, information in public media and accuracy of interactive communication. Further, relational behaviors poorly perceived, but significant in predicting satisfaction among the highly interested students were open information disclosure, activeness in social responsibility and commitment to employ young people.



**Figure 21.** Dimensions of antecedents and organization-public relationship poorly perceived, but inclined to enhance satisfaction among highly interested young people (NB: direction of impacts of antecedents not involved in the mediation are marked by a broken line).

## 7.4 Conclusions

The motivation for this study rises from poor attractiveness of the wood products industry among young people as a field to study and work in. The aim is to produce new information of how to improve the relationship between young people and the wood products industry in order to better attract young people with different relational orientation? Thus, attractiveness of the sector is approached through relational viewpoint. The relevant areas of development in relationship management among young people are examined by connecting the knowledge of the needs and relational elements enhancing the relationship in different interest groups. Thus, the findings offer some new horizons of relationship management to the issue of attractiveness of the wood industry among young people, from which implications can be drawn to develop and enhance the relationship between these parties and to improve availability of a skilful workforce in the wood industry.

The implications provide tools, first of all, to *the wood products industry* and its *advocates* in planning and implementing functional behaviors and communication of public relations in the recruiting context. Secondly, they might help authorities of *educational policy making* in their endeavor to develop the educational scheme in order to guarantee sufficiency of motivated and skilful employees in the wood products industry. Thirdly, the results can be used by *teachers in comprehensive and vocational schools* when planning and implementing teaching. Finally, the implications challenge also mass *media* to develop its messages in relation to the wood products industry.

According to the results of the study, there is a need for the development of both public relations behaviors and consistent communication in order to enhance the relationship between young people of diverse interest and the wood products industry. There is a clear need to increase the visibility of the wood industry among young people and to enhance the identification of this key public with the industry sector. First of all, this calls for, not only media publicity, but also effective and consistent use of different forms of two-way communication to improve awareness and familiarity of the wood industry among young people. Further, because of the multi-dimensional nature of the organization-public relationship, public relations activities are to be designed to fulfil multiple behavioral needs. Finally, the results indicate that young people in different interest groups evaluate the industry sector through different issues. Accordingly, the actions to enhance the relationship and attractiveness of the wood industry need to be different.

It can be argued that the highly interested young people are the most likely applicants to study and work in the wood industry. Further, due to the fact that a considerable number of indifferent young people are studying in the field, the need to improve the relationship in order to attract more genuinely interested and motivated young people becomes highlighted. Also, young people not having strong preferences in regard to vocational occupations might imagine themselves working in the wood industry as a result of improved familiarity and identification with it. The field was not, however, poorly assessed in comparison with other industrial sectors. Finally, enhancing general attractiveness of the field among young people presumes specific measures of public relations directed also to less interested young people.

In the following section, some suggestions are to be made on how the attractiveness of the wood industry could be improved to present the wood industry as a more appealing partner to the highly interested young people. The suggestions are discussed from the viewpoint of different actors. A discussion of how to enhance the wood industry's visibility

and attractiveness among the less interested young people in order to improve perceptions concerning the industry sector in a wider social setting is also presented.

#### Relationship management among the highly interested young people

This study shows that apart from students already studying in programs of the wood industry at vocational school, there are also a considerable number of students of comprehensive school perceiving the wood industry as highly relevant for themselves. As they are students typically familiar with the wood industry and aware of the possibilities to study in the field, they have probably attended voluntary woodwork classes, visited the wood industry, or received some training in the sector.

Still, there are needs to be met in building up the relationship in order to better attract the highly interested young people to study and work in the field and also to develop the relationship further with students already studying in the wood industry. In this endeavour behaviors of the industry sector related to commitment to employ young people, openness of information disclosure, and involvement in socially responsible activities seem to be the most important. Moreover, these behaviors need to be accompanied by sufficient recruiting communication in order to be effective enough in better attracting young people to the field.

Highly interested young people seemed to have rather good perceptions of the wood industry in terms of its reputation, information provided by public media and accuracy of interactive communication. Naturally, it is important to continue planning and implementing efficient activities of public relations focusing on these activities, too, as all of them appeared to impact satisfaction through perceived trustworthiness of the wood industry in this interest group. Moreover, the values are perceived quite similar, which is suggested to support the process of identification with the sector among highly interested young people.

Instead, the amount of recruiting communication seems to be inadequate. Contrary to the conclusions of earlier studies, the increase in one-way communication in the form of arguments and detailed information might not be effective alone in regard to building up the relationship. Instead, creating simultaneously experiences and facilitating identification with the sector through two-way communication is considered essential for relationship building and making it more appealing to young people, accordingly. This requires, first of all, cooperation with comprehensive schools in order to reach the target group. Apart from delivering information in brochures, excursions to mills, vocational schools and recruitment fairs are important channels offering the students a possibility to ask questions and give feedback. Further, introducing them to modern role models of the wood industry might be used to clarify the versatile jobs in the field and to enhance identification with the sector.

The Internet, which incorporates text, sound, image, movement, and the potential for real-time interaction, provides a lot of opportunities to communicate directly with active and highly interested young people. These opportunities include offering real time discussions, feedback loops, sources for organizational information, places to post-comments, and postings of organizational member biographies and contact information. Especially, the different forms of social media on the Internet provides the wood industry a great variety of means to reach young people. It offers an efficient platform to produce, publish, and disseminate information and even virtual experiences in an attractive way. However, as predicted, emphasizing communication alone is not enough. On the whole, there is a clear need to take into account more systematically the behaviors of the wood

industry in enhancing credibility and benevolence, and thereby, satisfaction with the industry sector.

First of all, the wood industry could appear as a more appealing partner to highly interested young people by regarding them clearly as future employees. Commitment means here behaviors, which affirm young people that they are desired and valued employees in the sector. This could be achieved e.g. through the organizing of demonstrations and competitions together with schools, visits to mills, opportunities for summer jobs and training, among other activities. At this point, a more intensive cooperation with teachers of woodwork and student counselors at upper level of comprehensive schools is in key role in reaching those young people, who most probably would be interested in the field. Also, publications highlighting development in the field could be at hand during the woodwork courses at schools. Moreover, the cooperation could include opportunities for teachers of woodwork to update their knowledge of the wood products industry and to keep them in touch with the technical development in the field e.g. through "Introduction to work"-courses for teachers.

Arranging contacts with vocational schools, for example, in the form of visits and joined projects, is important for the highly interested students to get timely information about opportunities for specialization and career development in the field. As a whole, more visibility to the contributions to education in the sector could appeal motivated and goal-oriented young people to the field. Similar to the upper secondary school concentrating on mathematics and other natural sciences and sponsored by the industry sector of information technology, a vocational school specialized in the wood industry could attract gifted young people with high-quality education in an inspiring environment.

Furthermore, young people seem to be interested in the current and future perspectives related to the field of study and work. Consequently, the relationship between the wood industry and highly interested young people might benefit from the industry's greater openness in its information disclosure. This concerns both accurate information of the contemporary situation and the future prospects in the field. Only in the light of facts it is possible for young people to compare advantages and disadvantages and make plans for the future. Also, stronger involvement in socially responsible activities, for example in the diminishing of inconveniences caused to communities, such as smell, noise and garbage in the neighborhood of factories, could act as a means to enhance relational perceptions of highly interested young people.

#### **Enhancing the relationship among the less interested young people**

The target group of the less interested young people consists of young people studying at different stages of comprehensive school. They are mostly students rather unfamiliar with the sector and unaware of the possibilities to study in the field of the wood products industry. Moreover, their perceptions of the industry sector are, typically, poor. These factors highlight the role of the wood industry itself and its advocates in enhancing the relationship. First, the behaviors in regard to reliability as an employer, involvement in issues relevant for young people, and investments in young people's skills seem to be crucial. Second, effective publicity management, as well as, accurate interactive communication are needed to make these activities known and the wood industry more visible to young people. Further, advocacy of statements and messages through the means of rhetoric like narratives, perspectives, persona formulation and identification might also be used.

Generally, it can be said that there is a need to increase the visibility of the wood industry among young people with less interest in the field. It is, however, essential to be carried out by combining both behaviors and communication in order to build up satisfaction and, further, identification with the sector. As for communication, young people in rural areas and, especially, in northern Finland seem to need more information of possibilities to study in the field, as the vocational schools, typically, are located in towns. On the other hand, young people in towns have less contact with the wood industry and should have access to more opportunities, for example, to visit the mills. In addition, special attention, when planning the behaviors and communication of the wood industry, should be paid to females, who perceive several of the relational issues as poor. It is also worth noticing that the young people whose parents work in the wood industry hardly differ from others in their perceptions. This brings out the question of internal organizational behaviors and the communication of them within the wood industry.

Quite high level of similarity of values perceived by less interested young people provides a good premise for relationship building between them and the wood industry. In order to improve the perceived trustworthiness of the wood industry and satisfaction with it in this interest group, special attention should be paid to the reputation of the sector and also information in public media. The perceived reputation of the wood industry, which refers here to the stories told of employer reliability, fairness and technical competence of the sector, is not in direct control of the wood industry itself. Rather, reputation of trustworthiness is formed within a wide social setting. This calls for active reputation management within the wood industry based on environmental monitoring, good behaviors and effective issues management not forgetting publicity management and other means of communication.

Thereby, it is important to pay attention to all the key stakeholders of the wood industry including the public media. The industry sector needs to approach, especially, influencers like teachers of woodwork and student counselors at different stages of comprehensive school. It is important to provide them with timely information and to keep them in touch with the development in the sector. The field could also be better introduced to parents of young people in parents' evenings at school or by arranging them visits to mills. Even the strengths of the wood industry in the global battle against climate change should be emphasized in order to enhance identification of young people with the sector in the form of shared opinions on the matters of interests.

The role of public media is meaningful and influential. Although, the genuine behaviors of the wood industry play the most significant role in media information, active and good media relations are of great importance. In order to raise the visibility and perceived credibility of the wood industry, especially, among less interested young people, the amount and content of information in public media concerning the wood industry seem to need improvement. Further, different means of public media, which appeal to young people should be exploited open-mindedly. Both the Internet and television provide an opportunity to tell narratives or stories concerning the wood industry to young people. For example, there could be running a series or competitions on television, which portray a modern role model in the context of the wood industry. This kind of means to improve the visibility are also consistent with the connection found between peripheral routes in attitude changes and weak involvement (Petty, Cacioppo & Schumann 1983).

As the one-way information flow is, nowadays, heavy on young people, it seems to be very important to practise two-way communication effectively providing not only

information but also experiences through interactive media, as well as, events and group communication. Satisfaction with the wood industry seems to be the higher the more experiences young people have with it. Consequently, interpersonal communication might be more important than mass media information also among the less interested young people. This would mean more creative use of the Internet, excursions to mills and visits to comprehensive schools by representatives of the wood industry. Especially means of communication, which young people are typically exposed to, are of great relevance when reaching them. For example, the social media functioning on the Internet provide a space to present the wood industry also in virtual environments e.g. in interactive games. In addition, following the social media offers the wood industry an environment to learn about values, opinions, and interests of young people on one hand, and to disseminate relevant information, on the other hand.

Interestingly, the amount of recruiting communication, which was perceived as fairly good among the less interested students, did not in any way influence the perceived trustworthiness of the wood industry. At this point, the results seem to confound the traditional expectations of recruiting information as a relevant means of positive influence on young people's perceptions in general. These results indicate that the behaviors in addition to interactive communication are of greater importance among the less interested students than usually believed. Together they might help even the less interested young people to be able to visualize themselves working in the wood industry. Naturally enough, the behaviors need to conform to the messages provided by different means of communication.

On the whole, the findings of the study support the consistent use of all forms of communication according to the integrated communication of an organization (Vos & Schoemaker 2005) and integrated model of media suggested by Hallahan (2001). Thus, aside from the need for information in public media, improving familiarity and awareness among the less interested young people appears to need more effort on the part of the wood industry and its advocates. Finally, the visibility of the wood industry among less interested young people could be improved also through stronger involvement, e.g. as a sponsor, in issues relevant for young people, for example, in concerts, youth festivals and sports events.

The credibility of the wood industry played a key role in the satisfaction among less interested young people. There appeared, still, to be much desired in the perceptions concerning the wood industry's reliability as an employer. These perceptions were related to evaluations of the wood industry as a sector, which fulfills its promises, is sincere in problem situations, is able to offer continuous employment and competitive salaries. Moreover, poorly perceived reputation of these issues highlights the need of the wood industry to cooperate more intensively with comprehensive schools to improve its reputation as a reliable employer among young people and also teachers. The cooperation could take several forms, in which teachers at school and young people engage in closer contact with the wood industry through projects, presentations, and visits to sawmills.

Activities related to investments in young people's skills are highly relevant demonstrating an interest in young people as future employees. Apparently, the wood industry is not considered to contribute enough to high quality education in the field, offering challenging tasks or opportunities to training and advancing careers. Thus, stronger contribution to young people's skills also includes the development of vocational education in cooperation with educational authorities and personnel of vocational schools. Further, more visibility could be reached for the promotion of the skills, for example in the form of sponsoring competitions in craftsmanship. It seems that special attention should be paid to

this issue in Southern and, especially Eastern Finland, where awareness of possibilities to study in the wood sector is fairly good, but intentions to actually do so are considerably weak.

## **7.5 Limitations and further studies**

There are a few limitations to the study, one being related to common method variance. It is acknowledged that common method variance, which is attributable to the measurement method rather than to the constructs the measures represent, is a potential problem in behavioral research, typically, in field settings using some form of questionnaire. The major sources, that common method bias might result from, are the fact that both predictor and criterion variables are obtained from the same source, the measurement items themselves, the context of the items within the measurement instrument, and/or the context in which the measures are obtained.

In this study, the responses to measures of the predictor and criterion variables were based on self-assessments of the respondents, because they could not be obtained from a different source. Instead, to counteract the sources of common method variance several procedural remedies were implemented. At first, the roles of predictor and criterion constructs were not directly recognizable for the respondents in the questionnaire. Respondent anonymity was protected and evaluation apprehension was reduced by assuring respondents that there are no right or wrong answers and that they should answer questions as honestly as possible. These procedures were devised to make young people less likely to edit their responses to be more socially desirable, lenient, acquiescent, and consistent with how they think the researcher or teacher wants them to respond.

The influence of the transient mood state of teenagers was, at least, partly reduced by discarding questionnaires with systematic and several lacking answers. Also, as a result of piloting the questionnaire, individual items were improved by avoiding item complexity or ambiguity. Furthermore, scales consisted, typically, of numerous items to reduce the possibility that responses to previous items on the questionnaire would influence responses to current items. Consistency effect was also reduced by placing the two sets of questions dealing with values in different sections of the questionnaire.

Second, the findings suggest that neither credibility nor benevolence are mediators for similarity of values and satisfaction, not for sufficiency of recruiting communication and satisfaction, either. One explanation might be the question of recursive constructs, which means a reciprocal causal relationship between two constructs: neither of them has a greater impact on the other. In such cases, PLS technique can not execute the proper results. As for the value measure, there is also a need for further development related to the scope of issues covered by it.

It can be claimed that a longitudinal study among the final year students of comprehensive school and with the same students in the next year might have given a more precise picture of perceptions of relationship constructs, intentions to study or work in the wood industry and their connections to the actual choices of the students. It would also provide for stronger inferences about the direction of causality posited here. However, it would have been very difficult and costly, or even impossible, to trace the students according to their choices after comprehensive school in the scope of this study. Instead, a case study with interviews following the students from comprehensive school to later studies might give further insight into their perceptions, attitudes and choices.

Furthermore, examination of young people's values perceived by the wood industry and values of the industry sector itself would be an interesting complement of the co-orientation model of relationships (Broom & Dozier, 1990; Dozier & Ehling, 1992). It would reveal not only the level of agreement between the perceptions, but also the accuracy of the wood industry's views regarding young people's perceptions, and also perceived agreement on the similarity of young people's perceptions by the wood industry. This evaluation would provide the wood industry with valuable information for the process of policy formation.

From the viewpoint of communication it would be interesting to have a closer look at the forms of communication young people are exposed to, when considering and making choices of future career and, further, the perceived relevance of them regarding the wood industry. Especially, the role of the social media, which was only emerging among young people when this study was carried out, needs to be carefully examined. Beyond the scope of this study, but still an interesting topic of communication research would also be examination of messages of the industry sector. This could be accomplished by two of the major approaches to textual analysis: rhetorical criticism and content analysis. The former examines the role of communication in social influence using e.g. persona formulation with metaphors, perspectives like feminism or narratives to shape audience's perceptions of reality. Rhetorical criticism presents an argument about how the messages in the texts achieved or failed to achieve their purpose. Content analysis pursues to identify, enumerate, and analyze occurrences of specific messages and message characteristics embedded in texts. It is commonly used to study mass media messages.

As the focus of this study was delimited to young people's interests in the wood industry, it would be useful to test the research model by carrying out a comparative study, on one hand, in the context of other unattractive industrial sectors. On the other hand, it would be interesting to test the research model in the context of the most popular fields of vocational education like catering and housekeeping, as well as, the field of heating, pipe and air conditioning, which have both risen within a decade from trough to the crest of the wave in attractiveness. Generally, it can be said, that the popularity of vocational education has clearly increased among young people in recent years. Consequently, it is of crucial importance that the wood products industry keeps to that development.

In the final analysis, as only a small proportion of intentions to study or work in the wood products industry is explained by satisfaction with the sector, further research is needed to solve the problem behind this study. The investigation could include e.g. how the tasks of the wood industry relate to young people's individual abilities, the role of young people's self-image, self-efficacy, and alternative intentions in occupational choice. Also, the perceptions of important others related to the wood industry and their significance in the actual choice of young people would be an interesting subject of further studies. Being aware of the complexity of the initial problem of the wood products industry the results and conclusions of this study are suggested to provide valuable information of how to enhance the relationship with young people already interested in the wood industry, as well as, how to improve the relational climate around the industry sector among less interested young people. In effect, the contributions to the relationship with young people are assumed to enable them to better identify with the wood products industry and thus, to find the sector more attractive as a field to study and work in.

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## APPENDIX

**Appendix 1:** The sample of comprehensive schools and the number of questionnaires in them.

Postal code and place	Province	Total number of questionnaires	Qualified questionnaires in the sample
00610 Helsinki	South-Finland	14	13
00980 Helsinki	South-Finland	19	16
02170 Espoo	South-Finland	19	11
02780 Espoo	South-Finland	19	16
05830 Hyvinkää	South-Finland	20	17
13100 Hämeenlinna	South-Finland	20	15
17200 Vääksy	South-Finland	18	17
21110 Naantali	West-Finland	21	19
24800 Halikko	West-Finland	19	15
29600 Noormarkku	West-Finland	16	13
33310 Tampere	West-Finland	14	14
36240 Kangasala	West-Finland	18	16
39820 Kihniö	West-Finland	30	28
42800 Haapamäki	West-Finland	23	22
47400 Kausala	South-Finland	19	19
53850 Lappeenranta	South-Finland	18	15
61400 Ylistaro	West-Finland	20	17
65100 Vaasa	West-Finland	20	15
70600 Kuopio	East-Finland	24	23
79100 Leppävirta	East-Finland	16	14
86100 Pyhäjoki	Oulu	15	14
90420 Oulu	Oulu	20	17
92140 Pattiijoki	Oulu	18	17
95530 Karunki	Lapland	28	24
99600 Sodankylä	Lapland	19	18
		487	425

**Appendix 2:** The sample of vocational schools and the number of questionnaires in them.

Postal code and place	Province	Total number of questionnaires	Qualified questionnaires in the sample
04400 Järvenpää	South-Finland	32	24
15200 Lahti	South-Finland	37	31
26100 Rauma	West-Finland	14	10
35800 Mänttä	West-Finland	14	14
40100 Jyväskylä	West-Finland	17	15
48100 Kotka	South-Finland	11	6
57200 Savonlinna	East-Finland	20	15
61800 Kauhajoki	West-Finland	5	4
67100 Kokkola	West-Finland	24	22
76120 Pieksämäki	East-Finland	7	3
85500 Nivala	Oulu	18	14
88900 Kuhmo	Oulu	7	6
90250 Oulu	Oulu	17	16
94450 Keminmaa	Lapland	6	6
98120 Kemijärvi	Lapland	3	2
		232	188

**Appendix 3:** The introduction letter and the questionnaire used in the sample classes of comprehensive schools and vocational schools.

## INTRODUCTION LETTER

The class attending the survey should represent a typical, cooperative class of last year students at a comprehensive school. Please emphasize the following facts to the students before delivering the questionnaire:

Background to the survey:

1. The survey relates to a study in which young people's perceptions of the wood products industry are examined.
2. In this study the wood products industry consists of sawmilling, wood-based panels, joinery, house-building industry and the manufacturing of furniture.
3. For the implementation of this survey, a sample of schools have been selected randomly among comprehensive schools and vocational schools. Your school has been selected for this sample.
4. All the information in the questionnaires is anonymous and confidential. In addition, no information is connected to a particular school.
5. Every questionnaire, carefully filled out, is valuable for the study.

Filling out the questionnaire:

6. In the questionnaire you are asked, what kind of perceptions you have of the wood products industry in Finland.
7. Your perceptions can be based partly on facts and your own observations, but also on disconnected and casual information, perceptions, feelings and hearsay.
8. Also, the questions related to the background factors at the beginning of the questionnaire are important for the study.
9. It is very important that you answer all of the questions and propositions in the questionnaire, even though some of them might seem very similar to one other.
10. Filling out the questionnaire requires some concentration, but it will take less than a half an hour.

Sinikka Mynttinen, the researcher, thanks you for your cooperation in the implementation of the study.

The results of the study will be sent to the schools involved in the survey, in due course.

## **QUESTIONNAIRE**

In this study, the wood products industry consists of sawmilling, wood-based panels, joinery, builders' joinery, and manufacturing of furniture. All the information provided in this questionnaire is highly confidential.

- A. In the following questions, you are asked what kind of perceptions you have about the wood products industry in Finland. These perceptions can be based partly on facts and your own observations, but also on disconnected and casual information, perceptions, feelings, hearsay.
- B. Please, try to answer each question on the basis of your very first impression.
- C. You might think that the differences between some questions are extremely small. Nevertheless, it is very important that all the questions are answered.

### Background

1. I am a
  - ( ) female student
  - ( ) male student
2. During my last year at comprehensive school I lived in the province of
  - ( ) Southern Finland
  - ( ) Eastern Finland
  - ( ) Western Finland
  - ( ) Oulu
  - ( ) Lapland
3. During my last year at comprehensive school I lived in
  - ( ) a rural area
  - ( ) a town
4. Does the vocational school of the district you lived in during the last year at comprehensive school have a training program relating to the wood industry?
  - ( ) Yes

- ( ) No  
 ( ) I don't know
5. Is there local wood products industry in your place of residence?  
 ( ) Yes  
 ( ) No  
 ( ) I don't know
6. Does/do your parent/s work in the wood products industry?  
 ( ) Yes  
 ( ) No
7. Have you taken a elective course of technical work or woodwork at school?  
 ( ) Yes  
 ( ) No
8. Have you been in a company of the wood products industry during the course of "Introduction to work"?  
 ( ) Yes  
 ( ) No
9. Have you visited a company of the wood products industry?  
 ( ) Yes  
 ( ) No
10. Have you worked in the wood products industry?  
 ( ) Yes  
 ( ) No

11. In your opinion, how important is the wood products industry in Finland as an industrial sector?

In my opinion, the wood products industry in Finland is

nonessential	( )	( )	( )	( )	( )	essential
insignificant	( )	( )	( )	( )	( )	significant
unimportant	( )	( )	( )	( )	( )	important
not needed	( )	( )	( )	( )	( )	needed

12. What is the personal relevance of the wood products industry for you?

The wood products industry

is irrelevant to me	( )	( )	( )	( )	( )	is relevant to me
is of no concern to me	( )	( )	( )	( )	( )	is of concern to me
does not matter to me	( )	( )	( )	( )	( )	matters to me
means nothing to me	( )	( )	( )	( )	( )	means a lot to me

13. What are your perceptions of the values of the wood products industry?  
 (Strongly disagree...Strongly agree)
- The wood products industry favors environmentally sound policies, even, when they cost more than other policies.                                    1 2 3 4 5 6
  - The wood products industry does not dismiss employees simply in order to get good return in short run.                                    1 2 3 4 5 6
  - The wood products industry works together with different

- organizations in order to contribute to the job opportunities  
for young people in their community 1 2 3 4 5 6
- The wood products industry takes into account  
environmental values in its wood supplies 1 2 3 4 5 6
- The wood products industry contributes to the people  
in need in its community 1 2 3 4 5 6
14. What is the reputation of the wood products industry regarding honesty?  
(Strongly disagree...Strongly agree)
- The wood products industry is generally found to be honest 1 2 3 4 5 6  
in its dealings
- The wood products industry is known to be reliable 1 2 3 4 5 6  
as an employer
- The wood products industry is generally considered to be  
an industrial sector with high ethical standards 1 2 3 4 5 6
- The reputation of the wood products industry concerning  
dependability is good 1 2 3 4 5 6
15. What is the reputation of the wood products industry where competence is  
concerned?  
(Strongly disagree...Strongly agree)
- The quality of the products of the wood products industry is  
known to be high 1 2 3 4 5 6
- The wood products industry is known for its investments in  
new technology 1 2 3 4 5 6
- Know-how is generally considered to be high within  
the wood products industry. 1 2 3 4 5 6
- The wood products industry is known to be an employer  
with high competence 1 2 3 4 5 6
16. What is the reputation of the wood products industry regarding fairness?  
(Strongly disagree...Strongly agree)
- The wood products industry is known to be responsible  
for the environment 1 2 3 4 5 6
- The wood products industry has a reputation for being fair 1 2 3 4 5 6
- The wood products industry is known to work for permanent  
employment 1 2 3 4 5 6
- The wood products industry is found to be active 1 2 3 4 5 6  
in its community policies
- The wood products industry is known to offer training  
opportunities for young people 1 2 3 4 5 6
17. What kind of values should direct the activities of companies  
Strongly disagree...Strongly agree)
- Organizations should favour environmentally sound policies,  
even, when they cost more than other policies 1 2 3 4 5 6
- Industrial companies should not dismiss employees just to  
get a good return in short run 1 2 3 4 5 6

- |  |             |
|--|-------------|
| - Industrial companies should work together with different organizations in order to contribute to the job opportunities for young people in their community | 1 2 3 4 5 6 |
| - Organizations should take environmental values into account when supplying raw material  | 1 2 3 4 5 6 |
| - Organizations should contribute to the people in need in their community   | 1 2 3 4 5 6 |
| <br>18. How sufficient and accurate is communication of the mass media in respect to the wood products industry?<br>(Strongly disagree...Strongly agree)     |             |
| - The messages in mass media concerning the wood products industry are compatible with reality   | 1 2 3 4 5 6 |
| - Positive messages in mass media concerning the wood products industry are more common than negative ones   | 1 2 3 4 5 6 |
| - There is enough information concerning the wood products industry in mass media  | 1 2 3 4 5 6 |
| - The information concerning the wood products industry in mass media is consistent with brochures from the industry sector                                  | 1 2 3 4 5 6 |
| - There are enough brochures at hand about the wood products industry  | 1 2 3 4 5 6 |
| - The wood products industry is active in sending information to young people  | 1 2 3 4 5 6 |
| <br>19. How sufficient and accurate is interactive communication concerning the wood products industry?<br>(Strongly disagree...Strongly agree)              |             |
| - There are enough excursions and other events organized by the wood products industry   | 1 2 3 4 5 6 |
| - The wood products industry has been sufficiently introduced in discussions with the student counselor at school, when planning for future studies          | 1 2 3 4 5 6 |
| - Interactive www-pages have turned out to be useful in the websites of the wood products industry   | 1 2 3 4 5 6 |
| - The information given by different persons about the wood products industry is more positive than negative   | 1 2 3 4 5 6 |
| - The information given by the representatives of the wood products industry is consistent with other sources  | 1 2 3 4 5 6 |
| - The information given by different persons about the wood products industry is consistent with reality   | 1 2 3 4 5 6 |
| <br>20. How reliable do you perceive the wood products industry to be?<br>(Strongly disagree...Strongly agree)   |             |
| - The promises of the wood products industry are reliable  | 1 2 3 4 5 6 |
| - The wood products industry is honest in its dealings with employees  | 1 2 3 4 5 6 |
| - The wood products industry is sincere in its actions   | 1 2 3 4 5 6 |

- when problems arise
- The wood products industry is consistent in its words and actions 1 2 3 4 5 6
- The wood products industry is able to offer challenging tasks to its employees 1 2 3 4 5 6
- The wood products industry is able to offer possibilities to advance in career 1 2 3 4 5 6
- The wood products industry is able to offer continuous employment 1 2 3 4 5 6
- The wood products industry is able to pay competitive salaries 1 2 3 4 5 6
- The wood products industry of Finland possesses high competence in its field 1 2 3 4 5 6
21. To what extent does the wood products industry invest in the needs or interests of young people?  
 (Strongly disagree...Strongly agree)
- The wood products industry pursue to make the field known to young people 1 2 3 4 5 6
- The wood products industry sponsors issues and events that are significant for young people 1 2 3 4 5 6
- The wood products industry contributes to vocational education in the field 1 2 3 4 5 6
- The wood products industry makes investments in the welfare of employees 1 2 3 4 5 6
- The wood products industry makes investments in the improvement of young employees' skills 1 2 3 4 5 6
- The wood products industry offers opportunities for practical training 1 2 3 4 5 6
22. To what extent is the wood products industry actively involved in improving economic and social well-being in the community, as well as, topical issues relevant to young people?  
 (Strongly disagree...Strongly agree)
- The wood products industry is involved in recruitment fairs and events 1 2 3 4 5 6
- The wood products industry is active in its cooperation with comprehensive schools 1 2 3 4 5 6
- The wood products industry is present in connection with issues relevant to young people 1 2 3 4 5 6
- The wood products industry is involved in actions that promote the welfare of the local community 1 2 3 4 5 6
- The wood products industry is involved in environmental affairs 1 2 3 4 5 6
- The wood products industry does not cause inconveniences to the community 1 2 3 4 5 6
- The wood products industry makes an effort to protect the environment 1 2 3 4 5 6

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - The wood products industry takes care of the safety of employees   | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. To what extent is the wood products industry committed to young people?<br>(Strongly disagree...Strongly agree)          |   |   |   |   |   |   |
| - The wood products industry is committed to create continuous employment for young people                                   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is committed to its skilled, young employees  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is sensitive to the opinions of its young employees   | 1 | 2 | 3 | 4 | 5 | 6 |
| - It easy for young people to obtain a training placement within the wood products industry                                  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry encourages young employees  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry shows commitment to make it easy for young people to gain entry into the field                  | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. To what extent is the wood products industry open in its information disclosure?<br>(Strongly disagree...Strongly agree) |   |   |   |   |   |   |
| - The wood products industry is open about its plans for the future  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry informs the audience openly about negative news   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry gives the audience information concerning the steps of progress in the field                    | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is open about its environmental policies  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is open about its economic state  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry provides young people with timely information   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry does not hold back information  | 1 | 2 | 3 | 4 | 5 | 6 |
| 25. To what extent do you perceive the wood products industry as a credible actor?<br>(Strongly disagree...Strongly agree)   |   |   |   |   |   |   |
| - Promises made by the wood products industry are reliable   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is frank in its dealings  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is honest about problems if they arise  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is consistent in terms of its policies  | 1 | 2 | 3 | 4 | 5 | 6 |
| - The products of the wood products industry are of high quality   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry is capable of carrying out its promises   | 1 | 2 | 3 | 4 | 5 | 6 |
| - The wood products industry has enough resources to accomplish its aims and obligations                                     | 1 | 2 | 3 | 4 | 5 | 6 |

26. To what extent do you perceive the wood products industry to be a benevolent actor?

(Strongly disagree...Strongly agree)

- The wood products industry offers young people

opportunities to visit the plants 1 2 3 4 5 6

- The wood products industry is actively involved in  
educational events organized for young people 1 2 3 4 5 6

- The wood products industry arranges adequate opportunities  
for practical training 1 2 3 4 5 6

- The wood products industry takes a lot of trouble to make  
it easier for young people to gain employment in the field 1 2 3 4 5 6

- The wood products industry treats young people  
fairly and justly 1 2 3 4 5 6

27. How satisfied are you with the wood products industry?

(Strongly disagree...Strongly agree)

- I am satisfied with the activities of the wood  
products industry 1 2 3 4 5 6

- I am satisfied with trustworthiness of the wood  
products industry 1 2 3 4 5 6

28. How satisfied are you with the wood products industry compared to other  
industrial branches?

When comparing the wood products industry to other industrial branches, I am...

more dissatisfied ( ) ( ) ( ) ( ) ( ) more satisfied

Do you intend to study or work within the wood products industry?

Yes ( )

No ( )

I don't know ( )

Thank you for your answers!

**Appendix 4:** The list of variables used in final analysis.

Number	Name	Type / Explanation
1	SCHOOL	School type
2	GENDER	Gender
3	PROVINCE	Province
4	PLACE	Place of residence
5	PROGRWO	Program of wood industry
6	WOODIND	Local wood products industry
7	PARENTS	Parents working in the sector
8	WOODWORK	Volunteer wood work
9	WORKLIFE	Introduction to work-course
10	VISIT	Visit to wood products industry
11	TRAINING	Working in wood products industry
12	NECESSFI	Necessity in Finland
13	RELEVAFI	Relevance in Finland
14	IMPORTFI	Importance in Finland
15	USEFULFI	Usefulness in Finland
16	USEFULME	Usefulness for me
17	IMPORTME	Importance for me
18	NECESSME	Necessity for me
19	RELEVAME	Relevance for me
20	VALUENWP	Environmental policies of wood industry
21	VALUEMWP	Employment policy of wood industry
22	VALUCOWP	Contribution to job opportunities by wood industry
23	VALURAWP	Environmental values in raw wood supply of wood industry
24	VALUNEWP	Community policy of wood industry
25	REPHONEST	Reputation of honesty
26	REPRELIAB	Reputation of reliability as an employer
27	REPETHIC	Reputation of ethical standards
28	REPDEPEN	Reputation of dependability
29	REPQUALI	Reputation of product quality
30	REPTECHO	Reputation of investing in technology
31	REPKNOW	Reputation of know-how
32	REPCOMP	Reputation of competence as an employer
33	REPENVIR	Reputation of environmental issues
34	REPFAIRN	Reputation of being fair
35	REPEMPLO	Reputation of long term employment
36	REPCOMPO	Reputation of community policy
37	REPTRAIN	Reputation of training opportunities

<b>Number</b>	<b>Name</b>	<b>Type / Explanation</b>
38	VALUENCO	Values of environmental policy of companies
39	VALUEMCO	Values of employment policy of companies
40	VALUCOCO	Values of contribution to job opportunities by companies
41	VALURACO	Values of raw material supply
42	VALUNECO	Values of community policy of companies
43	PUMEREAL	Messages in mass media compatible with reality
44	PUMEPOSI	Positive messages in mass media
45	PUMEENOU	Enough information in mass media
46	PUMECONS	Consistent information in mass media
47	BROCENOU	Enough brochures
48	WPSENDIN	Activity in sending information to young people
49	EXCUENOU	Enough excursions
50	DISTUENOU	Discussions with student counselor
51	INTERUSE	Usefulness of Internet
52	PERSPOSI	Positive information from different persons
53	REPRCONS	Consistent information from representatives of wood industry
54	PERSREAL	Interactive information consistent with reality
55	PROMREL	Reliability of promises
56	HONEEMPL	Honesty with employees
57	SINCPROB	Sincerity in problem situations
58	CONSISTE	Consistency in words and actions
59	CHALTASK	Challenging tasks
60	ADVCAREER	Possibilities to advance in career
61	CONTEMPL	Continuous employment
62	COMPSALA	Competitive salaries
63	HIGHCOMP	High competence
64	MAKEKNOW	Making the field known to young people
65	ISSUIMPORT	Sponsoring of issues significant to young people
66	VOCATEDU	Investments in vocational education
67	WELFAREM	Contribution to well being of employees
68	IMPRSKILL	Investments in skilfulness of young people
69	TRAINOPPO	Offering opportunities for training
70	RECRUFAIR	Involvement in events and fairs
71	COOPSCHO	Cooperation with comprehensive schools
72	RELISSUES	Involvement in issues relevant for young people
73	WELFARCO	Involvement in community welfare
74	ENVIROAFF	Active in environmental issues
75	COMMRELA	Inconveniences for community
76	ENVIRPROT	Environment protection
77	SAFEEMPL	Safety of employees
78	LONGEMPL	Long term employment
79	COMSKILLE	Commitment to skilled young people
80	SENSOPIN	Sensitive to opinions of young people

<b>Number</b>	<b>Name</b>	<b>Type / Explanation</b>
81	TRAINPLAC	Commitment to provide training opportunities
82	ENCOURAG	Encouragement of young employees
83	EASYTOFIE	Commitment to get young people into the field
84	OPENPLAN	Openness about plans of the future
85	OPENNEGA	Openness about negative news
86	PROGSTEP	Openness about progress in the field
87	ENVIPOLIC	Openness about environmental issues
88	ECONSTAT	Openness about the state of economy
89	TIMEINFOR	Openness about timely information
90	HOLDINFO	Holding back of information
91	RELIPROM	Reliable promises
92	FAIRNESS	Frankness in dealings
93	HONEPROB	Honesty about problems
94	CONSISTEN	Consistency in policies
95	HIGHQUALI	High quality products
96	COMPETEN	Capability to carry out promises
97	RESOURCE	Enough resources to accomplish obligations
98	VISITOPPOR	Visiting opportunities for young people
99	EDUFARES	Involvement in educational events
100	TRAINYOUN	Opportunities enough for practical training
101	EMPLYOUNG	Efforts to get young people into the field
102	JUSTYOUNG	Just to young people
103	SATISACTIV	Satisfaction with activities of wood industry
104	SATISTRUS	Satisfaction with trustworthiness of wood industry
105	SATISCOMP	Satisfaction compared with other industries
106	INTENTIONS	Intentions to study or work

**Appendix 5:** Transformation of the variables concerning the existence of the wood industry programs and mills.

Students N = 613	<b>Local wood industry program</b>		<b>Wood products industry in the neighborhood</b>	
	Original	Transformed	Original	Transformed
Yes	218	175	397	397
No	221	169	42	-
I don't know	174	269	174	216

It appeared that there were opinions of the last year students concerning the existence of the wood industry programs and mills, which did not correspond to reality. Consequently, the answers were revised by replacing the wrong answers, either “yes” or “no”, by unawareness (“I don’t know”). Also, a few opinions among the students of vocational education denying the existence of the wood industry in the neighborhood were revised into unawareness on the basis of existence of some kind of wood products industry in every neighborhood. Thus, the variable was recoded to consist of two categories: “yes” and “I don’t know”.

**Appendix 6:** Frequencies of the background variables and intentions.

	<b>N = 613</b>	
<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Female	220	36 %
Male	393	64 %
<b>Province of Finland</b>		
Southern Finland	207	34 %
Western Finland	216	35 %
Eastern Finland	56	9 %
Oulu	82	13 %
Lapland	52	9 %
<b>Place of residence</b>		
Rural area	332	54 %
Town	281	46 %
<b>Program of wood industry</b>		
Yes	175	28 %
No	169	28 %
I don't know	269	44 %
<b>Local wood products industry</b>		
Yes	397	65 %
I don't know	216	35 %
<b>Parents working in the sector</b>		
Yes	41	7 %
No	572	93 %
<b>Volunteer wood work</b>		
Yes	360	59 %
No	253	41 %
<b>Introduction to work-course</b>		
Yes	69	11 %
No	544	89 %
<b>Visit to wood products industry</b>		
Yes	232	38 %
No	381	62 %
<b>Working in wood products industry</b>		
Yes	86	14 %
No	527	86 %
<b>Intentions to study or work in wood products industry</b>		
Yes	146	24 %
No	273	44 %
I don't know	194	32 %

**Appendix 7:** Correlation matrix of variables describing familiarity with the wood products industry. (Correlations,  $p < .01$ , in bold type,  $N = 613$ ).

Local wood products industry		1.000				
Volunteer wood work	<b>0.21</b>		1.000			
Introduction to work-course	<b>0.21</b>	<b>0.25</b>		1.000		
Visit to wood products industry	<b>0.31</b>	<b>0.33</b>	<b>0.37</b>		1.000	
Working in wood products industry	<b>0.23</b>	<b>0.26</b>	<b>0.57</b>	<b>0.48</b>		1.000
	Local wood products industry	Volunteer wood work	Introduction to work-course	Visit to wood products industry	Working in wood products industry	

In addition to correlations, also cross tabulations between the five variables, which were suggested to describe familiarity with the wood industry, supported the formation of a summated variable.

**Appendix 8:** Familiarity with the wood products industry by school type and background variables.

<b>Students N=613</b>		<b>Familiarity with wood industry</b>				
		Not familiar	Fairly familiar	Familiar	Total	
1. School type						
Comprehensive school	425	61	33	6	100	
Vocational school	188	15	52	33	100	
$\chi^2 = 139.36$ df= 2 p<.000						
2. Gender						
Female	220	77	21	2	100	
Male	393	30	49	21	100	
$\chi^2 = 131.51$ df= 2 p<.000						
3. Place of residence						
Rural area	332	41	42	17	100	
Town	281	52	37	11	100	
$\chi^2 = 9.11$ df= 2 p<.010						
4. Parents working in the sector						
"Yes"	41	15	46	39	100	
"No"	572	49	39	12	100	
$\chi^2 = 29.78$ df= 2 p<.000						
5. Awareness of wood industry programs						
"Yes"	175	44	43	13	100	
"No"	169	31	43	26	100	
"I don't know"	269	58	34	8	100	
$\chi^2 = 46.47$ df= 4 p<.000						
<b>Familiarity total %</b>		47	39	14	100	

**Appendix 9:** Awareness of the wood industry programs in the neighborhood by background variables and familiarity of the wood industry.

<b>Students N=613</b>		<b>"There is a program of wood industry in the local vocational school"</b>				<b>Total</b>
		"Yes"	"No"	"I don't know"		
	n	%	%	%	%	%
<b>1.</b>						
Comprehensive school	425	23	20	57	100	
Vocational school	188	40	45	15	100	
$\chi^2 = 94.13$ df= 2 p<.000						
<b>2.</b>						
Southern-Finland	207	34	18	48	100	
Western-Finland	216	17	42	41	100	
Eastern-Finland	56	39	29	32	100	
Oulu	82	35	23	42	100	
Lapland	52	33	9	58	100	
$\chi^2 = 53.75$ df= 8 p<.000						
<b>3.</b>						
Rural area	332	19	35	46	100	
Town	281	40	18	42	100	
$\chi^2 = 39.30$ df= 2 p<.000						
<b>4.</b>						
Yes	41	24	44	32	100	
No	572	29	276	45	100	
$\chi^2 = 6.00$ df= 2 p<.050						
<b>5.</b>						
Not familiar	286	27	18	55	100	
Fairly familiar	241	32	30	38	100	
Familiar	86	26	51	23	100	
$\chi^2 = 46.47$ df= 4 p<.000						
<b>Awareness of wood industry program, total %</b>		28	28	44	100	

**Appendix 10:** Means and standard deviations of the relational variables.

<b>Relational variable</b>	<b>N = 613</b>	
	<b>Mean</b>	<b>Std. deviation</b>
Necessity in Finland	4,05	,793
Relevance in Finland	4,23	,740
Importance in Finland	4,28	,762
Usefulness in Finland	4,36	,725
Usefulness for me	3,45	1,021
Importance for me	3,49	1,033
Necessity for me	3,43	1,062
Relevance for me	3,43	,955
Environmental policies of wood industry	3,93	1,021
Employment policy of wood industry	3,52	1,171
Contribution to job opportunities by wood industry	3,57	1,069
Environmental values in raw wood supply of wood industry	3,99	1,082
Community policy of wood industry	2,88	1,206
Reputation of honesty	4,21	1,020
Reputation of reliability as an employer	4,11	,961
Reputation of ethical standards	4,18	,969
Reputation of dependability	4,18	,993
Reputation of product quality	4,65	,983
Reputation of investing in technology	4,26	1,038
Reputation of know-how	4,37	1,053
Reputation of competence as an employer	4,12	1,031
Reputation of environmental issues	3,98	1,024
Reputation of being fair	4,05	,953
Reputation of long term employment	4,07	1,030
Reputation of community policy	3,78	1,099
Reputation of training opportunities	3,82	1,199
Value of environmental policies of companies	4,78	1,184
Value of employment policy of companies	4,66	1,233
Value of contribution to job opportunities by companies	4,60	1,126
Value of environmental issues in raw material supply	4,80	1,099
Value of community policy of companies	4,10	1,360
Messages in mass media compatible with reality	4,08	,999
Positive messages in mass media	3,99	1,088
Enough information in mass media	3,58	1,069
Consistent information in mass media	3,69	1,029
Enough brochures	3,40	1,263
Information sent to young people	3,20	1,315
Enough excursions	2,87	1,254
Discussions with student counselor	3,29	1,314
Usefulness of Internet	2,74	1,351
Positive information from different persons	3,85	1,097

<b>Relational variable</b>	<b>N = 613</b>	
	<b>Mean</b>	<b>Std. deviation</b>
Consistent information from different persons	3,78	1,007
Interactive information consistent with reality	3,77	1,092
Reliability of promises	3,77	1,043
Honesty with employees	3,96	,960
Sincerity in problem situations	3,88	1,049
Consistency in words and actions	3,89	1,040
Challenging tasks	4,35	1,138
Possibilities to advance in career	4,09	1,133
Continuous employment	4,09	1,125
Competitive salaries	3,92	1,161
High competence	4,68	1,130
Making the field known to young people	3,25	1,184
Sponsoring of issues significant for young people	3,25	1,169
Investments in vocational education	3,95	1,089
Contribution to well being of employees	3,73	1,147
Investments in skilfulness of young people	3,92	1,113
Offering opportunities for training	3,95	1,251
Involvement in events and fairs	3,77	1,116
Cooperation with comprehensive schools	3,32	1,201
Involvement in issues relevant for young people	3,28	1,266
Involvement in community welfare	3,43	1,156
Active in environmental issues	3,78	1,145
Inconveniences for community	3,69	1,256
Environment protection	3,71	1,211
Safety of employees	4,13	1,123
Long term employment	3,55	1,107
Commitment to skilled young people	3,68	1,111
Sensitive to opinions of young people	3,46	1,167
Commitment to provide training opportunities	3,65	1,204
Encouragement of young employees	3,75	1,072
Commitment to get young people into the field	3,75	1,130
Openness about plans of the future	3,46	1,145
Openness about negative news	3,45	1,160
Openness about progress in the field	3,77	1,087
Openness about environmental issues	3,71	1,095
Openness about the state of economy	3,63	1,094
Openness about timely information	3,59	1,233
Holding back of information	3,57	1,142
Reliable promises	3,66	1,073
Frankness in dealings	3,88	1,048
Honesty about problems	3,71	1,036
Consistency in policies	3,92	1,031
High quality products	4,43	1,157

<b>Relational variable</b>	<b>N = 613</b>	
	<b>Mean</b>	<b>Std. deviation</b>
Capability to carry out promises	4,06	1,113
Enough resources to accomplish obligations	4,14	1,101
Visiting opportunities for young people	3,44	1,314
Involvement in educational events	3,42	1,223
Opportunities enough for practical training	3,55	1,204
Efforts to get young people into the field	3,59	1,166
Justness for young people	3,76	1,170
Satisfaction with activities of wood industry	4,17	1,181
Satisfaction with trustworthiness of wood industry	4,09	1,131
Satisfaction compared with other industries	4,08	,980
Value similarity in environmental policy	4,81	1,104
Value similarity in employment policy	4,50	1,264
Value similarity in job opportunities	4,67	1,156
Value similarity in raw material supply	4,79	1,128
Value similarity in community policy	4,45	1,301

**Appendix 11:** Divergence of interest groups by background variables of the students.

Students N=613		Interest group								
		Students with low personal relevance		Indifferent students		Students with general respect		Students with high personal relevance		
1. Gender		n=90		n=108		n=193		n=222		
2. Awareness of wood industry programs										
3. Familiarity with wood industry		n	Row %	Column %	Row %	Column %	Row %	Column %	Row %	Column %
1.										
Female	220	23	57	13	26	41	47	23	23	
Male	393	10	43	20	74	26	53	44	77	
$\chi^2 = 49.42$ df = 3 p<.000										
2.										
Yes	175	9	18	18	30	33	30	40	31	
No	169	11	20	18	28	25	22	46	35	
I don't know	269	21	62	17	42	34	48	28	34	
$\chi^2 = 22.68$ df = 6 p<.000										
3.										
Not familiar	407	25	78	18	49	37	55	20	26	
Fairly familiar	116	8	21	17	39	30	37	45	48	
Familiar	90	1	1	15	12	18	8	66	26	
$\chi^2 = 93.16$ df = 6 p<.000										
<b>Interest group total %</b>			15		18		31		36	

**Appendix 12:** Divergence of intentions to study or work in wood industry by background variables and interest groups.

Students N=613		Intentions to study or work in wood industry					
		Yes n=146	No n=273	I don't know n=194	Row %	Column %	Row %
<b>1. School type</b>							
<b>2. Gender</b>							
<b>3. Province</b>							
<b>4. Awareness of wood industry programs</b>							
<b>5. Familiarity with wood industry</b>							
<b>6. Interest group</b>							
	n	Row %	Column %	Row %	Column %	Row %	Column %
<b>1.</b>							
Comprehensive school	425	2	7	64	100	34	73
Vocational school	188	72	93	1	0	27	27
$\chi^2 = 387.71$ df=2 p<.000							
<b>2.</b>							
Female	220	7	10	69	56	24	27
Male	393	33	90	31	44	36	73
$\chi^2 = 94.29$ df=2 p<.000							
<b>3.</b>							
Southern Finland	207	24	34	44	33	32	34
Western Finland	216	23	34	50	39	27	30
Eastern Finland	56	16	7	54	11	30	9
Oulu	82	30	17	26	8	44	19
Lapland	52	23	8	46	9	31	8
$\chi^2 = 17.70$ df=8 p<.024							

Students N=613		Intentions to study or work in wood industry					
		Yes		No		I don't know	
1. School type		n=146		n=273		n=194	
2. Gender							
3. Province							
4. Awareness of wood industry programs							
5. Familiarity with wood industry							
6. Interest group							
	n	Row %	Column %	Row %	Column %	Row %	Column %
4.							
Yes	175	35	42	35	23	30	27
No	169	41	47	31	19	28	24
I don't know	269	6	11	59	58	35	49
$\chi^2 = 89.72$ df=4 p<.000							
5.							
Not familiar	407	8	16	67	70	25	37
Fairly familiar	116	31	51	31	27	38	48
Familiar	90	57	33	8	3	35	15
$\chi^2 = 151.27$ df=4 p<.000							
6.							
Students with low personal relevance	90	0	0	87	29	13	6
Indifferent students	108	24	18	41	16	35	20
Students with general respect	193	7	10	55	38	38	38
Students with high personal relevance	222	48	72	21	17	31	36
$\chi^2 = 178.46$ df=6 p<.000							
Intentions total %		24		44		32	

**Appendix 13:** Differences in relational perceptions by gender.

	Similarity of values		Sufficiency of recruiting communication		Accuracy of interactive communication		Involvement in issues relevant for young people		Openness of information disclosure		Benevolence	
Gender	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Female	<b>-.15</b>	.006	<b>-.11</b>	.038	<b>-.12</b>	.021	<b>-.21</b>	.000	<b>-.18</b>	.001	<b>-.19</b>	.000
Male	<b>.08</b>		<b>.06</b>		<b>.07</b>		<b>.12</b>		<b>.10</b>		<b>.11</b>	

**Appendix 14:** Differences in relational perceptions between students living in different provinces of Finland.

Provinces of Finland	Investments in young people's skills		Involvement in socially responsible activities	
	Mean	F-Prob<	Mean	F-Prob<
Southern Finland	<b>-.05</b>	.000	<b>-.14</b>	.027
Western Finland	<b>-.13</b>	.032	<b>.16</b>	
Eastern Finland	<b>.08</b>	.000	<b>-.20</b>	
Oulu	<b>.01</b>	.003	<b>.12</b>	
Lapland	<b>.64</b>		<b>-.09</b>	

**Appendix 15:** Differences in relational perceptions by place of residence.

	Sufficiency of recruiting communication		Credibility		Benevolence	
Place of residence	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Rural area	.11	.004	-.09	.017	.09	.014
Town	-.13		.10		-.11	

**Appendix 16:** Differences in relational perceptions by the background variable “parent’s working in the sector”.

	Sufficiency of recruiting information		Involvement in issues relevant for young people	
Parents working in the sector	Mean	F-Prob<	Mean	F-Prob<
Yes	.37	.004	.45	.003
No	-.03		-.03	

**Appendix 17a:** Differences in relational perceptions by awareness of the programs of wood industry in the neighborhood.

	Reputation of technical competence		Reputation of technical competence		Accuracy of interactive communication		Accuracy of interactive communication	
Awareness of programs of wood industry	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Yes	.13	.008	.13		.12	.011	.12	
No	.12		.12	.011	.14		.14	.006
I don't know	-.16		-.16		-.16		-.16	

**Appendix 17b:** Differences in relational perceptions by awareness of the programs of wood industry in the neighborhood.

	Investments in young people's skills		Investments in young people's skills		Credibility		Benevolence		Satisfaction		Satisfaction	
Awareness of programs of wood industry	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Yes	.16	.004	.16		.15	.006	.07		.14	.002	.14	
No	.08		.08	.045	.08		.14	.018	.15		.15	.001
I don't know	-.15		-.15		-.15		-.13		-.19		-.19	

**Appendix 18a:** Differences in relational perceptions by familiarity with the wood products industry.

	Reputation of employer reliability and fairness		Reputation of technical competence		Sufficiency of recruiting communication		Sufficiency of recruiting communication		Accuracy of interactive communication		Accuracy of interactive communication	
Familiarity with wood industry	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Familiar	.33	.000	.20	.029	.19	.015	.19	.007	.40	.000	.40	.000
Fairly familiar	.06		.07		.11		.11		.14		.14	
Not familiar	-.15		-.12		-.15		-.15		-.24		-.24	

**Appendix 18b:** Differences in relational perceptions by familiarity with the wood products industry.

	Openness of information disclosure		Openness of information disclosure		Involvement in issues relevant for young people		Involvement in issues relevant for young people	
Familiarity with wood industry	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Familiar	.23	.008	.23	.027	.26	.000	.26	.000
Fairly familiar	.09		.09		.14		.14	
Not familiar	-.14		-.14		-.20		-.20	

**Appendix 18c:** Differences in relational perceptions by familiarity with the wood products industry.

	Investments in young people's skills		Credibility		Satisfaction		Satisfaction		
	Familiarity with wood industry	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
Familiar	.25	.015		.29	.015	.42	.000	.42	.000
Fairly familiar	.14			.06		.18		.18	
Not familiar	-.10			-.13		-.28		-.28	

**Appendix 19a:** Divergence of perceptions of relationship antecedents by the interest group.

	Reputation of employer reliability and fairness		Reputation of technical competence		Similarity of values		Sufficiency of recruiting communication		Accuracy of interactive communication		Information in public media	
Interest group 1-4	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
1. Students with low personal relevance	-.41	1-3 p<.023 1-4 p<.000	-.44	1-3 p<.004 1-4 p<.000	-.12		-.21		-.48	1-3 p<.006 1-4 p<..000	-.28	1-4 p<.000
2. Indifferent students	-.24	2-4 p<.000	-.30	2-4 p<.000	.21	2-3 p<.010	.07		-.19	2-4 p<.000	-.21	2-4 p<.000
3. Students with general respect	-.05	3-4 p<.000	-.03	3-4 p<.000	-.16		-.08		-.08	3-4 p<.000	-.07	3-4 p<.002
4. Students with high personal relevance	.33		.35		.09		.12		.35		.27	

**Appendix 19b:** Divergence of perceptions concerning the dimensions of organization-public relationship by the interest group.

	Reliability as an employer		Openness of information disclosure		Involvement in issues relevant for young people		Commitment to employ young people		Investments in young people's skills		Involvement in socially responsible activities	
Interest group 1-4	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
1. Students with low personal relevance	-.37	1-3 p<.014 1-4 p<.000	-.17		-.40	1-2 p<.000 1-4 p<.000	-.26	1-4 p<.022	-.28	1-4 p<.000	-.00	
2. Indifferent students	-.36	2-3 p<.009 2-4 p<.000	.08		.20	2-3 p<.027	-.10		-.34	2-3 p<.042 2-4 p<.000	.05	
3. Students with general respect	.01	3-4 p<.007	-.04		-.13	3-4 p<.006	.07		-.02	3-4 p<.005	-.06	
4. Students with high personal relevance	.32		.06		.18		.10		.30		.03	

**Appendix 19c:** Divergence of perceptions concerning the dimensions of trustworthiness and consequence by the interest group.

Interest group 1-4	Credibility		Benevolence		Satisfaction	
	Mean	F-Prob<	Mean	F-Prob<	Mean	F-Prob<
1. Students with low personal relevance	-.39	1-3 p<.003 1-4 p<.000	-.51	1-2 p<.003 1-3 p<.004 1-4 p<.000	-.49	1-3 p<.002 1-4 p<.000
2. Indifferent students	-.28	2-3 p<.031 2-4 p<.000	-.02	2-4 p<.034	-.35	2-4 p<.000
3. Students with general respect	.05		-.08	3-4 p<.001	-.06	3-4 p<.000
4. Students with high personal relevance	.25		.29		.42	

**Appendix 20:** Weights of indicators in the PLS modeling.

<b>Indicators of constructs</b>	<b>Less interested students</b>		<b>Highly interested students</b>	
	<b>Original sample estimate</b>	<b>t-value</b>	<b>Original sample estimate</b>	<b>t-value</b>
<b>Reputation of employer reliability and fairness</b>				
Reputation of honesty	0.199	1.420	0.573	0.079
Reputation of reliability as an employer	0.305	2.051	0.102	0.892
Reputation of ethical standards	0.124	0.894	0.123	1.091
Reputation of dependability	0.028	0.222	0.079	0.688
Reputation of competence as an employer	0.143	1.120	0.105	1.163
Reputation of environmental issues	-0.003	0.028	0.010	0.087
Reputation of being fair	0.234	1.592	0.425	3.630
Reputation of long term employment	0.209	1.858	0.152	1.500
Reputation of community policy	0.121	0.813	0.330	2.846
Reputation of training opportunities	0.300	2.705	0.420	2.769
<b>Reputation of technical competence</b>				
Reputation of product quality	0.296	1.626	0.349	2.790
Reputation of investing in technology	0.399	1.815	0.504	3.251
Reputation of know-how	0.524	2.494	0.405	2.793
<b>Similarity of values</b>				
Value similarity in environmental policy	0.184	0.926	-0.046	0.158
Value similarity in employment policy	0.060	0.269	0.092	0.395
Value similarity in job opportunities	0.360	2.043	-0.030	0.111
Value similarity in raw material supply	0.408	1.952	0.937	3.901
Value similarity in community policy	0.528	3.256	0.182	0.745
<b>Information in public media</b>				
Messages in mass media compatible with reality	0.520	4.089	0.296	2.456
Positive messages in mass media	0.116	0.721	0.392	3.634
Enough information in mass media	0.377	3.127	0.308	2.649
Consistent information in mass media	0.449	3.330	0.437	3.854
<b>Sufficiency of recruiting communication</b>				
Enough brochures	0.135	0.436	0.197	0.976
Information sent to young people	0.509	2.369	0.116	0.667
Enough excursions	0.667	3.255	0.484	2.741
Discussions with student counselor	-0.035	0.107	0.411	2.135

<b>Indicators of constructs</b>	<b>Less interested students</b>		<b>Highly interested students</b>	
	<b>Original sample estimate</b>	<b>t-value</b>	<b>Original sample estimate</b>	<b>t-value</b>
<b>Accuracy of interactive information</b>				
Usefulness of Internet	0.346	2.509	0.595	4.384
Positive information from different persons	0.330	1.871	0.390	3.691
Consistent information from different persons	0.129	0.601	0.218	1.616
Interactive information consistent with reality	0.552	3.624	0.140	0.921
<b>Credibility of wood industry</b>				
Reliable promises	0.498	4.577	0.217	1.788
Frankness in dealings	0.025	0.196	0.210	1.877
Honesty about problems	0.192	2.204	0.308	3.013
Consistency in policies	0.085	1.018	0.113	1.131
High quality products	0.088	0.915	0.083	0.704
Capability to carry out promises	0.227	2.455	0.124	1.150
Enough resources to accomplish obligations	0.174	1.637	0.216	1.821
<b>Benevolence of wood industry</b>				
Visiting opportunities for young people	0.016	0.093	0.391	3.749
Involvement in educational events	0.227	1.469	-0.024	0.188
Opportunities enough for practical training	0.413	2.633	0.298	2.860
Efforts to get young people into the field	0.139	0.786	-0.044	0.353
Justness for young people	0.421	2.597	0.538	5.056
<b>Satisfaction</b>				
Satisfaction with activities of wood industry	0.482	3.503	0.534	4.252
Satisfaction with credibility of wood industry	0.604	4.572	0.567	4.651
<b>Satisfaction compared with other industries</b>	1.000	0.000	1.000	0.000
<b>Intentions</b>	1.000	0.000	1.000	0.000

**Appendix 21a:** Item correlations of reputation of technical competence.

	Less Interested	Highly Interested	Less Interested	Highly Interested	
Reputation of product quality					
Reputation of investing in technology		<b>.499</b>	<b>.413</b>		
Reputation of know-how		<b>.515</b>	<b>.425</b>	<b>.482</b>	<b>.479</b>
	Reputation of product quality		Reputation of investing in technology		Reputation of know-how

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21b:** Item correlations of reputation of employer reliability and fairness. (Less interested = Li, Highly interested = Hi)

	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	
Reputation of honesty																			
Reputation of reliability as an employer		.584		.515															
Reputation of ethical standards			.467		.546	.578	.500												
Reputation of dependability				.559	.586	.498	.528	.552	.602										
Reputation of competence as an employer					.235	.369	.391	.457	.381	.421	.539	.437							
Reputation of environmental issues						.413	.404	.407	.441	.436	.508	.409	.441	.315	.348				
Reputation of being fair							.455	.506	.531	.467	.479	.462	.379	.528	.390	.375	.609	.644	

	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi		
Reputation of long term employment																				
	.355	<b>.429</b>	.339	<b>.483</b>	.455	<b>.448</b>	.517	<b>.490</b>	.457	<b>.478</b>	.464	<b>.472</b>	.495	<b>.625</b>						
Reputation of community policy																				
	<b>.362</b>	.375	<b>.457</b>	.321	<b>.440</b>	.407	.348	.355	.366	.346	.435	.452	.532	.426	.401	<b>.462</b>				
Reputation of training opportunities																				
	.276	.317	.318	<b>.235</b>	.294	.236	.245	.261	.307	.264	.289	.317	.354	.311	.352	.335	.393	<b>.442</b>		
	Reputation of honesty	Reputation of reliability as an employer	Reputation of ethical standards	Reputation of dependability	Reputation of competence as an employer	Reputation of environmental issues	Reputation of being fair	Reputation of long term employment	Reputation of community policy	Reputation of training opportunities										

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21c:** Item correlations of value similarity.

	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested		
Value similarity in environmental policy										
Value similarity in employment policy	.165*	.221**								
Value similarity in job opportunities	.181*	.207**	.302**	.337**						
Value similarity in raw material supply	.422**	.453**	.248**	.376**	.365**	.264**				
Value similarity in community policy	.187**	.266**	.296**	.160*	.260**	.121	.420**	.209**		
	Value similarity in environmental policy	Value similarity in employment policy	Value similarity in job opportunities	Value similarity in raw material supply	Value similarity in community policy					

\* Correlations significant at the 0.05 level (2-tailed)

\*\* Correlations significant at the 0.01 level (2-tailed)

**Appendix 21d:** Item correlations of sufficiency of recruiting communication.

	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested		
Enough brochures								
Activity in sending information to young people	<b>.648</b>	<b>.608</b>						
Enough excursions	<b>.364</b>	<b>.458</b>	<b>.427</b>	<b>.575</b>				
Discussions with students counselor	<b>.427</b>	<b>.543</b>	<b>.420</b>	<b>.550</b>	<b>.637</b>	<b>.566</b>		
	Enough brochures	Activity in sending information to young people	Enough excursions	Discussions with student counselor				

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21e.** Item correlations of accuracy of interactive communication.

	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested		
Usefulness of Internet								
Positive information from different persons	<b>.288</b>	<b>.296</b>						
Consistent information from representatives of wood industry		<b>.305</b>	<b>.349</b>	<b>.385</b>	<b>.351</b>			
Interactive information consistent with reality		<b>.279</b>	<b>.353</b>	<b>.416</b>	<b>.428</b>	<b>.460</b>	<b>.550</b>	
	Usefulness of internet	Positive information from different persons	Consistent information from representatives of wood industry	Interactive information consistent with reality				

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21f:** Item correlations of information in public media.

	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested		
Messages in public media compatible with reality								
Positive messages in public media	.451	.368						
Enough information in public media	.203	.322	.183	.231				
Consistent information in public media	.282	.374	.389	.272	.263	.312		
	Messages in public media compatible with reality	Positive messages in public media	Enough information in public media	Consistent information in public media				

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21g:** Item correlations of credibility. (Less interested = Li, Highly interested = Hi)

	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi	Li	Hi		
Reliable promises																
Frankness in dealings	<b>.617</b>	<b>.681</b>														
Honesty about problems	<b>.482</b>	<b>.606</b>	<b>.529</b>	<b>.634</b>												
Consistency in policies	<b>.524</b>	<b>.573</b>	<b>.559</b>	<b>.661</b>	<b>.508</b>	<b>.619</b>										
High quality products	<b>.422</b>	<b>.451</b>	<b>.465</b>	<b>.462</b>	<b>.368</b>	<b>.340</b>	<b>.452</b>	<b>.494</b>								
Capability to carry out promises	<b>.519</b>	<b>.553</b>	<b>.469</b>	<b>.489</b>	<b>.398</b>	<b>.494</b>	<b>.554</b>	<b>.479</b>	<b>.416</b>	<b>.520</b>						
Enough resources to accomplish obligations	<b>.485</b>	<b>.499</b>	<b>.472</b>	<b>.519</b>	<b>.455</b>	<b>.460</b>	<b>.421</b>	<b>.519</b>	<b>.504</b>	<b>.569</b>	<b>.544</b>	<b>.551</b>				
	Reliable promises	Frankness in dealings	Honesty about problems	Consistency in policies	High quality products	Capability to carry out promises	Enough resources to accomplish obligations									

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21h:** Item correlations of benevolence.

	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested	Less interested	Highly interested		
Visiting opportunities for young people										
Involvement in educational events		<b>.683</b>		<b>.672</b>						
Opportunities enough for practical training			<b>.605</b>		<b>.619</b>		<b>.613</b>		<b>.628</b>	
Efforts to get young people into the field				<b>.492</b>		<b>.605</b>		<b>.540</b>		<b>.642</b>
Justness for young people					<b>.419</b>		<b>.556</b>		<b>.484</b>	
	Visiting opportunities for young people	Involvement in educational events		Opportunities enough for practical training		Efforts to get young people into the field		Justness for young people		

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 21i:** Item correlations of satisfaction.

	Less interested	Highly interested	Less interested	Highly interested	
Satisfaction with activities of wood industry					
Satisfaction with trustworthiness of wood industry		<b>.693</b>	<b>.649</b>		
Satisfaction compared with other industries		<b>.466</b>	<b>.451</b>	<b>.425</b>	<b>.431</b>
	Satisfaction with activities of wood industry		Satisfaction with trustworthiness of wood industry		Satisfaction compared with other industries

Correlations significant at the 0.01 level (2-tailed) in bold.

**Appendix 22a:** Bivariate correlation matrix: Dimensions of organization-public relationship and dimensions of trustworthiness among the less interested students.

Reliability as an employer		1.000							
Openness of information disclosure		.031	1.000						
Involvement in issues relevant for young people		-.119	-.051	1.000					
Commitment to get young employees		-.025	-.101	.041	1.000				
Investments in young people's skills		-.200**	-.013	-.036	-.078	1.000			
Involvement in socially responsible activities		-.030	-.087	.043	-.043	.065	1.000		
Credibility		<b>.393**</b>	<b>.421**</b>	-.023	.107	.146**	<b>.277**</b>	1.000	
Benevolence		-.091	.137	<b>.493**</b>	<b>.369**</b>	<b>.161*</b>	.038	-.122	1.000
	Reliability as an employer	Openness of information disclosure	Involvement in issues relevant for young people	Commitment to get young employees	Investments in young people's skills	Involvement in socially responsible activities	Credibility	Benevolence	

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Appendix 22b:** Bivariate correlation matrix: Dimensions of organization-public relationship and dimensions of trustworthiness among the highly interested students.

Reliability as an employer		1.000						
Openness of information disclosure		-.078	1.000					
Involvement in issues relevant for young people		.047	.025	1.000				
Commitment to get young employees		-.135*	.094	-.047	1.000			
Investments in young people's skills		-.022	-.003	.058	.036	1.000		
Involvement in socially responsible activities		.088	.101	.007	-.024	-.152*	1.000	
Credibility		<b>.391**</b>	<b>.464**</b>	-.022	.239**	.248**	<b>.256**</b>	1.000
Benevolence		.052	.236**	<b>.484**</b>	<b>.393**</b>	<b>.303**</b>	.058	.069
	Reliability as an employer	Openness of information disclosure	Involvement in issues relevant for young people	Commitment to get young employees	Investments in young people's skills	Involvement in socially responsible activities	Credibility	Benevolence

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Appendix 23a:** Correlation matrix based on the PLS modeling: Dimensions of reputation, similarity of values, communication and dimensions of trustworthiness among the less interested students.

Reputation of employer reliability and fairness								
Reputation of employer reliability and fairness	1.000							
Reputation of technical competence	.504	1.000						
Similarity of values	.319	.102	1.000					
Sufficiency of recruiting communication	.402	.193	.222	1.000				
Accuracy of interactive communication	.494	.264	.284	.354	1.000			
Information in public media	.548	.342	.203	.577	.454	1.000		
Credibility	<b>.621</b>	<b>.394</b>	.324	.245	<b>.487</b>	<b>.529</b>	1.000	
Benevolence	.476	.222	<b>.357</b>	<b>.434</b>	.402	.452	.560	1.000
	Reputation of employer dependability and fairness	Reputation of technical competence	Similarity of values	Sufficiency of recruiting communication	Accuracy of interactive communication	Information in public media	Credibility	Benevolence

**Appendix 23b:** Correlation matrix based on the PLS modelling: Dimensions of reputation, similarity of values, communication and dimensions of trustworthiness among the highly interested students.

Reputation of employer reliability and fairness		1.000						
Reputation of technical competence	.531		1.000					
Similarity of values	.316	.051		1.000				
Sufficiency of recruiting communication	.443	.166	.137		1.000			
Accuracy of interactive communication	.530	.325	.240	.449		1.000		
Information in public media	.565	.402	.170	.486	.510		1.000	
Credibility	<b>.618</b>	<b>.434</b>	<b>.307</b>	.289	<b>.520</b>	<b>.524</b>		1.000
Benevolence	.599	.350	.233	<b>.502</b>	.513	.491	.658	
	Reputation of employer dependability and fairness	Reputation of technical competence	Similarity of values	Sufficiency of recruiting communication	Accuracy of interactive communication	Information in public media	Credibility	Benevolence

**Appendix 24a:** Correlation matrix based on the PLS modelling: Dimensions of trustworthiness, satisfaction and intentions among the less interested students.

Credibility	1.000				
Benevolence	.560	1.000			
Satisfaction	<b>.626</b>	<b>.485</b>	1.000		
Compared satisfaction	.444	.302	.481	1.000	
Intentions	-.053	-.115	-.067	-.065	1.000
	Credibility	Benevolence	Satisfaction	Compared satisfaction	Intentions

**Appendix 24b:** Correlation matrix based on the PLS modelling: Dimensions of trustworthiness, satisfaction and intentions among the highly interested students.

Credibility	1.000				
Benevolence	.658	1.000			
Satisfaction	<b>.653</b>	<b>.573</b>	1.000		
Compared satisfaction	.382	.301	.485	1.000	
Intentions	.252	.220	.305	.301	1.000
	Credibility	Benevolence	Satisfaction	Compared satisfaction	Intentions

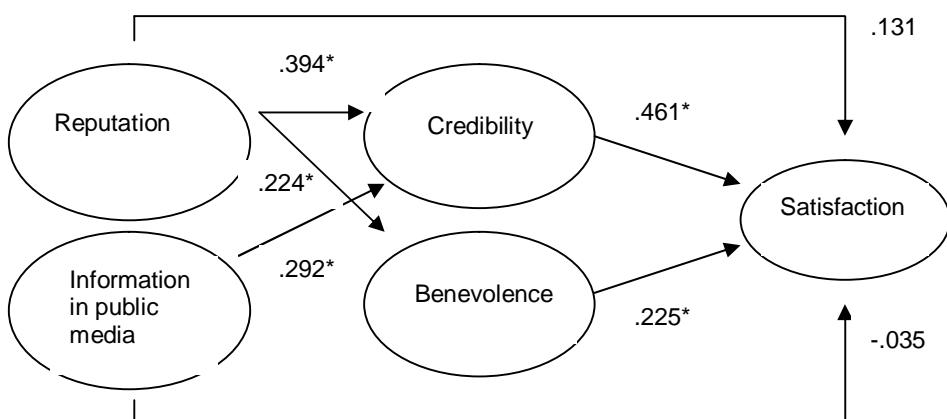
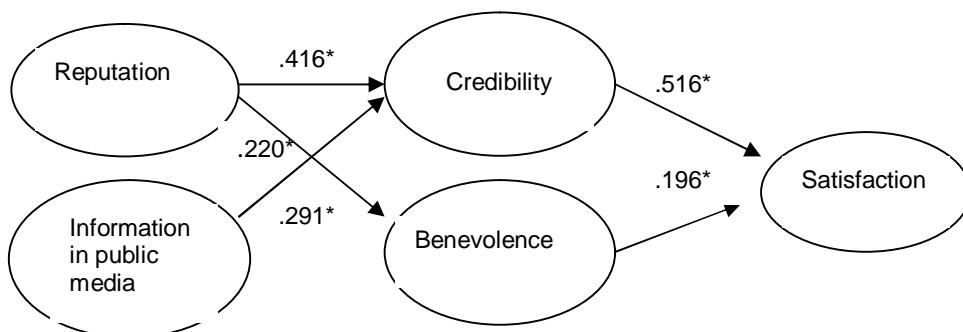
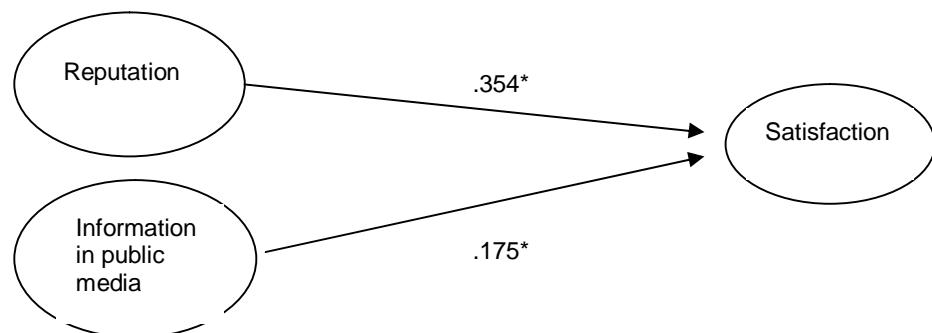
**Appendix 25:** Path coefficients, t-values and R<sup>2</sup> between constructs of antecedent, relationship state and consequences in the groups of less and highly interested students.

		Less interested students			Highly interested students		
		n = 198			n = 222		
Connections between dimensions of antecedents and trustworthiness		β-value	t-value	R <sup>2</sup>	β-value	t-value	R <sup>2</sup>
	Credibility ( $\eta_1$ )			.500			.483
Reputation ( $\xi_1$ )		.416*	5.554		.400*	5.348	
Similarity of values ( $\xi_2$ )		.124*	2.006		.116	1.936	
Sufficiency of recruiting information ( $\xi_3$ )		-.180	1.812		-.100	1.538	
Accuracy of interactive communication ( $\xi_4$ )		.176*	2.238		.218*	3.379	
Information in public media ( $\xi_5$ )		.291*	3.666		.212*	2.754	
	Benevolence ( $\eta_2$ )			.359			.467
Reputation ( $\xi_1$ )		.220*	2.290		.357*	4.745	
Similarity of values ( $\xi_2$ )		.188*	2.592		.043	.727	
Sufficiency of recruiting information ( $\xi_3$ )		.190	1.429		.227*	2.622	
Accuracy of interactive communication ( $\xi_4$ )		.114	1.489		.170*	2.243	
Information in public media ( $\xi_5$ )		.127	1.171		.081	1.135	

		Less interested students			Highly interested students		
		n = 198			n = 222		
Connections between dimensions of trustworthiness, satisfaction and intentions		β-value	t-value	R <sup>2</sup>	β-value	t-value	R <sup>2</sup>
	<b>Satisfaction (<math>\eta_3</math>)</b>			.418			.463
Credibility ( $\eta_1$ )		.516*	6.140		.487*	4.934	
Benevolence ( $\eta_2$ )		.196*	2.154		.253*	2.775	
	<b>Compared satisfaction (<math>\eta_4</math>)</b>			.232			.235
Satisfaction ( $\eta_3$ )		.481*	8.363		.485*	7.654	
	<b>Intentions (<math>\eta_5</math>)</b>			.005			.093
Satisfaction ( $\eta_3$ )		-.067	1.006		.305*	4.779	
Average of R <sup>2</sup>				.21			.23

\* statistical significance at p<0,01

**Appendix 26a:** Dimension of trustworthiness as mediators in the research model among the less interested students. Examination of path coefficients and significance at  $p < 0.01$ .



**Appendix 26a:** Dimension of trustworthiness as mediators in the research model among the highly interested students. Examination of path coefficients and significance at  $p < 0.01$ .

