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Acceptability of operations, corporate responsibility, sustainability, or what?

- the many faces of responsibility within the global pulp and paper industry

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Abstract

This work summarises the essential findings of the empirical analysis of responsibility within the Scandinavian-based pulp and paper industry that was studied by quantitative and qualitative methods, employing the acceptability of operations as an indicator. The data were gathered at four mills of the case company, Stora Enso Oyj, located in four countries, China, Finland, Germany and Portugal, by interviewing the internal and external stakeholders.

The interview material gave a number of definitions of the acceptability of operations and allowed a few dominant regional characteristics to be extracted. The main elements of acceptability for the Chinese were loyalty, distribution of welfare and cultural diversity, while the Finnish stakeholders emphasised profitability, sustainability and communication, the Germans socioeconomics, the solid waste problem and global forest operations and the Portuguese case showed the importance of technical competitiveness, quality of the products and land use.

The results showed that the acceptability elements covered issues beyond the traditional dimensions of corporate social responsibility. This demonstrated that the traditional concepts of corporate social responsibility, or corporate responsibility, are not adequate when dealing with the operations of a global company.

Key words: pulp, mills, profitability, sustainability & acceptability

Introduction

The operating methods and techniques of the pulp and paper industries in Europe and North America have been criticised since the 1970's (Halme, 1997, Uimonen, 1998, Hellström, 2001), at the same time as internationalisation has increased the number of stakeholders and enlarged the debate surrounding the industry. Other reasons for the increasing willingness of corporations to behave in an ethically acceptable manner and to carry their share of a wider responsibility than just the economic one can be changing values, building of company images, preparations for future regulations and standards, and globalisation of corporations, societies and politics. The choice of behaviour that is ethically "right" is problematic, as there is no model that defines how to behave in different operational environments. This problem has arisen especially in the natural resource-based industries such as pulp and paper, as their dependence on natural resources binds them intensively and comprehensively to the local societies wherever they operate.

The world's ten largest pulp and paper companies are located in Asia, North America and Scandinavia (<http://english.forestindustries.fi/figures/>). The operations of those in Europe and North America have been criticised constantly since the 1970's (Halme, 1997, Hellström, 2001, Uimonen, 1998), and recent criticism of the large Scandinavian-based companies has been stronger than that of Asian and North American ones, for example. There are two major reasons for this. First, Scandinavian-based pulp and paper companies have truly globalised to other continents, whereas the Asian and North American companies have expanded mainly within their own continents. Secondly, the Scandinavian companies export the majority of their production, so that the Finnish pulp and paper industry exported 90% of its production

in 2005 and around 50% of its production capacity was located outside the country (<http://english.forestindustries.fi/figures/>), whereas the Asian and North American companies produce mainly for their own continental markets.

The above differences explain why the Scandinavian companies can be considered more international or global than other large pulp and paper producers, and why their operating environment is more challenging. It is thus globalisation that has raised the social role of the pulp and paper industry as a topic of debate in Scandinavia recently and has increased the number of stakeholders involved, while no such pressure exists within the Asian and North American-based industries, or the pressure remains at a reasonable level, at least.

The objective of this paper is to outline empirical corporate responsibility within a globally operating pulp and paper company, Stora Enso Oyj. Next, the theoretical context of stakeholder approach-based corporate responsibility and the operationalisation of the theoretical framework will be summarised in the following, a synthesis of the quantitative and qualitative analyses will be presented and the strengths and challenges of this kind of study will be discussed. Finally, conclusions will be drawn.

Conceptual and theoretical background

Corporate responsibility based on a stakeholder approach

Milton Friedman's (1970) classic statement "the business of business is business" is probably one of the oldest and narrowest references to the responsibility of business enterprises. The concept of responsibility has diversified greatly since then. Carroll (1979) launched the multidimensional construct of corporate social performance, which included an element of responsibility. The theoretical concepts of corporate social responsibility and performance were turned into practical ones in the 1990's. The UNCED summit in Rio in 1992 boosted a general consciousness of environmental, social and cultural issues (UNCED, 1993), since when corporate social responsibility has been connected with sustainable development (Welford, 2002, Korhonen, 2003). Both scholars and business people adopted the concept of "corporate responsibility" in the late 1990's in order to clarify the role of social issues as one dimension of responsibility. In addition, the practical concept of "acceptability of operations" was applied when describing social responsibility and related issues in the Finnish pulp and paper industry in the late 1990's, Donaldson & Preston (1995) emphasised that business enterprises that are considering a strategy of corporate social responsibility have to identify the object of their responsible actions. Their stakeholders are commonly considered to represent this object. The first references to stakeholders in an organisation-related context dated back to the 1960's (Freeman, 1984), since when the stakeholder approach has become a commonly used framework within which to broaden management's vision of its roles and responsibilities beyond the profit maximisation function, to include the interests and claims of non-stockholding groups (Mitchell et al., 1997).

Theoretical framework

The theoretical framework is based on the modification of the acceptability hierarchy (Mikkilä 2003, 2005a, Mikkilä et al., 2005), based on Saaty's (1980) hierarchical decision-making process as presented in the form of the analytic hierarchy process (AHP). The acceptability model describes multi-criteria problems with multiple actors, the latter being defined in terms of the characteristics of two theories related to CSP: the theory of business values and stakeholder theory. The theory of business values refers to judgements, including the process involved in making judgements and the standards and criteria brought to bear in this process (Frederick, 1995). Stakeholder theory (Freeman, 1984) was employed to identify judges for the acceptability model (Figure 1).

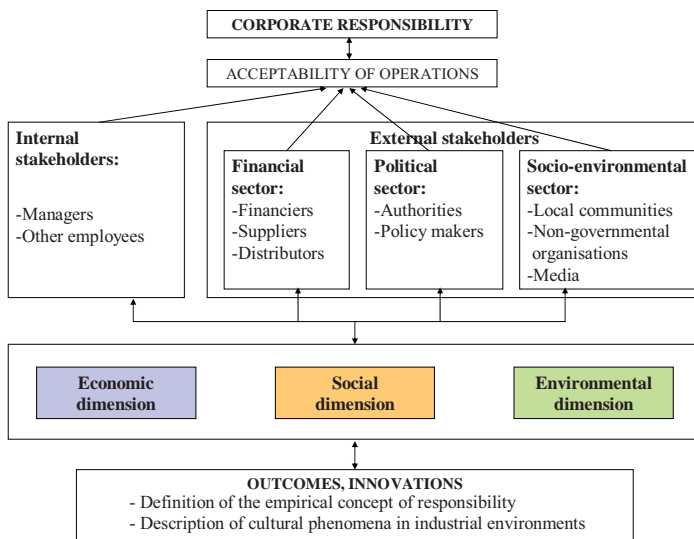


Figure 1. The conceptual framework for the responsibility study

Material and methods

Basic material

The empirical material was gathered from four pulp or paper mills in China, Finland, Germany and Portugal belonging to a Scandinavian-based company, Stora Enso, and their operating environments (Table 1).

Table 1. Technical data on the case mills

Characteristics	Case 1: China	Case 2: Finland	Case 3: (Former East) Germany	Case 4: Portugal
Year of foundation	1995/96	1937	1993/94	1965
Number of employees	690	800	350	420
Raw material	Market pulp	Roundwood from natural forests	Recycled paper	Roundwood from plantations
Product	Fine paper	Fine paper	Newsprint	Market pulp
Production capacity, t/a				
- pulp/de-inking plant		370,000	360,000	300,000
- paper	120,000	814,000	300,000	

The stakeholders interviewed represented the major part of the value chain of the case mills, from the raw material source up to the end-users of the products. A total number of 130 people participated, some 60% of whom represented external stakeholders and the remaining 40% were employees of the company. Thus, the entire material was composed of 130 taped interviews and completed questionnaires (Table 2).

Table 2. Distribution of interviewees

Stakeholders	China	Finland	Germany	Portugal
A. Internal stakeholders				
1. Headquarters		3		
2. Dept. of forest operations		4		6
3. Case mill				
- top and middle managem.	6	8	7	2
- staff	3	2	12	3
Sub-total	9	17	19	13
B. External stakeholders				
1. Customers	2	2	2	-
2. Suppliers	1	4	2	3
3. Authorities	2	2	5	5
4. Policy makers	2	3	5	1
5. Pulp and paper association and research institutes		2	1	1
6. Non-governmental organisations	-	7	3	3
7. Local people	3	4	5	3
Sub-total	10	24	23	16
Total sample	19	41	41	29

Applied methods

The three applied methods are presented profoundly in Mikkilä, 2005a, 2005b and Mikkilä et al., 2005 and summarised below.

The quantitative analysis was based on Saaty's (1980) Analytic Hierarchy Process (AHP), which is a multi-attribute decision analysis method (Mikkilä et al., 2005) that provides a way of quantifying subjective preferences concerning entities or objects (Saaty, 1980). The local weights for the acceptability criteria and their sub-criteria were calculated on the basis of these pairwise comparisons, which were analysed using a recent Mathematica package, AHP.m, developed by Alho and Kolehmainen at the University of Joensuu, Finland. Alho et al. (2001) introduced the method as follows. Let v_i be the value of an entity (main criterion in this application) $i = 1, \dots, I$ and let $r(i,j,k)$ be the ratio v_i/v_j as perceived by judge $k = 1, \dots, K$. As all v_i are positive, it can be assumed without loss of generality that $v_i = \exp(\mu + \alpha_i)$, where μ is an intercept term. The theoretical values of v_i/v_j are thus $\exp(\mu + \alpha_i)$, where μ cancels out. Define $y(i,j,k) = \log[r(i,j,k)]$. The regression model for pairwise comparisons of data in the multiple judge case is of the loglinear form

$$r(i,j,k) = \alpha_i - \alpha_j + \varepsilon(i,j,k), \quad (1)$$

where the error term representing all types of inconsistencies has an expected value $E[\varepsilon(i,j,k)] = 0$. For identifiability, it is assumed that $\alpha_I = 0$, so that α_i measures the value of entity i relative to entity I .

The major deficiency affecting the statistical analysis lay in the imperfect coverage of the acceptability criteria. A qualitative analysis was therefore necessary in order to deepen the content of empirical corporate social performance and responsibility (Mikkilä, 2005a). For this purpose, thematic interviews (Eskola & Suoranta, 1998) were conducted in the form of guided conversations according to the recommendations of Yin (2003). The interview data

were organised separately for each country for further processing. Qualitative data analysis was carried out using the most recent software package devised for this purpose, QSR NVivo, a product of the Australian company QSR International. The program is useful for coding, searching and modelling qualitative data (Luomanen & Räsänen, 2002). The interview material was transcribed and imported into NVivo, and coded. Next, the passages for each code were counted by cases in order to obtain an idea of the cultural and national characteristics of the acceptability concept on the one hand and the common characteristics on the other. After this the stakeholders' understanding of the acceptability concept within the pulp and paper industries and their opinions on the matter were studied in depth. Finally, themes defining the concept were extracted and combined into typologies in the subsequent analysis. Thus an interpretative explanation of the acceptability phenomenon was given on the basis of the clues produced and hints available.

Triangulation is a method used for confirming findings in qualitative research. It is supposed to support a finding by showing that its independent measures agree with it, or at least do not contradict it (Miles & Huberman, 1994). Two methodologies, quantitative and qualitative, were chosen here in order to pick out triangulation sources that have different biases and different strengths, so that they can complete each other. Although the quantitative analysis yielded three tentative acceptability criteria, financial-technical, environmental and social, the experimental acceptability model was composed of eleven elements: technical, financial, economic, resource-based, environmental, social, societal, cultural, organisational, institutional and ethical. Comparison of these two models would have been very difficult without further processing of the qualitative model for a concept of empirical corporate responsibility having four major elements, economic, environmental, social and organisational responsibility. The similarities and contradictions between the two sets of data were identified and compared by stakeholder groups in order to describe the phenomenon profoundly and increase the validity of the results (Mikkilä, 2005b).

Results

Regional acceptability of the case company

The interview material presented a number of definitions for the acceptability of operations. The dominant regional characteristics are summarised below.

The Chinese case illustrated well the challenge of global acceptability. The results showed that the employees were loyal to the company's targets and policies, but their understanding of the concepts might differ from that existing at headquarters. In addition, the distribution of welfare was regarded as the duty of a large company.

The economic, environmental and social debate in Finland in the 1990's was reflected in the acceptability characteristics. Business management trends associated with quartile thinking and shareholder value was reflected in the emphasis on profitability as an acceptability element. The environmental debate on sustainable natural resource management and the conservation of biological diversity in commercial forest areas brought out the sustainability dimension. The communication element was a consequence of the poor communication skills that existed at the time when the extensive international criticism of the industry began in the early 1990's.

The German case produced a three-level model of local, national and global acceptability of operations. Socioeconomic issues were emphasised at the local level in the region of the former East-Germany, the solid waste problem was crucial at the national level, and finally, German stakeholders were worried about the nature of global-level forest operations and their effects on the global environment.

Technological issues dominated over financial ones when it came to the Portuguese concept of acceptability. The quality of products was generally considered an essential issue

in industrial production, and the questions concerning land use that had originated from the environmental discussion at the time of the extensive establishment of eucalyptus plantations in the 1980's were still current, as many smallholders had recently shifted or were planning to shift from agricultural production to the more productive cultivation of eucalyptus trees.

Empirical corporate responsibility

The regional findings were generalised into an empirical corporate responsibility model based on the large empirical material indicating comprehensive corporate responsibility (Figure 2).

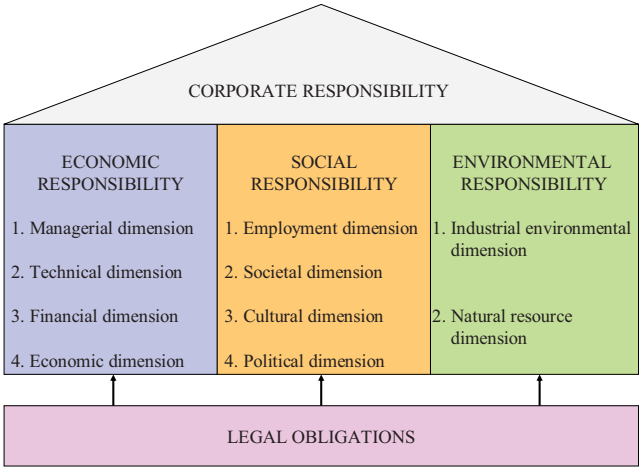


Figure 2. Empirical corporate responsibility model

Corporate responsibility, including economic, social and environmental responsibilities, refers to both the organisational and societal, or internal and external, responsibility of a company. The organisational, or internal part of economic responsibility, for example, includes managerial, technical and financial dimensions, while the economic dimension refers to the economic impacts of the company and thus to societal, or external responsibility. The employment and cultural dimensions are both organisational and societal questions, but the remaining dimensions of social responsibility refer mainly to the company's relations with the surrounding society. Similarly, both dimensions of environmental responsibility include both internal and external elements.

Discussion

A few major challenges related to the research setting, applied methodologies and cultural issues that arose during the field work and analyses are discussed below. The various cultures were one of the major challenges that arose. The primary focus was on studying the content of the acceptability concept, but this was also a study of the transferability of western-based concepts and methodologies to the industrial Suzhou area of China and to a transitional area in former East Germany.

The objective of employing the quantitative method here was to test its applicability to research problems of this kind. Measurement and comparison can at best facilitate the formation of a quick idea on a phenomenon, but they provide only a narrow explanation, as found here. When only the elements of corporate responsibility corresponding to the

acceptability criteria were compared with the tentative criteria, the analysis resulted in fairly similar valuations, and this showed that the tentative acceptability criteria were relatively broadly applicable, not only in Finland, where they had been formulated.

The comparison of the qualitative and quantitative results demonstrated that the Finnish, German and Portuguese interviewees were relatively logical in behaviour between the two methods. The comparison between the quantitative and qualitative analyses resulted in some inconsistencies in the Chinese opinions, however, in that the respondents appreciated financial-technical and social issues in industrial production, while they hardly mentioned environmental issues at all in the open interviews. On the basis of this, it can be concluded that the applicability of western concepts and methodologies is far from self-evident in either a business or research context when a totally different culture is involved.

The challenges were evident, but their total influence on the conclusions could not be estimated concretely. A cross-scientific, cross-methodological and cross-cultural research is always subjective, however. Thus, the cultural and other challenges can scarcely be said to detract from the value of the results.

Conclusions

The operating environments of multinational enterprises are changing and developing rapidly because of the expansion of these enterprises and the economic, social, cultural and environmental developments taking place in the societies concerned. Corporate (social) responsibility has become a popular concept in the strategic management of industries during the last ten to fifteen years. Many business concepts have been launched very rapidly, and it is therefore not surprising that the content of popular theoretical concepts is not always clear in industrial circles.

This study showed on the basis of these four substantially different cases that responsibility through the concept of acceptability is a local and regional phenomenon based on local and regional values. The acceptability of operations describes the current situation, and if the situation is thought to be good enough, this approach produces relatively little information on potential future challenges. One crucial observation was that, although the general acceptability of operations was relatively high in all cases covering issues related to the company's current performance, and also on issues of wider social responsibility, the higher the acceptability was, the more important was the economic and socioeconomic role of the production unit in society.

It can be concluded that the acceptability elements covered issues beyond the traditional dimensions of corporate social responsibility. Thus the acceptability of operations indicated comprehensive corporate responsibility. The application of comprehensive corporate responsibility approach in business context may have some positive implications for sustainability.

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