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Environmental Marketing Strategy and its Implementation in Forest Industries

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Academic Dissertation

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Academic Dissertation

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Abstrakti

Väitöskirja käsittelee ympäristöasioiden integrointia metsäteollisuusyritysten ja heidän teollisten asiakkaidensa markkinoinnin suunnitteluun. Tutkimus koostuu neljästä julkaistusta ja kahdesta julkaistavaksi hyväksytystä tieteellisestä artikkelista sekä yhteenveto-osasta, jossa tarkastellaan ekologista markkinointia ja yritysten yhteiskunnallista vastuuta teoreettisesti sekä kuvataan tutkimuksen empiiristä lähestymistapaa. Tutkimus perustuu kvantitatiiviseen haastatteluaineistoon suomalaisesta, ruotsalaisesta, saksalaisesta, brittiläisestä ja läntisestä pohjois-amerikkalaisesta metsäteollisuudesta. Tutkimuksessa tarkastellaan eroja maiden ja tarkempien teollisuudenalojen välillä sekä luokitellaan yrityksiä vihreyden ja yhteiskuntavastuuarvojen perusteella. Teoreettiselta kannalta tutkimuksessa testataan ekologisen markkinoinnin logiikkaa ja hypoteettisia hierarkia yhteyksiä markkinointistrategioiden, -rakenteiden ja -toimenpiteiden välillä. Tulosten mukaan suurin osa haastatelluista yrityksistä painottaa ympäristöasioita arvoissaan, markkinointistrategioissaan ja toimenpiteissään. Metsäteollisuutta ei voida syyttää ”viherpesusta”, vaikka ympäristöasioiden integrointi markkinointiin voisi olla syvällisempääkin. Vapaata markkinataloutta arvoissaan painottavat ”proaktiiviset vihreät markkinoijat” toteuttavat ekologista markkinointia vapaaehtoisesti ja pyrkivät saavuttamaan ympäristöystävällisyydellä kilpailuetua. Tulokset antavat myös tukea tutkimusta ohjanneen markkinoinnin suunnittelun kokonaismallin olettamuksille vihreiden arvojen, markkinointistrategioiden, -rakenteiden ja -toimenpiteiden loogisille yhteyksille. Tutkimuksen tuloksia voidaan käyttää (metsä)teollisuusyritysten strategisen markkinoinnin kehittämiseen erityisesti ympäristöasioiden integroimiseksi markkinoinnin suunnitteluun.

Abstract

This dissertation analyses the integration of environmental issues into the marketing planning of forest industries and their industrial customers. The study consists of four published scientific articles and two manuscripts accepted for publication. A review section considers environmental marketing and corporate social responsibility from a theoretical point of view, and presents the empirical approach of the study. The study is based on quantitative interview data among Finnish, Swedish, German, UK, and western North American forest industries. Differences between countries and industry sectors are analysed and companies are classified based on their environmental activity (greenness) and responsibility values. From a marketing theory perspective, the logic of environmental marketing is analysed by studying hypothetical hierarchical relationships between marketing strategies, structures and functions. The results suggest that most of the surveyed companies emphasise environmental issues in their values, marketing strategy and its implementation. The industry should not be risking accusations of “greenwashing”, even though the integration of environmental issues into marketing planning could be deeper. “Proactive green marketers” emphasising a free market system in their values are the most genuine group in implementing environmental marketing voluntarily and seeking competitive advantage through environmental friendliness. The results also give evidence that green values, environmental marketing strategies, structures and functions are logically connected to each other as hypothesised according to the model of environmental marketing used to guide this study. The results of this study can be used in developing strategic marketing of (forest) industry companies especially concerning integration of environmental issues into marketing planning.

Keywords: Green marketing, Corporate social responsibility, Strategic marketing, Forest industries, Forest certification

Preface

This study would not have been possible without financing provided by two institutions. The Finnish, German and UK data collection for this study was collected in the context of the EU funded research project FAIR-CT95-766 under the fourth framework programme. A grant from the Academy of Finland in the context of the Finnish Wood Wisdom research programme enabled the Swedish data collection. I express my warmest gratitude to the European Union research framework and the Academy of Finland.

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List of separate studies

This dissertation includes the following separate studies, which are referred to by roman numerals in the text as follows:

I) Kärnä, J., Juslin, H. and Steineck, F. 2000. Green Marketing of Paper Products in Finland and Sweden. *Paperi ja Puu - Paper and Timber* Vol. 82, No. 3/2000. pp. 182-188.

II) Kärnä, J., Steineck, F. and Juslin, H. 2001. Green Marketing of Sawn Timber and Wood Based Panels in Finland and Sweden. *Journal of Forest Economics* Vol. 7, No. 2. pp. 145-168.

III) Kärnä, J., Hansen, E. and Juslin, H. Environmental Activity and Forest Certification in Marketing of Forest Products – A Case Study in Europe. Manuscript accepted for publication in *Silva Fennica*.

IV) Kärnä, J., Juslin, H., Ahonen, V. and Hansen, E. 2001. Green Advertising: Greenwash or a True Reflection of Marketing Strategy? *Greener Management International* 33, pp. 59-70.

V) Kärnä, J., Juslin, H. and Hansen, E. 2003. Social Responsibility in Environmental Marketing Planning. *European Journal of Marketing* Vol. 37: In press.

VI) Kärnä, J., Hansen, E., Juslin, H. and Seppälä, J. Green Marketing of Softwood Lumber in Western North America and Nordic Europe. 2002. *Forest Products Journal* Vol. 52, No. 5, pp. 34-40.

The original articles are reprinted with permission.

Jari Kärnä has been the first writer in all the separate studies above.

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PART A

Environmental Marketing Strategy and its Implementation in Forest Industries

1 BACKGROUND OF THE STUDY

1.1 Changing Macro Environment of Forest Industry

The relationship between humans and their environment has increasingly become the focus of global attention in recent decades. Both, the level of resource use and its subsequent disposal have changed the environment on a scale that has given rise to considerable concerns over associated problems, mainly in the so-called industrialised parts of the world.

One specific field that has gained prominent attention has been the fate of forests, originally mainly in the humid tropics of the world. The pace of depletion of these forest resources has increased considerably over the past decades. The concerns raised, were mainly related to the destruction of biodiversity, the fate of indigenous people and forest dwellers, the role of forests in global warming and, not least, the future implication of unsustainable resource use. The attention to forests soon led to concerns not only in the tropics but also encompassed forests in temperate and boreal zones of the world.

The issues at stake have led to considerable political activity on various levels and by various actors. Several non-governmental groups in industrialised countries demanded the boycott of tropical timber. International governmental actors brought the concept of "sustainable development", and "sustainable forest management" onto the global political agenda. The European development work of criteria and indicators for sustainable forest management - the Helsinki Process - is one of five regional or international initiatives to define sustainability in forestry (ISCI Background reports, 1996).

This kind of development in the society means that companies - not least forest industry companies - have to consider the views of various stakeholder groups in their decision making. The development in the macro environment of the companies may affect the attitudes and actual buying behaviour of the customers too. Therefore, environmental and social concerns in the society will set new challenges for companies.

According to prevailing thinking (Peattie 1995), company responsibilities can be divided into three areas: Economic responsibility, Social responsibility, and Ecological responsibility. The concepts "social responsibility, environmental management and environmental marketing" can be analysed by using the model presented in Figure 1. (Adopted from Peattie 1995)

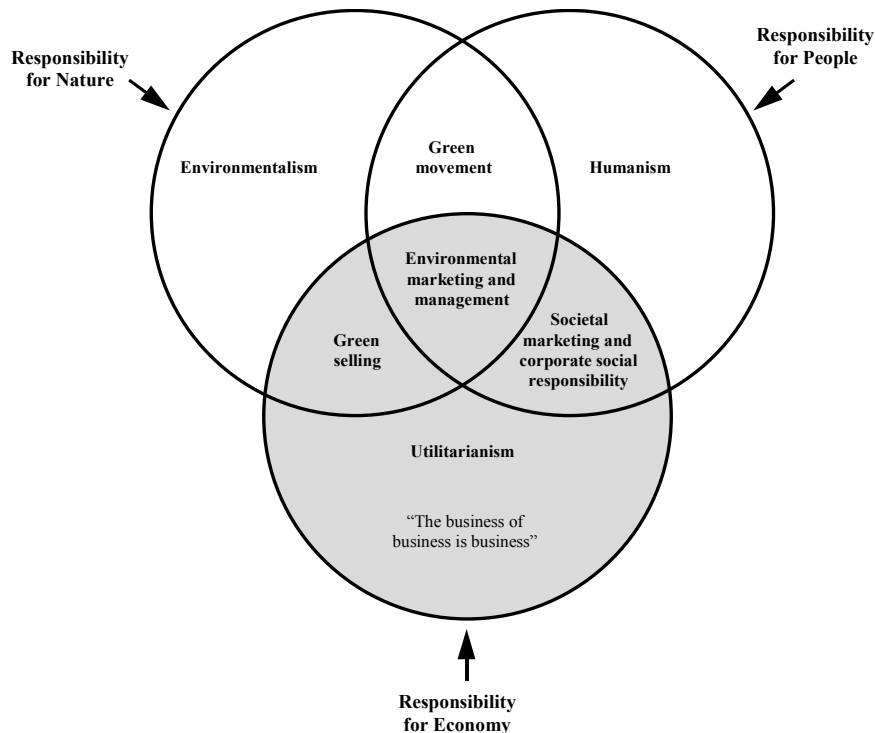


Figure 1 Circle model of the conventional approach to the business-society-environment interrelationship

Peattie's model suggests that environmental marketing and management integrate all the three areas of business-society-environment interrelationships. However, in many other definitions corporate social responsibility (CSR) or corporate citizenship are attributed to be more extensive terms than environmental marketing (Wood and Logston 2002).

1.2 Corporate Social Responsibility and Business Success

There is no single, commonly accepted definition of corporate social responsibility (CSR). It generally refers to business decision-making linked to ethical values, compliance with legal requirements, and respect for people, communities and the environment. Corporate social responsibility is a term describing a company's obligation to be accountable to all of its stakeholders in all its operations and activities.

Marcello Palazzi and George Starcher list six key dimensions of corporate social responsibility by saying that in Western Europe, Japan, and North America, an increasing number of companies are finding that it makes good business sense to fully integrate the interests and needs of customers, employees, suppliers, communities, and our planet - as well as those of shareholders - into corporate strategies. Over the long term, this approach can generate more growth and profits. There can be no social responsibility without profits.

CRS is about how to manage the following six responsibilities (Palazzi & Starcher):

- Customers
 - Ethical conduct, environmental and social consciousness (good reputation) of a company makes a difference in purchasing decisions.
 - Superior quality, reliability and service.
 - Lasting relationships with customers.
- Employees

- Quality of life in the workplace.
- Business partners
 - Long term relationships (Quality and reliability - not only lowest prices possible.)
- The environment
 - Sustainable environmental management makes good business sense.
 - Positive connection between economic and ecological efficiency.
- Communities
 - Contributions to local, regional, national and global communities.
- Investors
 - Increasing number of investors recognise broader responsibilities then those investors who seek the highest instant returns.

If we believe that market forces take care of the common good it means that companies must, in addition to economic responsibilities, carry the social and ecological responsibilities (Figure 1). This raises several significant questions:

- What is the appropriate amount of political control of markets?
- Can social responsibilities be integrated into the duties of companies under the ideology of the competitive market economy?
- Can environmental responsibilities be integrated in the duties of companies under the ideology of the competitive market economy?
- If the answer to the two previous questions is yes, what is the balance among a company's economic, social and environmental responsibilities?
- If the answer was yes, what are the managerial and marketing tools to be used when taking care of social and environmental responsibilities?

1.3 Forest Industry and Timber Certification

In the forest industry, environmental and societal demands have been mostly oriented towards environmental performance. Demands and their change over time can generally be summarised in the following manner (Juslin & Hansen 2002):

- 1970s – emissions to water and air
- Mid 1980s – recycling
- Late 1980s – chlorine bleaching
- Early 1990s – forestry and forest management
- Mid 1990s – forest certification and ecolabeling
- 21st Century – global climate change and the role of forests

In the light of the background described in the previous section, "certification of sustainably managed forests" was brought forward by some groups around the 1990's as one potential market-based instrument that could act as a positive incentive for managing forests sustainably. This potential instrument soon attracted considerable interest and as a component of the SFM issue, forest/timber certification and its merits was a hotly debated topic among various forestry stakeholders. The investigation into the possibilities of certification focused primarily on political and technical aspects such as the definition and operationalisation of "sustainable forest management" (SFM). However, little attention has been paid to probably the most crucial part of any market-based instrument: the existence of sufficiently big markets for certified forest products. (Ghazali & Simula 1996, 1997)

There are several objectives of forest management and wood product certification. The overarching global objective of introducing forest management certification is to improve management of all forests, thereby reducing deforestation rates and degradation of forest

ecosystems. More specifically, at the national or forest level, the aim is to introduce forest management systems and practices that maintain the widely-acknowledged multiple functions of forests - ecological, social and economic. At the industry or company level, the objective of certifying wood products may be to maintain or increase market access, market share and profits, to enable better product differentiation in the market place, and to improve the company image - i.e. all in all, gaining competitive advantage using certification as a tool for marketing management. (Crossley, 1996)

Generally it can be said that the forest industry initially questioned the need for certification. However, due to societal forces, it can be argued that forest certification has broken into the main stream and is becoming commonplace. Multiple certification systems have been developed or are currently under development. Because certification has yet to mature, the broad acceptance of any one particular system has not occurred. Two major certification systems (Forest Stewardship Council and the Pan European Forest Certification System) are currently competing for dominance in the European marketplace (Hansen and Juslin 1999, Hansen et al. 2000, Vilhunen et al. 2001) and discussions regarding mutual recognition among systems is taking place (Gunneburg 2000). The forest industry in Europe, from forest owners to retailers, has been at the leading edge of certification since its early development. Major importing countries, Germany and the United Kingdom have had active groups of companies, led by retailers, demanding supply of certified forest products. As leading exporters to middle Europe, Finland and Sweden have aggressively pursued forest certification, though through very different mechanisms.

As certification has become more accepted, companies have had a keen interest in the potential of certification in the marketplace. A wide range of studies have been conducted in an attempt to measure the willingness-to-pay by consumers for certified products (Forsyth 1998, Ozanne and Smith 1998, Ozanne and Vlosky 1997, Vlosky and Ozanne 1997 & 1998). Other work has looked at leading companies in certification and the benefits versus costs of certification that those companies have experienced. Generally, those studies found that certification can positively impact companies, but that developing markets for certified products is not easy (Hansen 1997, Hansen and Punches 1999, Hansen et al. 1998). Still, systematically analysed information concerning the potential of forest certification as a marketing tool appears to be missing. Although there is high interest in certification, industry marketers are often unsure how they should integrate forest certification - or other environmental issues - into their marketing planning.

1.4 Green Challenges for Marketing Planning in Forest Industry

The previous sections were dealing with the development of the macro and micro environment of forest industry based on secondary material. In the light of this background it should be quite justified to make a conclusion that the forest industry has had and will have a need to react to the increasing attention to environmental issues in society. Even though it is not sure how environmental concerns and non-governmental pressure on the forest industry will develop in the future, it is obvious that environmental issues cannot be ignored in marketing planning. In this new age of environmental consumerism, products are being evaluated not only on performance or price, but on the social responsibility of manufacturers. This may create strategic marketing opportunities for manufacturers who can demonstrate strong environmental performance (Ottman, 1994).

Environmental or “green” marketing has been seen as a tool towards sustainable development and satisfaction of different stakeholders. Peattie (1995) defines green marketing as *the holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way*. Marketing planning is based on

the assumption of environmentally conscious and demanding customers and markets. The core of environmental marketing is the marketing strategy - the strategic decisions in which the environmental issues are emphasised in product decisions, and environmental strengths are used as a competitive advantage. Marketing structures and functions are planned so that they carry out and support the environmental marketing strategies. (Juslin 1994)

According to Peattie's definition, environmental marketing is a tool for a company to carry out economically, socially and ecologically responsible operations. The wording is not logical in the sense that environmental marketing covers all the three areas of responsibility. Kotler (1998) uses the term societal marketing to cover social and ecological responsibilities. Kotler takes economic profitability for granted when speaking about marketing. Environmental marketing connects the company to the environmentally and socially conscious and demanding markets. It also integrates the functions of the company to serve those markets in an environmentally and socially responsible way. If in the future social and environmental responsibilities are natural parts of company responsibilities, it will be possible to drop "societal" or "environmental" out and speak generally only about marketing.

Different approaches to react to these challenges do also raise philosophic questions related to business ethics and the concept of responsibility in business:

- To what degree should companies have social and environmental responsibility in the society?
- How can ethically accepted performance and the concept of responsibility in business be defined and operationalised?
- What would be the social, environmental and economic consequences and side effects of such environmental approach in marketing management?
- Could environmental marketing be a potential source of competitive advantage?

It seems that many companies are feeling uncertain as to how they should react to these green challenges. By highlighting eco-performance, the company could attract the critical attention of green interest groups. However, it is clear that e.g. communicative actions must be used in a very deliberate way in order to avoid accusations of "greenwashing" i.e. unfounded claims concerning the environmental impact of a company's performance. It seems that operationalisation of integrating environmental issues into marketing planning or to the whole management of the company is still unclear. The question is: *how environmental and social responsibility should be integrated into traditional utilitarian business and marketing planning?* As Peattie (1999) states, "Without a greener philosophy and vision of marketing, the greening of marketing practice will be an uphill battle".

Regarding the integration of environmental issues into marketing, Ottman (1994) lists five challenges of green marketing:

- 1) How to define green,
- 2) How to enlist consumer support for lifestyle changes necessary for greener behaviour and products,
- 3) How to overcome misperceptions and balance environmental ills with solutions,
- 4) How to communicate without uniform guidelines for environmental marketing terms,
- 5) How to gain credibility and assert that the interests of industry do not conflict with greenness.

According to Vastag et al. (1996), the international McKinsey industry survey (1991) showed that "complying with regulations" was the main environmental concern for companies followed by "preventing incidents". Both are typical of traditional "defensive" environmental management approaches. About half as much importance was assigned to the next two (more

proactive) concerns, “enhancing positive image” and “integrating environment into corporate strategy.” In the Vastag et al. (1996) study, the answers showed a clear trend: an overwhelming majority of the respondents thought that it is very important to emphasize the green nature of a product in the developed market economies (such as USA and EU-countries), somewhat less important in other foreign markets, and not very important in economies in transition (such as Hungary).

Peattie (1995) lists two fundamental mistakes that companies have tended to make when facing pressure from green interest groups: The first is to react negatively to environmentalist criticism by adopting a strategy from the ‘D’ list of Defend, Deny, Discredit, Disprove, Deflect. Such responses can be counter-productive, since, given conflicting stories from green groups and a company, the company is likely to finish second in the race for credibility. According to Kamena’s (1991) study, 37% of consumers described environmental groups as a “very good unbiased source of environmental information”, whilst only 5% regarded product manufactures to be the same. The second mistake is to regard interest groups as something that only exists ‘out there’ in the external environment. The millions of members of green groups not only exist in the marketing environment, some of them are very likely to exist inside the marketing department. This makes any attempt to create a false impression on eco-performance rather dangerous.

To summarise the discussion in the previous sections, it can be said that environmental marketing has been a popular topic in the marketing literature during the recent years. However, only a few examples of green marketing have been dealing with marketing of forest products. A specific topical issue in the current forestry debate is timber certification. Certification may be regarded as a one potential tool in marketing of forest products. However, instead of regarding certification as a separate issue in forest products marketing, it would be useful to look at it as one example of a functional level marketing tool in the context of integrated marketing management.

2 PURPOSE AND IMPLEMENTATION OF THE STUDY

2.1 Purpose of the Study

The purpose of the dissertation is *to analyse the obvious need to integrate social values and environmental issues into marketing strategies and clarify its implementation*. This will be done by developing a theoretical framework based on theories of environmental marketing. The theoretical model of environmental marketing planning applicable to the forest industry will be tested by using and analysing empirical data. The model of environmental marketing applied in this study is based on Juslin's (1992) integrated model of marketing planning, where marketing strategies, structures and functions are analysed concerning the integration of environmental issues into them. In this study, marketing planning and the market environment of Finnish, Swedish, German, British, and Western North American forest industries and their industrial customers are analysed through a comparing descriptive approach. The value of timber certification as a potential marketing tool of forest products is given special attention in the study. One factor affecting companies’ environmental marketing planning is the expected changes in the macro environment (demand, supply) and the micro environment (competition, customer behaviour) regarding environmental concerns and demands. From developing a marketing theory perspective (explanatory approach), the logic of environmental marketing is analysed by studying hypothetical hierarchical relationships between business values, marketing strategies,

structures and functions. *The principle assumption to be tested in this dissertation is that environmental marketing functions (e.g. advertising) obtain their objectives from marketing strategies which are based on the objectives of the business unit, in this case environmental business values.*

The six separate studies of this dissertation will investigate and answer the following specific questions concerning 1) description of empirical phenomena, 2) comparing description of phenomena, and 3) explanation of phenomena based on hypothetical assumptions derived from theoretical constructs:

1) Descriptive research questions:

- What is the expected development of the macro and micro environments regarding environmental concerns and demands? (VI)
- What are the value-based dimensions of companies' social responsibility? (V)
- How companies can be classified according to their social responsibility values? (V)
- Are environmental issues and societal demands incorporated into marketing planning, and what is the role of timber certification in marketing? (I, II, III, V, VI)
- How companies can be classified according to their environmental activity? (III, IV, VI)
- How can green advertising be described? (IV)
- To what degree do Finnish forest industry companies use green advertising? (IV)

2) Comparing descriptive research questions:

- What are the differences between the countries and industry sectors with regard to the emphasis on environmental/social issues in the marketing planning and market environment? (I, II, III, V, VI)

3) Explanatory research questions:

- What is the relationship between dimensions of social responsibility and environmental marketing? (V)
- What is the relationship between the expected development of the marketing environment and the level of greenness in marketing planning? (VI)
- Are the attitudes and needs towards timber certification related closer to the level of environmental activity, or to background factors, such as country or industry sector? (III)
- Do green advertisements reflect the company's level of environmental activity? (IV)

2.2 Research Design of the Study

The research design of the study originates from the objectives of the study defined in the previous section. The study follows a positivist research tradition as a typical survey, based on cross-sectional data collected by personal interviews with a structured questionnaire. The research strategy can be described as descriptive-empirical research and the aim is to describe, compare and explain the phenomena under focus. The theoretical background for the study is constructed by combining elements from different theories concerning environmental marketing. Propositions (hypotheses) derived from the theoretical constructs and secondary material analysed bring a deductive nature to the research strategy. The outline of the study is presented in Figure 2.

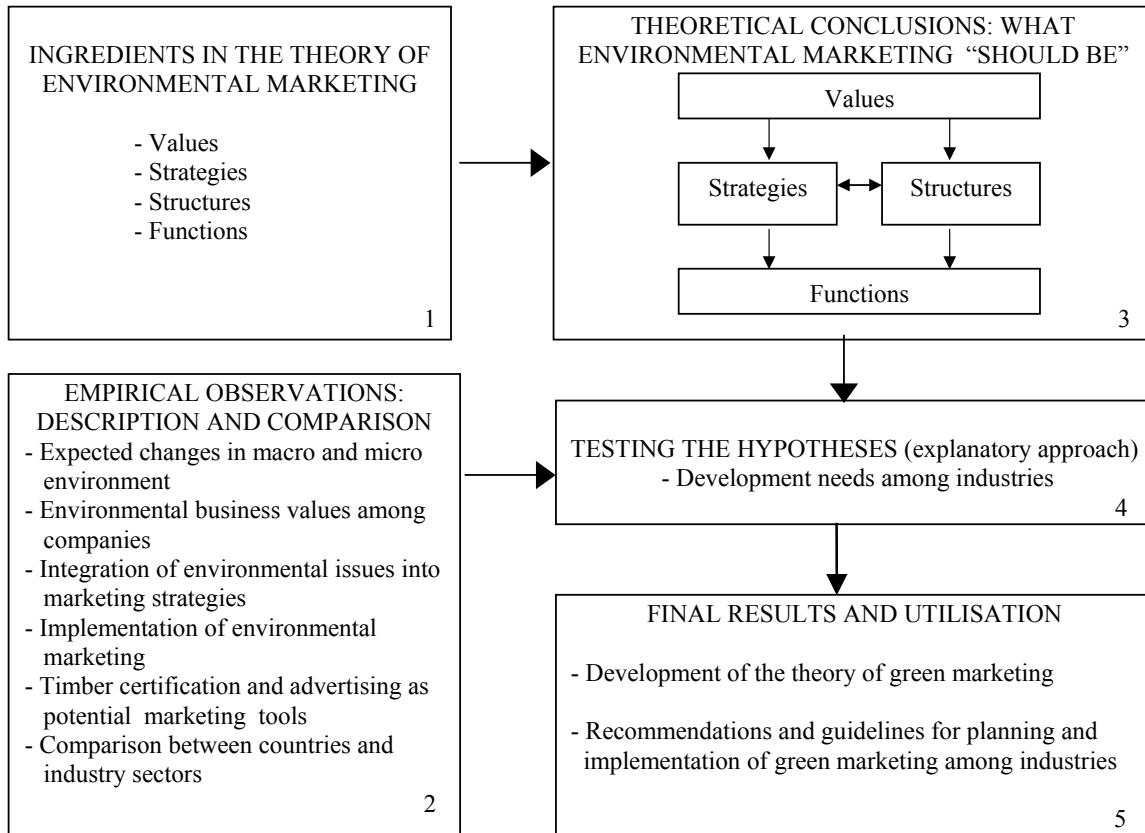


Figure 2 Implementation of the Study

Referring to the numbered blocks in Figure 2, the steps in the implementation of the study are as follows:

1. Review of the theories concerning environmental marketing and the social and environmental responsibility of companies. Hierarchical relationships between values, strategies, structures and functions are clarified by using literature.
2. An empirical research, based on interviews in five countries, is implemented in order to examine companies' environmental and social values, marketing strategies and their implementation. Role of timber certification and advertising as potential tools of marketing management is clarified. Also expected changes regarding environmental demands in the marketing environment are examined. Results are compared between background factors (countries and industry sectors).
3. Theoretical conclusions are made of what environmental marketing should be according to the hypothesised model of environmental marketing. A theoretical model of environmental marketing is generated and hypotheses regarding the relationships are formulated.
4. Implementation of environmental marketing of the empirical research is compared with the hypothetical value-strategy-structure-function -combinations. Hypotheses derived from theoretical conclusions are tested against empirical data. Conclusions regarding the need to develop industries' environmental marketing planning are made.

5. Final results and utilisation of the study: Development of theory and implementation of environmental marketing. The results can be used in developing strategic marketing of (forest) industry companies.

3 THEORETICAL BACKGROUND OF THE STUDY

3.1 Theoretical Approaches to Environmental Marketing

3.1.1 Definitions and Classifications of CSR and Green Marketing

Marketing is bridging the company and its markets in societal context. In a company, marketing has an integrative function. It integrates other functions of the company into an entity serving the needs of the markets as well, effectively and profitably as possible. Satisfying the needs of the customers in a profitable way is a core of marketing ideology which in turn is a core of the market economy.

According to Nantel and Weeks (1996) marketing, by its very definition is principally grounded on a utilitarian approach to ethics emphasising the goal of achieving superior financial performance. For example, nobelist Milton Friedman (1970) and Miles & White (1998) state that marketing, and even social marketing, is a tool used by management not to enhance social well-being, but to achieve a competitive advantage with the objective of wealth creation for the owners. The idea of company responsibility only to shareholders is often shared in business. According to this thinking the local governments take care of social responsibilities.

Others suggest that managers could also develop a more deontological approach to marketing (Nantel and Weeks 1996). Lambert (2000) argues that ethical values should be included in strategic models because 1) the ethical values of management will affect decision-making, 2) a firm is accountable to its stakeholders for its actions, and 3) a firm may improve its competitive position through ethical decision making. Hussain (1999) points out that by emphasising a financial value on corporate image, managers may well have the scope to choose CSR behaviour although it would decrease profits even in the long term.

Wood (1991) reconstructs "The Corporate Social Performance Model" where she distinguishes 1) principles of corporate social responsibility (principles of legitimacy, public responsibility and managerial discretion), 2) processes of corporate social responsiveness (environmental assessment, stakeholder management and issues management), and 3) outcomes of corporate behaviour (social impacts, programs and policies). Wood and Logston (2002) analyse the development of definitions of CSR and corporate citizenship. They suggest the concept of "business citizenship" as another step along the way to provide an overarching rationale for corporate social performance, for the study of ethics in business, for stakeholder theory and issues management, for business-government relations and for concerns over major social, political and human issues such as labour rights and environmental protection.

Environmental marketing as a term for marketing with a concern for ecological issues has established itself during the past few years as consumer behaviour has become more environmentally conscious. It can be seen as a continuation of the adaptation of marketing thinking to the requirements of each marketing era. A common feature of most definitions for "green", "ecological", "ecologically oriented", or "environmental" marketing is that marketing in the ecological era attempts to connect the classical components of marketing and

management of ecological issues. The key concept in the following attempts to define green marketing is how responsibility and environmental issues are integrated into concepts of marketing management and what is the role of governmental regulation in business.

Peattie (1995) defines green marketing as the holistic management process responsible for identifying, anticipating and satisfying the requirements of customers and society, in a profitable and sustainable way. More detailed, the key characteristics of environmental marketing can be summarised as:

- 1) a balanced approach to social, technological, economic and physical aspects of businesses and societies that allows companies to step forward;
- 2) as emphasis on long term sustainable qualitative development rather than short term unsustainable quantitative growth;
- 3) as holistic approach aimed at reversing the reductionalist and fragmented approach of previous business theory and practice;
- 4) consideration of consumers as real human beings rather than as hypothetical 'rational economic' entities;
- 5) an emphasis on meeting the genuine needs of consumers, rather than on stimulating superficial desires;
- 6) a recognition that consumers and society have multiple and sometimes conflicting wants and needs;
- 7) a view of the company and all its activities as part of the 'product' that is consumed;
- 8) a recognition that the large-scale, long distance nature of the current economy is not sustainable, and that in the future small and local will be beautiful;
- 9) embracing the concept of eco-performance which incorporates the non-market outputs of the company, the performance of the product during and after use and the environmental impact of companies which contribute to the creation and marketing of the product elsewhere in the supply chain;
- 10) the pursuit of added socio-environmental virtue as well as added techno-economic value.

Menon and Menon (1997) define "enviropreneurial marketing" as the process for formulating and implementing entrepreneurial and environmentally beneficial marketing activities with the goal of creating revenue by providing exchanges that satisfy a firm's economic and social performance objectives'. They also identify three hierarchical approaches depending on the level of integration of environmental considerations. Environmental marketing can be either strategic (formulated and implemented at the highest level of strategy), quasi-strategic (at the business strategy level) or tactical (functional).

Banerjee (1999) defines corporate environmentalism as "the organisation-wide recognition of the legitimacy and importance of the biophysical environment in the formulation of organisation strategy, inclusion of environmental impact of business actions in the strategic planning process, organisation-wide communication of corporate environmental goals, and the organisation-wide responsiveness to environmental issues".

According to Hart (1997), adopting genuine environmental strategies can be analysed using the list of *stages of developing sustainable business strategies*:

Stage 1: Pollution prevention - focus on continuous improvement efforts to reduce waste and energy.

Stage 2: Product stewardship - focus not only on minimising pollution from manufacturing but also on all environmental impacts associated with the full life cycle of a product.

Stage 3: Within a framework of sustainability vision, developing and commercialising clean technologies which contribute to the solution of both environmental and social problems.

He argues that by building sustainable business strategies companies must become educators rather than mere marketers of products.

Seth and Parvatiyar (1995) argue that sustainable development can be achieved only by *proactive corporate marketing* and *active government intervention*. They suggest a two-dimensional shift in the approach to ecological problems: from consumption marketing to sustainable marketing and from invisible hand to a more visible hand of the government (Figure 1 in article V). They call this a “new orientation for ecological marketing”. In this proposition, they define four mechanisms of government intervention (Regulation, Reformation, Promotion, and Participation) and four R’s of corporate marketing strategy (Redirection of customer needs, Reconsumption, Reorientation of marketing mix, and Reorganization. Porter & van der Linde (1995) and Miles & Covin (2000) have further conceptualised the role of governmental balancing in environmental marketing. Furthermore, another way of looking at corporate social responsibility is the two-dimensional model proposed by Quazi & O’Brien (2000) where they define wide vs. narrow responsibility, and benefits vs. costs from CSR action.

Miles and Covin (2000) define two mutually exclusive philosophies towards environmental management: 1) the “*compliance model*” of environmental management; and 2) the “*strategic model*” of environmental management. The compliance model suggests that corporations must simply comply with all applicable regulations and laws, implicitly following Friedman’s (1970) model of business ethics in an attempt to maximise stockholder returns. This can be considered as typical traditional “*defensive*” environmental management approach. The strategic approach to environmental performance suggests that firms attempt to maximise stockholder returns by utilising an environmental strategy “*proactively*” to create a sustainable competitive advantage. Furthermore, they divide the strategic model into two somewhat synergistic approaches to the utilisation of environmental policy as a strategic tool of competitive advantage: 1) a total quality environmental management (TQEM) approach; and/or 2) an environmental marketing approach. They argue that firms primarily marketing commodity products and competing primarily on the basis of price will tend to adopt the compliance model of environmental management, whereas firms that primarily market highly differentiated products will tend to adopt the strategic model of environmental management.

Also Porter and van der Linde (1995) emphasise environmental responsibility and improvements as a source of competitive advantage in today’s dynamic economy. They argue that innovating to meet regulations can bring offsets: using inputs better, creating better products, or improving product yields. Certainly, some companies do pursue such innovations without, or in advance of regulation. Furthermore, they list six major reasons why regulation is needed but also define “good regulation” supporting for innovations versus “bad regulation” damaging competitiveness. As an example of good regulation and innovation they mention Scandinavian pulp and paper industry. According to them, now is the time for a paradigm shift to bring environmental improvement and competitiveness together. By innovations companies can reap offsets that will go beyond those directly stemming from regulatory pressures.

Tietz (1997) has analysed environmental marketing theories in his M.Sc. thesis at the Department of Forest Economics, University of Helsinki. In Table 1 different approaches to environmental marketing are categorised into four groups. The table clarifies how different approaches are emphasised in the marketing literature of four countries.

Table 1 Comparison of the Different Approaches of Environmental Marketing (Tietz, 1997)

	Holism of the approach	Hierarchical structure	Marketing mix	Relation to environmental management
FIN	Ecological aspects have to be integrated in all levels of business activities and marketing. Emphasis on an integration of ecological aspects in business values.	Clear hierarchy: ecological marketing strategies set the objectives for 1. marketing structures 2. marketing functions 3. action plans	Approach is not based on marketing mix but on hierarchical elements of marketing.	Ecological marketing gives the objectives for business management as it co-ordinates the actions of environmental management.
GER	Starting point of ecological marketing is the product policy. Ecological aspects have to be integrated in planning, co-ordinating and controlling of all marketing activities.	No hierarchy; the ecological marketing strategies are defined by equally important elements of the marketing mix.	Traditional marketing mix has to be modified and completed to cover all ecological aspects.	Ecological marketing belonging into the context of environmental management. Ecological marketing as a mediating element between environment and business unit.
UK	Principles of ecological marketing covering business as a total system. Environmental issues have to be integrated in all hierarchical business levels.	No clear hierarchy: ecological marketing strategy is based on external "green P's". Corporate strategy sets objectives for lower hierarchical levels in the organisation.	Marketing mix ("internal green P's") includes the traditional four elements (4P's) and other organisational factors. Interacts with "external green P's", which set the direction for a company's environmental marketing strategy.	Ecological marketing has a central function in co-ordinating and interacting with other environmental management areas.
USA	Ecological marketing calls for a fundamental change in attitude. The environment has to be a factor in all aspects of a company's strategic planning. Involvement of stakeholders.	No clear hierarchy, elements of marketing mix are equally important with product and communication decisions being decisive for the success.	Environment has to be added to the marketing mix. Most important instruments of marketing mix in environmental marketing are product and promotion.	Ecological marketing and environmental management are very synergistic as they involve same issues. Ecological marketing monitors that the internal behavior (management) of a company is consistent with the claims of ecological marketing.

Crane (2000a and b) has provided an extensive literature review concerning environmental marketing. Crane (2000a) argues that green marketing context has been characterised by consumer backlash against green marketing. As a reaction of company managers, he identifies four subsequent strategic routes in marketing, namely 1) passive greening, 2) muted greening, 3) niche greening, and 4) collaborative greening. He has also analysed the role of morality in green marketing and identified five different moral perspectives, namely 1) fair play, 2) managerialist, 3) reformist, 4) reconstructionist, and 5) interpretist perspectives (Crane 2000b).

3.1.2 Corporate Environmentalism and the Greening of Strategic Marketing

Recent developments show that a green agenda following holistic principles has now been integrated into mainstream marketing literature (McDonagh & Prothero, 1997). For example, Banerjee (1999) and Wehrmeyer (1999) have analysed the greening of strategic marketing with implications for marketing theory and practice. Banerjee (1999) applies the strategic management process to the following conceptual framework of corporate environmentalism to analyse the hierarchy in strategic marketing:

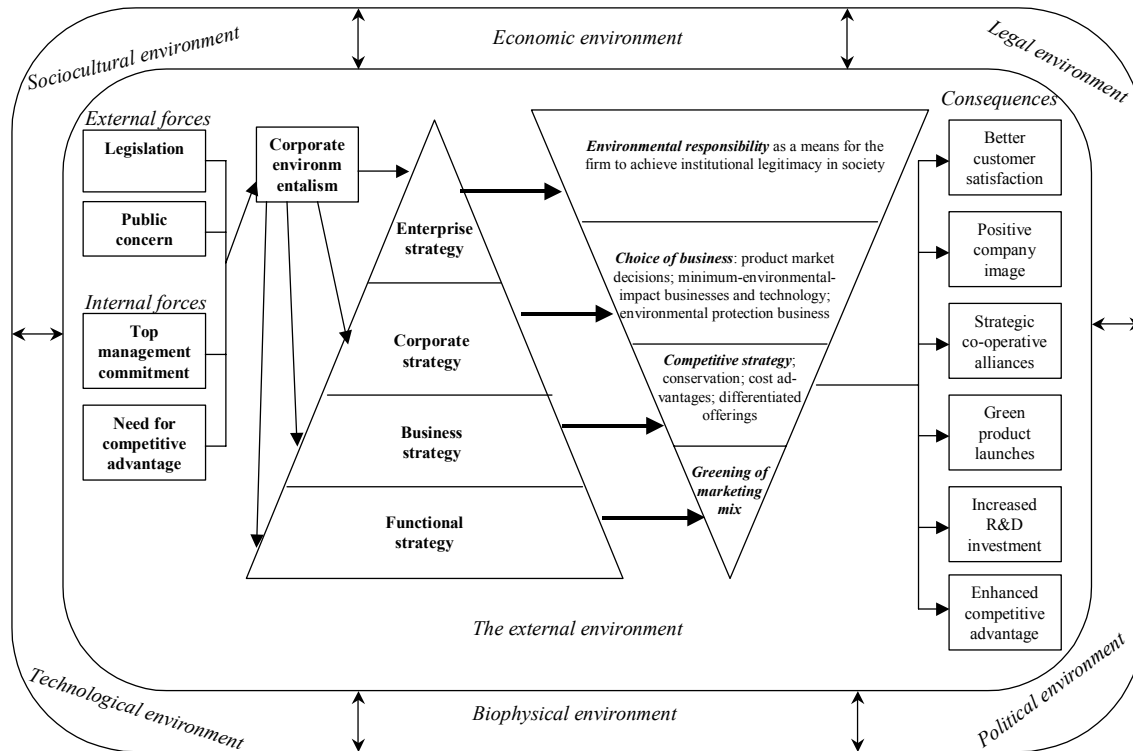


Figure 3 Conceptual Framework of Corporate Environmentalism (Banerjee 1999)

From this structure, it follows that, for a firm, the enterprise strategy is the most important level of strategy that drives the other levels. Enterprise strategy deals with the relationship of the firm and its environment and, consequently, conceptualisation of the organisational environment becomes crucial to the theory and practice of strategic management and marketing strategy. Banerjee (1999) also argues that corporate environmentalism has far-reaching possible consequences affecting the firm, customers, suppliers, employees, as well as society in general. He identifies six possible consequences of a strategic focus on environmental issues facing a firm, namely 1) customer satisfaction, 2) positive company image, 3) co-operative alliances, 4) green product launches, 5) research and development, and 6) enhanced competitive advantage.

3.1.3 Juslin's Model of Environmental Marketing

Juslin (1994, 1995) has provided an approach to environmental marketing which is based on his integrated model of marketing planning (Figure 4), (Juslin, 1992). Concepts by Ansoff (1965) and Shirley et al. (1981) have especially inspired the conceptual ideas and the hierarchy presented in the model. The model contains the usual components of marketing planning presented in marketing textbooks (e.g. Kotler, 2000). However, the central ideas behind the model differ notably from the most common models presented in marketing textbooks. The differences are quite obvious when the model is compared, for example, with the frequently used "Four P Model". There are differences both in the background ideology and the hierarchical structure of the models.

The idea in the model is that environmental issues should be genuinely integrated in all the hierarchical levels of marketing planning, i.e. marketing strategies, structures and functions. Environmental marketing broadens the customer-oriented marketing philosophy with clear targets and functions both on the societal and company level.

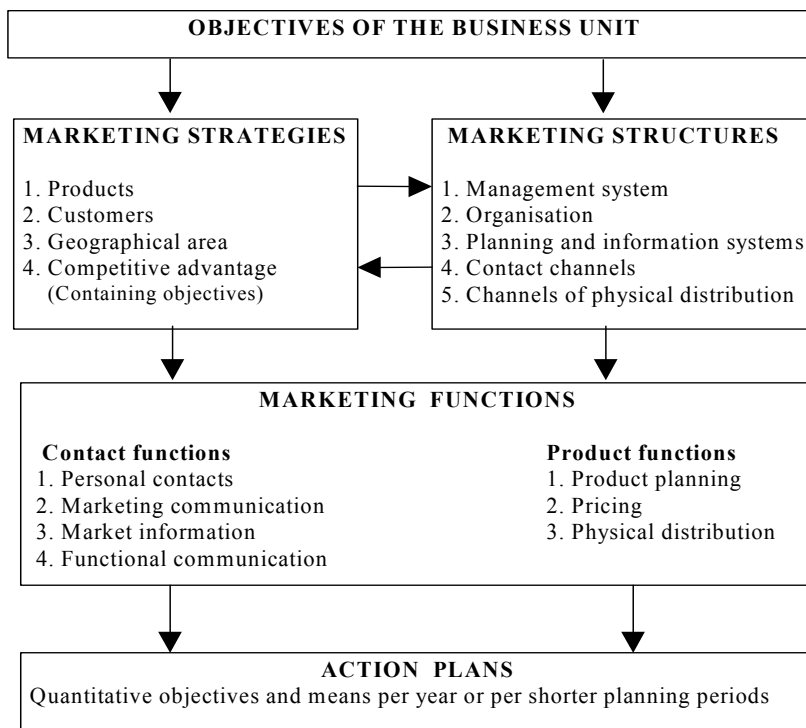


Figure 4 The Integrated Model of Marketing Planning (Juslin, 1992)

According to Juslin's (1992) strategic marketing planning model, three hierarchical elements are defined in marketing planning: *strategies* (products, customers, market area and competencies), *structures* (organisation, planning and information systems, contact channels and channels of physical distribution) and *functions* (personal selling, marketing communication, market information, product planning, pricing, physical distribution). Interesting interfaces in this hierarchy can be found with the Banerjee's framework of corporate environmentalism (Figure 3). However, operationalisation of the concepts in Juslin's model is more unambiguous and it avoids mixed use of the term "strategy". Juslin's integrated model of marketing planning has been utilised and tested with supportive results in several previous studies, e.g. Niemelä 1993; Niemelä & Smith, 1996; Martikainen 1994.

The core of environmental marketing is the *marketing strategy* - the strategic decisions in which the environmental issues are emphasised in product and customer decisions, and environmental strengths are used as a competitive advantage. *Marketing structures*, for example environmental management systems (EMS), are arranged in order to realise marketing strategies and to facilitate marketing functions. Environmental *marketing functions* are those mechanisms or tools, for example personal selling or advertising, that allow a company to carry out its strategies via its chosen marketing structures. (Juslin 1994, Juslin and Hansen 2002)

Environmental marketing strategies

In *environmental product decisions* environmental friendliness is regarded as a product characteristic that is examined during the whole life of the product. Environmental friendliness may also convert a commodity/ordinary product into a special or custom product which is reflected in the price. In *environmental customer and market area decisions* a company aims to satisfy the needs of environmentally conscious customers, and therefore actively tries to focus on such market segments. If a company does not have any environmental strengths it has no other choice than trying to avoid environmental sensitive customers and market areas and focus on some other segments instead. *Environmental friendliness as a competitive advantage* is often dependent on natural circumstances of a company but also requires goal-oriented work to develop environmental marketing in a company.

Environmental marketing structures

Marketing structures are the procedures through which the daily work of the organisation is accomplished and they form the framework for the planning and implementation of environmental marketing. Considering and documenting environmental issues in all decision making could mean use of an *environmental management system* that may require changes in *organisation philosophy*, in *planning and information systems*, in *personnel recruitment and training*, and in designing the *distribution channels*. Management systems are created to facilitate marketing functions.

Environmental marketing functions

Environmental arguments in *advertising* are perhaps the most visible part of environmental marketing. However, green advertising without credible environmental emphasis in strategies and appropriate connections between strategies and marketing operations leads to “greenwashing”. Environmental marketing will also set new challenges for the *personal communication and contacts* of sales people. A systematic collection of relevant *market information* regarding environmental concerns in the markets will provide background information to support proactive strategic and structural decisions. *Product planning* and *pricing* should also reflect strategic decisions. For instance, a pioneer company offering environmental special or customer products may also achieve price premiums more easily than a company offering commodity products.

3.2 Theoretical Frame of Reference of the Study

3.2.1 Theoretical Framework of the Study

The theoretical framework of the study (Figure 5) is based partly on concepts used in previous studies where the integrated model of marketing planning is analysed (e.g. Juslin 1992, Juslin and Hansen 2002), and partly on concepts needed to investigate timber certification and advertising as potential functional level tools of environmental marketing. The theoretical framework of the study combines the concepts used in the separate studies of this investigation.

As explained in the section 3.1.3, Juslin's (1994) approach to environmental marketing is that environmental issues are genuinely integrated in all elements of marketing management. Environmental marketing planning should be based on business values emphasising social and environmental responsibility. Relationships between the elements of marketing planning are investigated in all six separate studies. A measure instrument for the level of greenness - i.e. how environmental issues are emphasised in marketing planning – is constructed in the articles III, IV and VI. Two examples of functional level decisions of environmental marketing are investigated in this study: timber certification (III) and advertising (IV) as marketing tools. One factor affecting companies' environmental marketing planning is the expected changes in the macro environment (demand, supply) and the micro environment (competition, customer behaviour) regarding environmental concerns and demands (VI). Dashed arrows in Figure 5 imply description and comparison, whereas solid arrows refer to explanatory approach.

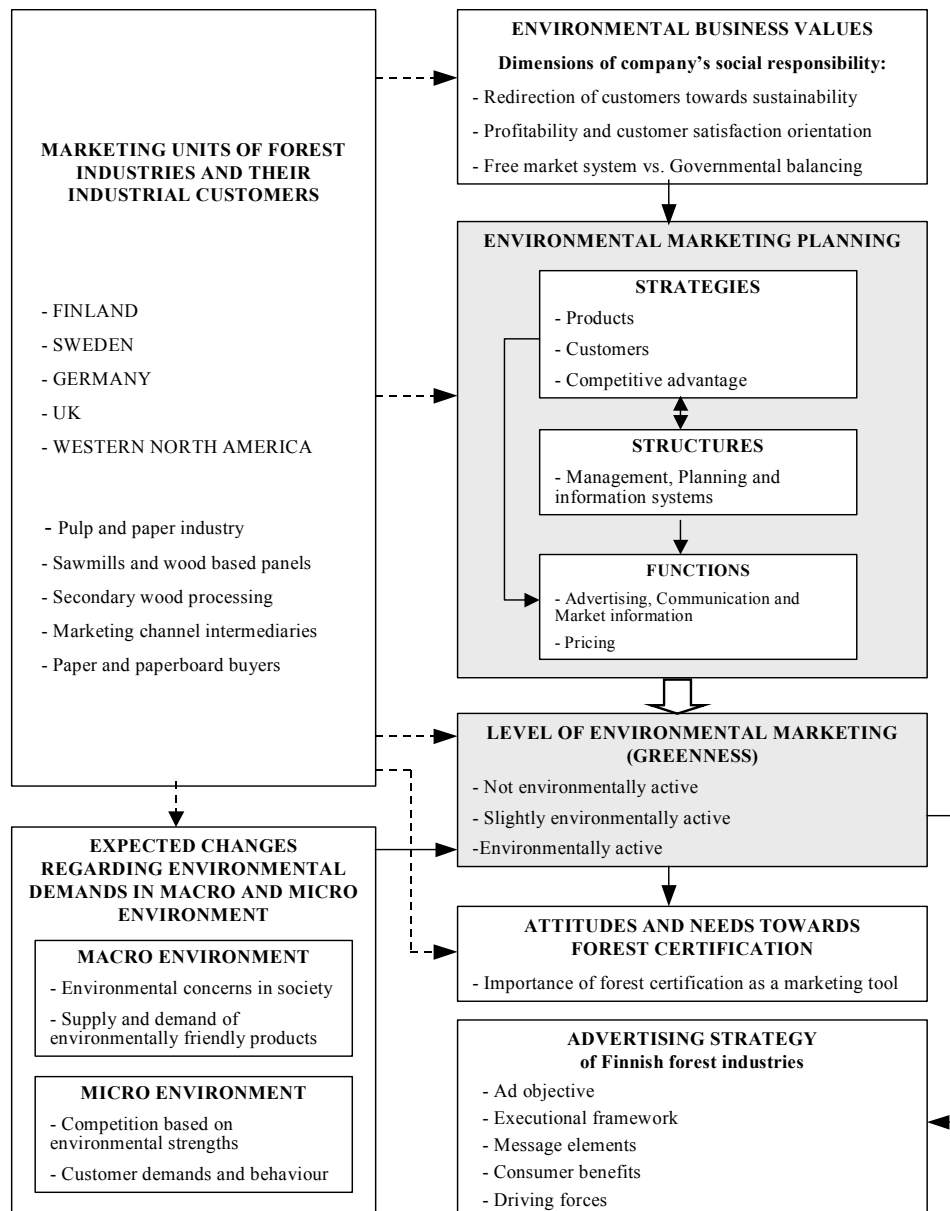


Figure 5 Theoretical Framework of the Study

Interesting interfaces can be found between the theoretical framework of the study and the ideas concerning theories of environmental marketing described in the section 3.1. The hierarchy of strategic marketing is similar in some ways to Banerjee's framework of corporate environmentalism (Figure 3). The integration of environmental issues into business values and marketing planning examined in this study tests, by using the terminology by Miles and Covin (2000), if corporations are adopting the "compliance model" or the "strategic model" of environmental management. Also the desired direction of "new marketing orientation" suggested by Sheth and Parvatiyar (1995) is tested by examining the dimensions of social responsibility in relation to environmental marketing. Furthermore, green "innovations" as a source of competitive advantage proposed by Porter & van der Linde (1995) fit well in this theoretical framework.

3.2.2 Operationalisation of the Theoretical Framework

Operationalisation of the frame links the abstract to the concrete by finding and selecting appropriate instruments for observing and measuring the theoretical concepts in empirical data collection. The following shows the conversion of the theoretical framework of the study into operational questions that were used in the personal interviews among forest industries.

Background

Independent marketing units of forest industry companies and their industrial customers were surveyed in four European countries: Finland, Sweden, Germany and the UK. Industry sectors covered were the following:

- Pulp and paper industry
- Sawmills and wood based panels
- Secondary wood processing
- Marketing channel intermediaries
- Paper and paperboard buyers

Additionally, softwood sawmill industry in Western North America was surveyed for the article VI.

Environmental Business Values (Six point scale: 1=Completely disagree – 6=Completely agree)

- The free market system will take care of global environmental problems with no governmental interference
- The sole function of marketing is to determine and satisfy the needs of consumers
- Adequate social responsibility for company executives is to maintain a profitable business
- Companies should redirect their customers towards less environmentally harmful consumption
- To operate in a socially responsible way, companies only need to obey laws and regulations.
- Companies should use marketing tools to redirect customer behaviour towards environmentally sustainable consumption
- In decision making the company profits will carry a heavier weighting than environmentally friendliness
- Governments must balance environmental and economic values by policies which regulate markets
- Environmentally friendly products are a necessity in the future and the price will include the associated costs

Expected Changes Regarding Environmental Demands in Macro and Micro Environment

- How environmentally aware are the most important customer group(s) (Five point scale)
- Development of phenomenon (Five point scale: Weakens – Remains unchanged – Increases)*
- Customers' demands for Environmentally friendly (EF) products
 - Consumers' EF life style
 - Genuine consumer concern for the environment
 - Supply of EF products

- Environmental standards set by society
- Competition based on environmental strengths of companies
- Public demand for EF products
- Customers' willingness to pay higher prices for EF products

Decisions for Marketing Strategies (Five point scale)

Product Strategies:

- In the strategic product decisions, how much is the environmental friendliness of the product emphasised.
- Rating of various sources of environmental friendliness (by dividing 100 points) during the product's whole life: raw materials used, production technologies, consumption of product, and transport.
- Would the timber certification system support the company's strategic product decisions.

Customer Strategies:

- When selecting the most important customer group(s), how important is their level of environmental awareness in the decision making.

Competitive Advantage Strategies:

- How important is environmental friendliness when planning the competitive emphasis for the most important products and markets.
- Potential for good forest management to be regarded as a source of competitive advantage.
- Intentions to try to use certified raw material as a source of competitive advantage.

Decisions for Marketing Structures: (Five point scale)

- How strong an impact have environmental issues had on personal recruitment, training, planning and information systems and distribution channels.

Decisions for Marketing Functions: (Five point scale)

Communication and Market Information:

- How often does the company / business unit practice the following procedures: (Four point scale)
 - 1) Consider environmental concerns in strategic planning.
 - 2) Carry out customer surveys for marketing planning.
 - 3) Examine environmental information in business decision making.
 - 4) Invite input from environmental groups when making environmental business decisions.
 - 5) Invite input from consumers' groups when making environmental business decisions.
- What impact have environmental issues had on advertising, communication campaigns and personal contacts/selling.
- Intentions to try to use timber certification in advertising.

Pricing:

- Up to now, how strong an impact have environmental issues had on the pricing of the products (e.g. green premium).
- Expectations on how a timber certification system would influence the pricing of products.
- What percentage price rise do companies expect on certified products they purchase.
- How far do they expect to be able to pass on these cost increases to the customers by the price they charge.

Level of Environmental Activity:

The following nine Likert-type variables representing marketing strategies, structures and functions were used in a summated scale to categorise the level of environmental activity of the companies:

- Frequency of company procedures: Examine environmental information in business decision making.
- Frequency of company procedures: Consider environmental concerns in strategic planning.
- Impact of environmental issues in the personnel recruitment and training.
- Impact of environmental issues in advertising and communication campaigns.
- Impact of environmental issues in the planning and information systems.
- Impact of environmental issues in personal contacts / selling.
- Importance of environmental friendliness when planning the competitive emphasis.
- Impact of environmental issues in the values and philosophy of management.
- Emphasis of environmental friendliness in strategic product decisions

Attitudes and Needs towards Certification: (Five point scale)

- Is a widely used timber certification system for good forest management needed.
- Importance and role of timber certification for the company as
 - 1) competitive advantage
 - 2) marketing tool
 - 3) improvement of environmental performance
 - 4) promoting good forest management
 - 5) response to customer requirements
 - 6) response to ENGOs criticism

Advertising Strategy: (Article IV)

Operationalisation of the concept "advertising strategy" could be called "principles of the content of environmental advertising". Environmental elements in each ad were analysed and coded according to categories ranging from "no-yes" (0-1) to 0-5 or 0-7 step classification indicating existence and level of green content.

Ad objective:

- promotion of corporate image as an environmentally friendly company
- promotion of a product or product line

Executional framework:

- company logos
- brand logos
- visuals
- structure (describes how the text has been organised and presented)
- legislative instructions (examine whether the ad corresponds with the instruction of environmental marketing or emission limits set by authorities)

Message elements:

- raw material
- production process
- after-use

Consumer benefits:

- need satisfaction
- high quality
- low price / financially attractive

Driving forces:

- emotional appeal
- rational appeal
- moral appeal (appeals to the consumer's sense of what is right regarding environmental issues)
- planet preservation
- personal health preservation / future generations' well-being

3.2.3 Research Questions and Propositions to Be Tested

The primary objective of formulating the propositions is to test the relationships between different elements of marketing management in the theoretical model (framework) of environmental marketing presented in section 3.2.1. The decisions at the strategic level, such as decisions concerning products, customers, suppliers or competitive advantages, should be reflected in the marketing structures and functions, e.g. into communication (advertising), market information, and pricing. The following list outlines the research questions and propositions (hypotheses) used in each separate study of this dissertation. Normal text implies research questions or propositions based on secondary material analysed, whereas *italic text* refers to an explanatory approach where propositions are derived from the hypothetical value–strategy-structure-function relationships of the theoretical framework of the study. Most of the propositions could also be called “principles of environmental marketing”.

Article I (Article II):

P1 (P3): The more environmental issues are emphasised at the strategic level of marketing, the more green influence can be seen in the marketing functions, e.g. in advertising and communication.

P2 (P1): As a reaction of increased environmental concerns in society and among customers, the Finnish and Swedish forest industries have integrated environmental issues into their marketing planning.

P3 (P2): Compared to Finland, the Swedish forest industries emphasise environmental issues more in their marketing planning.

Article III:

Q1: To what degree have European forest industries integrated environmental issues into marketing planning, and is it dependent on geographical area or industry sector?

Q2: How can the overall level of companies' environmental activity be described in a uni-dimensional measure instrument for categorizing companies?

Q3: What is the role and importance of forest certification as a potential tool for marketing forest products, and is it dependent on geographical area or industry sector?

P1: Environmental emphasis in marketing structures and functions (e.g. planning systems, advertising, communication) reflects environmentally oriented decisions in marketing strategies.

P2: The more environmentally active the companies, the more important a marketing tool they regard forest certification.

Article IV:

P1: Environmentally active companies have more green advertisements than environmentally less active companies.

P2: The higher the company's level of environmental activity, the more green colour and nature is used in the advertisements.

P3: Environmentally active companies use more eco-labels and have more statements about environmental friendliness in their advertisements than less environmentally active companies.

P4: Environmentally active companies emphasise renewable raw materials, environmental production process and recyclability more in their advertisements than less environmentally active companies.

P5: Environmentally active companies do not advertise their products as financially attractive (using low price).

P6: The higher the company's environmental activity the more it uses green rational and moral driving forces in its advertising.

Article V:

P1: The more environmental issues are emphasised in business values, the more environmentally active companies are in their decisions on strategic, structural and functional levels of marketing.

P2: Companies that are most environmentally active (pursuing "strategic model" or "innovating") will emphasise redirection towards sustainable development and free market system (invisible hand).

Article VI:

P1: Compared to the western North American sawmill industry, Nordic (Finnish and Swedish) sawmill companies emphasise environmental issues more in their marketing planning.

P2: The more environmental demands are expected to develop in the market environment and among customers, the more companies emphasise environmental issues in their marketing planning.

4 DATA AND ANALYSIS

4.1 Data Collection

The cross-sectional data for the study was collected by using standardised *personal interviews*. The sampling method was quota sampling with the objective of representative data for the strategic business units (SBU) of forest industries in Finland, Sweden, Germany and the UK. The forestry-wood chain survey was performed in Finland, Germany and in the UK in the context of an EC-FAIR research project on SFM-certification (Rametsteiner et. al 1999). The equivalent data from Sweden was collected in order to get another big European forest industry country as a point of comparison (Steineck 1999). Additionally, softwood sawmill industry in Western North America (WNA) was surveyed for the article VI (Seppälä 2000). In Finland and

Sweden the sampling emphasis was on the beginning of the forestry-wood chain and in Germany and the UK it was towards the end of the forestry-wood chain. Thus, we describe the sample as covering the forestry-wood value chain which includes primary wood processors, secondary wood/paper processors, publishers, and marketing channel intermediaries including DIY retailers. The broad sampling scheme and general operationalisations used in the study are strong indicators of the generalizability of the results outlined below.

The targeted business units are marketing their products independently. Thus, these units can also be called independent marketing units. The data collection was gathered mainly through personal interviews during the fall 1998 in Sweden and in winter of 1997 in other countries. The person with the highest responsibility in marketing planning within each unit was targeted for an interview. Table 2 shows the number of interviews and the estimated coverage of production in the countries. The German coverage is estimated to be good within paper and paperboard buyers; in other respect the coverage is difficult to evaluate (Rametsteiner et. al 1999). Western North American respondents represented about 29% of the softwood lumber production in Northern California, Oregon, Washington and Vancouver, British Columbia (Seppälä 2000).

Table 2 Number of Interviews and Estimated Coverage

Industry sector	Number of interviews (total 506)				
	FIN	SWE	GER	UK	WNA
Pulp, paper and paperboard	34	22	13	9	
Sawmills and wood based panels	46	44	3	20	52
Secondary wood processing	20	14	57	42	
Marketing channel intermediaries	11	12	24	21	
Paper and paperboard buyers	4	3	48	8	
Total	114	95	145	100	52
Industry sector	Estimated coverage				
	FIN		SWE		UK
Pulp, paper and paperboard	77% of the production (100% on company level)		35% of the production		70% of the production
Sawmills and wood based panels	70% of the production (sawmills) 100% (panels)		65% of the production (sawmills) 40% (panels)		60% of the production (sawmills) 100% (panels)
Secondary wood processing	20-80% depending on the defined branch		12%		20-80% depending on the defined branch
Marketing channel intermediaries	70% of the volume traded		17%		80% of the volume traded, 100% of the DIY retail
Paper and paperboard buyers	40% of the industrial paper purchases				50% of the industrial paper purchases

4.2 Analysis

Interpretation of the data called for a variety of analysis techniques. The analyses were conducted using SPSS statistical software. At the most basic level, means and distributions were used to interpret the magnitude of attitudes. For clearer interpretation of results, factor analysis (maximum likelihood factoring and varimax rotation of factors) was used to examine the dimensions inherent in the data and as a data reduction tool. In each case, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's Test for Sphericity, and Eigenvalues, as well as the judgement of the researchers were included in the decisions surrounding the number of factors that most meaningfully represented the larger number of variables. The reliability of the factor solutions was tested using the reliability coefficient Alpha.

Indicative significance testing was used, although the sampling was not pure random sampling, but closer to the total population. Statistically significant differences between independent variables (countries, industry sectors) were identified through the use of the χ^2 -test within individual variables or by comparing the means of factor score coefficients using one-way ANOVA (Bonferroni, sig. level .05). Correlation examination (Pearson) was used to analyse the relationships between the different levels of marketing. Cluster analysis was used in grouping the companies in article V. Finally, in article III, multiple regression analyses were used in a path model to analyse relationships between marketing strategies, structures and functions. (Bagozzi 1994; Malhotra 1993; Lewis-Beck 1994).

The frame of analysis within the empirical analysis is illustrated in Figure 6. It is derived from the theoretical framework of the study and each block describes a set of variables. The arrows between blocks describe the relationships under focus. Dashed arrows in the figure imply description and comparison, whereas solid arrows refer to an explanatory approach aiming to test the hypotheses based on the theoretical frame of reference. Table 3 shows the problems of analysis according to the frame of analysis and the methods used to solve each problem.

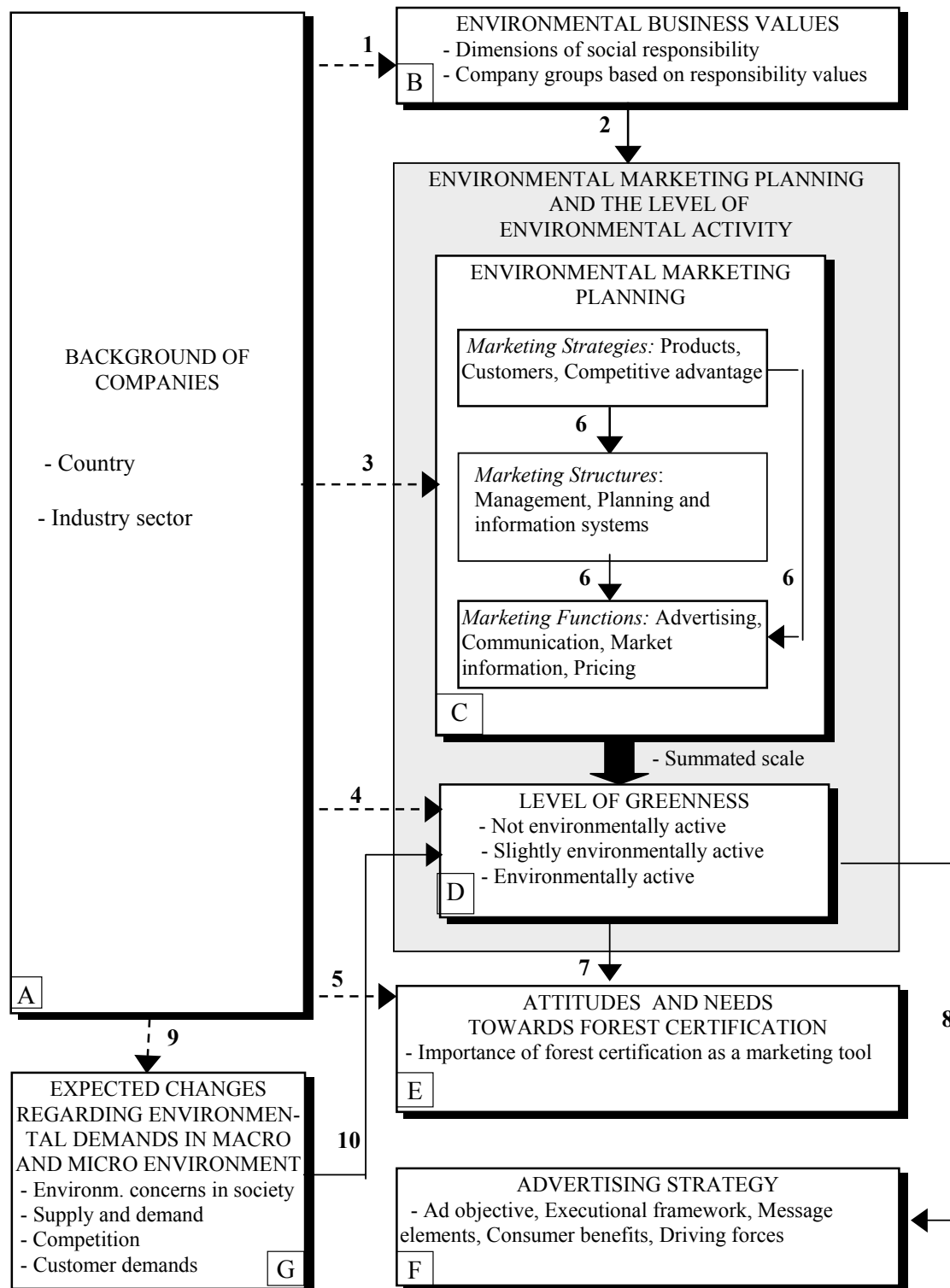


Figure 6 Framework for Data Analysis

Table 3 The Problem Areas and the Methods of Analysis

DESCRIPTION OF VARIABLES		
Letter	AREA OF ANALYSIS	METHOD OF ANALYSIS
A	Description of the background: - Country - Industry sector	Distributions
B	Environmental business values: Dimensions of social responsibility (V)	Means & Distributions, Factor analysis, Cluster analysis
C	Environmental marketing planning: <i>Marketing Strategies</i> : Products, Customers, Competitive advantage; <i>Marketing Structures</i> : Planning and information systems; <i>Marketing Functions</i> : Advertising, Communication, Market information, Pricing (all six articles)	Means & Distributions, Factor analysis
D	Environmental activity in marketing management: Level of greenness (III, IV, IV)	Factor analysis, Summated variable, Means & Distributions
E	Attitudes and needs towards timber certification: Timber certification as a marketing tool (I, II, III)	Means & Distributions, Factor analysis
F	Advertising strategy: Ad objective, Executional framework, Message elements, Consumer benefits, Driving forces (IV)	Means & Distributions, Factor analysis
G	Expected changes regarding environmental demands in macro and micro environment (VI)	Means & Distributions, Factor analysis

RELATIONSHIPS BETWEEN VARIABLES		
Arrow	AREA OF ANALYSIS	METHOD OF ANALYSIS
1	Relationship between background and the dimensions of social responsibility (V)	Means of factor scores by classes (ANOVA), Cross tabulation, χ^2 -test
2	Relationship between dimensions of social responsibility and environmental marketing planning (V)	Means of factor scores by classes (ANOVA)
3	Relationship between background and environmental marketing planning (I, II, III, V)	Means of factor scores by classes (t-test, ANOVA), Cross tabulation, χ^2 -test
4	Relationship between background and the level of environmental activity (greenness) (III, VI)	Means of sum variable by classes (ANOVA)
5	Relationship between background and attitudes and needs towards timber certification (I, II, III)	Means of factor scores by classes (t-test, ANOVA), Cross tabulation, χ^2 -test
6	Relationships between marketing strategies, structures and functions (all six articles)	Inter-item correlation, correlation of factor scores, Regression analysis
7	Relationship between the level of greenness and attitudes towards timber certification (III)	Means of factor scores by classes (ANOVA), Correlation
8	Relationship between the level of greenness and advertising strategy (IV)	Cross tabulation, χ^2 -test
9	Relationship between background and expected changes regarding environmental demands in macro and micro environment (VI)	Means of factor scores by classes (t-test), Cross tabulation, χ^2 -test
10	Relationship between expected changes in marketing environment and the level of greenness (VI)	Means of factor scores by classes (ANOVA)

5 SUMMARY OF THE STUDIES

5.1 Green Marketing of Paper Products in Finland and Sweden (I)

The purpose of this study was to describe and compare how environmental issues are emphasised in the marketing planning of the Finnish and Swedish paper industries. This was done by focusing on two hierarchical decision levels of marketing: the strategic level and the functional (implementation) level. Theoretically, the aim is to test Juslin's (1992) integrated model of marketing planning concerning environmental issues in marketing. Strategic level decisions are defined as product strategies, customer strategies and competitive advantage strategies. The impact of environmental issues on marketing functions is examined in advertising, communication, market information and pricing. The greater the emphasis on environmental issues in the strategies, the more clearly it should be reflected in these functions, e.g. in advertising and marketing communication. Timber certification could also be a tool for carrying out the marketing strategies of a company. The empirical data for the study consisted of 34 personal interviews among Finnish and 22 interviews among Swedish business units in pulp, paper and paperboard industries.

Finnish and Swedish pulp and paper companies are relatively well prepared for integrating environmental issues into business and marketing management. Supporting proposition P2, over half of the Finnish and Swedish pulp and paper industry companies emphasise environmental issues in their strategic business decisions. They also regard environmental issues as a potential source of competitive advantage. However, there were differences between the countries. A surprising result, contrary to proposition P3, is that the Finnish companies clearly emphasise environmental issues in their marketing strategies more than their Swedish counterparts. The Finnish pulp and paper industry also seems to emphasise more the role of forestry issues, whereas the Swedish industry stresses the role of production technologies as a source of environmental friendliness in paper products. As such, both countries agree on the potential of good forest management as a source of competitive advantage. The impact of environmental issues is clearly stronger among the Finnish companies, not only on the strategic level but in marketing communication, too. Especially the intentions to use timber certification in advertising are stronger among the Finnish companies, although - unlike in Sweden - there was no functional certification system in Finland at the time of data collection. Finnish companies were also more inclined to believe in a price premium for environmentally friendly products. The pulp and paper industries in both countries emphasise equally the NGO impact on their environmental decision making.

The result of the study substantively supports the proposition P1 suggesting that the greater the emphasis on environmental issues in the strategies, the more clearly it should be reflected in these functions, e.g. in advertising, communication and NGO impact on environmental decisions. The potential of good forest management as a competitive advantage correlates with the same marketing functions, too. The belief in a price premium for environmentally friendly products is seen as an independent issue with little relation to marketing strategies. Even though environmental issues are central in marketing strategies, sophistication of integrating environmental issues into marketing planning could be improved and the level of strategic decisions deeper if genuine environmental responsibility is considered important. Differences among business units even within the same company may reflect different market segments, but also show that the environmental business philosophy is not uniform across units.

5.2 Green Marketing of Sawn Timber and Wood Based Panels in Finland and Sweden (II)

The purpose of the empirical study was to describe and compare how deep environmental issues have been integrated in the marketing planning of the Finnish and Swedish sawmill and wood based panel industries. This was done by focusing on two hierarchical decision levels of marketing: the strategic level and the functional (implementation) level. Theoretically, the aim is to test Juslin's (1992) integrated model of marketing planning concerning environmental issues in marketing. Strategic level decisions are defined as product strategies, customer strategies and competitive advantage strategies. The impact of environmental issues on marketing functions is examined in advertising, communication, market information and pricing. The greater the emphasis on environmental issues in the strategies, the more clearly it should be reflected in these functions, e.g. in advertising and marketing communication. Timber certification could also be a tool for carrying out the marketing strategies of a company. The empirical data for the study consisted of 46 personal interviews among Finnish and 44 interviews among Swedish business units in sawmill and wood based panel industries.

Supporting proposition P1, the industries in both countries have started the process of integrating environmental issues into business and marketing management. Determining the level of support for P2, suggesting stronger emphasis of environmental issues among the Swedish sawmill industry, is complicated because of mixed findings. The results show that companies in both countries have integrated environmental issues equally in their strategic level decisions. About half of the surveyed companies emphasise environmental issues in their strategic business decisions. They also regard environmental issues as a potential source of competitive advantage. Timber certification would support strategic product decisions in almost two thirds of the companies. Findings suggest that, generally, customer environmental awareness has little effect on customer selection. However, some Swedish companies saw it as an important selection criterion. This is probably a result of increasing demand for certified products and the ability of some Swedish companies to satisfy this customer segment already during the data collection time in 1998.

Contrary to P2, the impact of environmental issues in marketing communication seems to have been stronger among Finnish companies. Possibly, the integration of environmental issues into marketing functions occurred earlier in Sweden than Finland. This could also explain the finding that Swedish companies examine environmental information and invite input from environmental groups much more actively than Finnish companies. Respondents saw little impact of environmental issues on pricing. However, about 40% in both countries believed in a price premium for environmentally friendly products.

As assumed according to the principles of environmental marketing (P3), marketing functions - e.g. advertising and pricing - are the logical consequences of strategic level decisions. The environmental emphasis in marketing strategies can be seen in the use of environmental issues in the marketing communication as well as in the collecting of environmental information. The potential of good forest management as a source of competitive advantage correlates with the belief in a price premium for environmentally friendly products, and the collection of environmental information. Even though environmental issues are central in marketing strategies, sophistication of integrating environmental issues into marketing planning could be improved and the level of strategic decisions deeper if genuine environmental responsibility is considered important. Differences among business units even within the same company may reflect different market segments, but also show that the environmental business philosophy is not uniform across units.

5.3 Environmental Activity and Forest Certification in Marketing of Forest Products – A Case Study in Europe (III)

This study was developed around two general objectives. From a practical perspective, the objective was to measure, describe, and compare how environmental issues and forest certification are used in marketing planning of European forest industries. Second, from a marketing theory perspective, the logic of environmental marketing was analysed by studying hypothetical relationships between marketing strategies, structures and functions. This was done by testing Juslin's (1992) integrated model of marketing planning with respect to environmental issues by using one functional level marketing tool – forest certification – as an example to examine how well the level of environmental activity explains the importance of timber certification for the company. The analysis was based on interview data among 454 forest industry companies and their industrial customers from four European countries.

The results show that a majority of the Finnish, Swedish, German and British companies have at least partially integrated environmental issues into their marketing strategies and practices (Question 1). This suggests that the companies may not be at risk of being accused of "greenwashing". The level of environmental activity (greenness) of companies was studied by creating a one dimensional factor score rating (Q2). Relative differences of the level of greenness were studied by classifying 20% of companies "not environmentally active", 60% of companies "slightly environmentally active", and 20% "environmentally active". The impact of environmental issues on marketing planning has been strongest among German and Finnish companies, and within the pulp and paper industry. This indicates that environmental marketing is becoming the norm at some level but this development has been driven mostly by outside pressures and it has been a genuine proactive strategic decision only for some of the companies. Given the attention to environmental issues, forest certification is considered to be an important marketing tool and the environmental emphasis in marketing planning is guiding companies to look for ways to utilise certification in their marketing (Q3).

Supporting proposition P2, the level of greenness explains the importance of forest certification for the company whereas background factors such as country or industry sector did not have such explanatory power (Q3). Multiple regressions among variables measuring strategies, structures and functions support the proposition that marketing structures and functions reflect marketing strategies in the studied companies (P1). However the relationships could have been deeper and there is still room for enhanced execution of environmental marketing strategies through appropriate structures and functions. In addition, companies practicing genuine environmental marketing planning are best positioned to reap the potential market benefits of forest certification.

5.4 Green Advertising: Greenwash or a True Reflection of Marketing Strategy? (IV)

The main question in this paper is: "Does environmental advertising reflect genuine environmental marketing strategies?" The purpose is to examine environmental advertising and its relationships with environmental marketing strategies and structures. Propositions regarding these relationships are tested against empirical data and use of green advertising among Finnish forest industry companies is described. An independent measure of environmental activity based on environmentally oriented marketing strategies, structures and functions was created and then compared with the separately measured green content of the advertisements of each company. This study includes 75 Finnish forest industry companies and their 167 different advertisements (out of a total of 286 ads) found in eight magazines between 1995 and 1998.

Green advertising without environmental emphasis in strategies and appropriate connections between strategies and marketing operations leads to "greenwashing". Greenwashing is the misuse of the principles of environmental marketing and means that consumers cannot trust the content of advertisements. Over half of the 167 analysed ads included environmental aspects. In that sense, advertising reflects the rise of environmental issues in the societal debate in the 1990s. It also provides a clear indication that green advertising is an important component of the communication done by the Finnish forest industry. The environmentally oriented advertising by the industry used green colour, nature and eco-labels. Some green ads also emphasised raw material renewability, efficient production processes, recyclability, and green life style. However, it could be argued that the use of green claims is quite limited in its scope. The ads quite often simply stated that the product is "environmentally friendly" or "natural". More versatile green advertising could be used.

The results of the study indicate that the advertisements quite accurately reflected the companies' level of greenness and the proposition that green advertising reflects environmentally sound strategic and structural level decisions is supported by empirical results (Propositions P1, P2, P3, P4, and P6). Contrary to P5, low price was more emphasised by environmentally active companies than by others. Findings suggest that there is clear environmental substance behind environmental advertising claims in this industry. This means that consumers can trust green claims made by companies and the industry should not be risking accusations of green washing. Still, the sophistication of integrating environmental issues into marketing planning could be improved and the level of green strategic decisions deeper. The industry should work in this direction to gain more substance behind its environmental advertising.

5.5 Social Responsibility in Environmental Marketing (V)

Companies along the forestry-wood value chain from Finland, Sweden, Germany and the UK were surveyed in order to examine corporate social responsibility (CSR) in business values and environmental emphasis in their marketing planning. Most of the 454 surveyed companies emphasise environmental issues in their values, marketing strategies, structures and functions. An interesting observation is that industry sectors closest to end-users emphasise both “redirecting towards sustainability” and “profitability orientation” in their values more than companies in the beginning of value chain. There are companies that feel “redirecting of customers towards sustainability” and “profitability orientation” are compatible. This attitude was most common among German companies. The results indicate that environmental marketing and CSR are becoming the norm at some level but this development has been driven mostly by outside pressures and CSR behaviour has been a genuine proactive strategic decision only for a part of the companies.

By using cluster analysis, the companies were classified into three groups according to their responsibility values based on the concepts of redirecting customers towards sustainability and the role of governmental balancing of markets. This classification was used to test the concept presented by Sheth & Parvatiyar (1995) who argue that sustainable development can be achieved only by proactive corporate marketing and active government intervention. This idea was challenged by arguing that the “truly new marketing orientation” should be found from the direction of sustainable development and free market system (P2).

Thirty two percent of the companies were classified as “proactive green marketers” (companies emphasising pursuing sustainability but believing in free market system). Supporting P2, “proactive green marketers” emphasise environmental issues in their marketing planning clearly more than traditional “consumption marketers” (26% of sample), and “reactive green marketers” (42% of sample) who emphasise pursuing sustainability under governmental balancing (compliance model). We interpret these results to mean that the proactive green marketers are the most genuine group in implementing environmental marketing voluntarily (innovating) and seeking competitive advantage through environmental friendliness. Thus, we suggest that the example of these progressive companies should be the truly new marketing orientation, the direction towards sustainable development in business and society. Government intervention appears to be needed for the laggards but as companies evolve the need for governmental intervention decreases and the truly new environmental marketing orientation can be found from the direction of a free market system (invisible hand). Companies must become more proactive in defining new types of relationships with both regulators and environmentalists in order to gain competitive advantage and raised resource productivity.

From the perspective of marketing theory, the interrelationships between values, strategies, structures and functions in marketing planning were analysed. Structures and functions are tools to implement strategies and logical relationships should exist between various planning levels. The results of the correlation analysis give evidence that green values, environmental marketing strategies, structures and functions are logically connected to each other as hypothesised according to the model of environmental marketing used to guide this study (P1). This suggests that the companies may not be at risk of being accused of “greenwashing”.

5.6 Green Marketing of Softwood Lumber in Western North America and Nordic Europe (VI)

The purpose of the empirical study was developed around two general objectives. First, to determine how environmental issues have been integrated into marketing planning in the softwood sawmill industry in western North America and in the Nordic countries (Finland and Sweden). And second, to examine expected changes in the marketing environment (macro and micro environment) in both regions. The main market area for surveyed Nordic softwood sawmills (75 interviews in sample) are Central European countries whereas western North American sawmills (52 interviews in sample) operate mainly in domestic markets. Integration of environmental issues into marketing planning focused on three hierarchical decision levels of marketing: the strategic, structural, and functional (implementation) levels. A summated scale was developed to measure and compare the level of environmental activity (greenness) of companies. Expected changes in the marketing environment (macro and micro environment) were examined to assess the potential of environmental friendliness as a competitive advantage.

The findings suggest that the development of environmental marketing is still in its infancy in the Nordic and Western North American softwood sawmill sectors. Low demand for environmentally friendly products explains the lack of development. Supporting proposition P1, Nordic sawmills have developed farther along these lines than mills in North America. Over half of North American sawmills were classified as not environmentally active, with only three companies (6%) categorised as environmentally active; about one third of Nordic sawmills were classified as environmentally active.

Respondents generally expect that environmental issues will become more and more important in the marketing environment. Nordic sawmills expect environmental demands to increase more than North American companies. We expected respondent perceptions of the development of the marketing environment to explain green behaviour in marketing planning (P2). This proposition appears tenable based on empirical results: the more environmentally active companies are, the more they expect environmental demands to increase. We feel that these results indicate that Nordic sawmills are more proactive in their environmental marketing planning. They have turned toward green marketing based on expected development of the marketing environment, not based on awareness of current customers.

6 CONCLUSIONS

The six separate studies and the review section included in this dissertation are all dealing with the same research problems: how environmental issues and social responsibility are (and should be) integrated into marketing planning. Empirical quantitative data (total 506 interviews) was collected from Finnish, Swedish, German, UK, and western North American forest industries in order to examine the integration of environmental issues into marketing planning and the logic of environmental marketing. Empirical phenomena were described, comparing descriptions regarding differences between countries and industry sectors were conducted, and explanatory examination regarding hypothetical hierarchical relationships between environmental business values, marketing strategies, structures and functions was done. The principle assumption to be tested in this dissertation is that environmental marketing functions (e.g. advertising) obtain their objectives from marketing strategies which are based on the objectives of the business unit, in this case environmental business values.

The results show that a majority of the surveyed industries have at least partially integrated environmental issues into their marketing strategies and practices. This suggests that the companies may not be at risk of being accused of “greenwashing”, even though the integration of environmental issues into marketing planning could be deeper. A multivariate measure instrument was constructed to examine and categorise companies' level of environmental activity (greenness). The impact of environmental issues on marketing planning has been strongest among German and Finnish companies, and within the pulp and paper industry. This indicates that environmental marketing is becoming the norm at some level but this development has been driven mostly by outside pressures and it has been a genuine proactive strategic decision only for a part of the companies. Given the attention to environmental issues, forest certification is considered to be an important marketing tool and the environmental emphasis in marketing planning is guiding companies to look for ways to utilise certification in their marketing.

Another procedure of classification was conducted by clustering the companies into three groups according to their responsibility values based on the concepts of redirecting customers towards sustainability and the role of governmental balancing of markets. As assumed, “proactive green marketers” (32% of the surveyed companies) believing in a free market system are the most genuine group in implementing environmental marketing voluntarily and seeking competitive advantage through environmental friendliness. Companies must become more proactive in defining new types of relationships with both regulators and environmentalists in order to gain competitive advantage and raised resource productivity.

Companies practising genuine environmental marketing planning through appropriate strategies, structures and functions are best positioned to reap potential competitive advantage through environmental friendliness. The potential of environmental friendliness as an effective competitive advantage is still questionable and dependent on market reactions. In this study, 23% of responding companies gave it little or no importance when planning competitive emphasis. It should be noted that other aspects of competitive advantage, e.g. price or quality, were considered to be much more important factors in customers' buying decisions. “Redirecting of customers towards sustainability” and “profitability orientation” are compatible: in the long run, companies' environmental and social responsibility cannot become more sophisticated without profitability. However, it can be concluded that genuine and transparent corporate social responsibility is seen as a necessity, at least among larger corporations. Effects of a company's operations on the environment and, as a new aspect in the

21st century, also on social stakeholders are more and more often assessed and reported by companies. This is considered necessary from the point of view of company image and for a transparent communication tool.

The results of the study give evidence that green values, environmental marketing strategies, structures and functions are logically connected to each other as hypothesised according to the model of environmental marketing used to guide this study (explanatory approach). However the relationships could have been deeper if genuine environmental responsibility is regarded important. This leads to both theoretical and practical considerations. Assumptions concerning the relationships between marketing strategies, structures and functions have been tested in several studies with supportive results (Martikainen 1994, Niemelä 1993). Theoretically, this dissertation allows further validation for Juslin's (1992) hierarchical integrated model of marketing planning.

As to the validity of the measurement instrument, there is need for additional testing. In five of the separate studies in this dissertation the measures of values, strategies, structures and functions were obtained through self-assessments from the respondent. As an example of a functional level marketing tool, a separate content analysis of advertising by Finnish forest industries was conducted in the article IV with supportive results regarding the hypothesised relationships. One way to further develop measurements could be to acquire independent measures of strategies, structures and functions. The environmental emphasis in strategic product decisions could be observed, information concerning structural issues could be obtained directly from company personnel, and communication materials analysed by content analysis. This type of independent measurement will allow new insight in testing the logic of both the planning model and marketing practice.

Testing the model of environmental marketing in this dissertation will support the development of theory in this area. Additionally, the results of the study can be used in developing strategic marketing of (forest) industry companies especially concerning integration of environmental issues into marketing planning. However, as Crane (2000a) suggests, there is a need for developing longitudinal research which not only identifies and explains enacted green strategies and their implementation, but investigates their subsequent success or failure with implications both for those businesses and for the environment itself.

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