



Belgeo

Revue belge de géographie

1 | 2009

**Recent developments in economic geography –
Miscellaneous**

A stakeholder model in economic geography: perception and management of environmental stakeholders in German manufacturing companies

*Ein Stakeholder-Modell in der Wirtschaftsgeographie : Wahrnehmung und
Management von Umweltschutz-Stakeholdern in deutschen
Industrieunternehmen*

Boris Braun and Mark Starmanns



Electronic version

URL: <http://journals.openedition.org/belgeo/7848>

DOI: 10.4000/belgeo.7848

ISSN: 2294-9135

Publisher:

National Committee of Geography of Belgium, Société Royale Belge de Géographie

Printed version

Date of publication: 31 March 2009

Number of pages: 65-82

ISSN: 1377-2368

Electronic reference

Boris Braun and Mark Starmanns, « A stakeholder model in economic geography: perception and management of environmental stakeholders in German manufacturing companies », *Belgeo* [Online], 1 | 2009, Online since 19 May 2013, connection on 10 December 2020. URL : <http://journals.openedition.org/belgeo/7848> ; DOI : <https://doi.org/10.4000/belgeo.7848>

This text was automatically generated on 10 December 2020.



Belgeo est mis à disposition selon les termes de la licence Creative Commons Attribution 4.0 International.

A stakeholder model in economic geography: perception and management of environmental stakeholders in German manufacturing companies

Ein Stakeholder-Modell in der Wirtschaftsgeographie : Wahrnehmung und Management von Umweltschutz-Stakeholdern in deutschen Industrieunternehmen

Boris Braun and Mark Starmanns

- 1 In this paper we aim to show that stakeholder theory can enrich analysis in economic geography. We do this by presenting and testing a model that explains how managers perceive and manage their environmental stakeholders, i.e. stakeholders who raise environmental claims. Particularly newer approaches in economic geography, which regard economic action as embedded within social relationships, can gain from stakeholder theory.
- 2 To show how stakeholder theory can improve the understanding of the firm in its business environment in geography, we will focus on approaches recently developed in the field of environmental economic geography (see for a summary Braun, 2003). In these approaches stakeholder theory plays an important role for the following reasons: (a) The management of a firm takes decisions or actions that have a positive or negative effect on the environment; however, these decisions or actions are motivated, driven, supported – basically constructed – by many competing stakeholder claims (DiMaggio and Powell, 1983). (b) Firms' environmentally harmful operations often mobilise stakeholders to protest against these firms; usually companies somehow react to these stakeholder protests. How managers perceive and deal with their stakeholders

therefore can also de- or increase a company's negative effect on the natural environment.

- 3 There is considerable debate about who actually is a stakeholder. According to Freeman (1984) a stakeholder is "any group or individual who can affect or is affected by the achievement of the organization's objectives". Attempting to bring an ethical perspective into management studies, the stakeholder concept has been discussed and incorporated into economics throughout the past 20 years (see e.g. Donaldson and Preston, 1995; Freeman, 1984; Matikainen, 1994; Mitchell *et al.*, 1997; for a critical account see Friedman, 1997). But only lately it has been taken up by economic geographers (e.g. Braun, 2003; Glasze and Zöller, 1998; Schulz, 2005; Zöller, 2005). Managers usually automatically apply the stakeholder concept, when they choose to which of their stakeholders they will pay attention. Freeman's "principle of who or what really counts" asks for the reasons why a manager chooses to deal with certain stakeholders, and not with others. The principle poses two questions: (a) Who (or what) are the stakeholders of the firm? (b) To whom (or what) do managers pay attention? In this paper we are interested in the latter question – i.e. what determines environmental stakeholder salience, "the degree to which managers give priority to competing claims" (Mitchell *et al.*, 1997, 869). We do not primarily want to know which stakeholders managers regard as important but rather inquire theoretically, under which conditions managers consider certain classes of entities as (relevant) stakeholders. Results of this kind of study can help to predict managers' interaction with stakeholders – the findings can thus support managers to select the stakeholders they should deal with, and can also help stakeholder groups to identify more effective methods to approach managers with their environmental claims. From a more conceptual perspective our study may serve to advance stakeholder salience theory within economics and economic geography.
- 4 We will proceed as follows: After briefly presenting and enhancing stakeholder salience theory, we will discuss the model we use. We base our model on the *stakeholder salience model* by Mitchell *et al.* (1997). In their theory they suggest that three stakeholder attributes – power, legitimacy, urgency – affect stakeholder salience and influence managerial decisions. However, we add another attribute into the model and also integrate company- and product-related characteristics; we test how all these factors modify the managers' perception of their stakeholders. To test our model empirically we use survey data of 250 German manufacturers as well as bi- and multivariate statistical analysis. We will finish by presenting and discussing the results.

Theory and hypotheses – stakeholder identification and salience

Environmental stakeholder salience and management studies

- 5 There is hardly disagreement on who counts as potential stakeholder – individuals, groups, organisations, the neighbourhood etc. However, the pragmatic reality is that managers simply cannot attend to all potential claims of their stakeholders. Applying stakeholder theory, the literature in management studies recently discussed fundamental questions for managers like: Which stakeholder groups deserve management attention, and which do not? How much time and money shall managers

spend on one particular stakeholder? How do managers determine to whom they will allocate time? In short, the discussion on the definition of stakeholders is centred on how to narrow the stakeholder definition without neglecting important stakeholders in the business environment (for a comprehensive summary see Mitchell *et al.*, 1997).

- 6 The most comprehensive attempt to pinpoint the question “who or what really counts?” is undertaken by Mitchell *et al.* (1997) in their paper on stakeholder identification and salience. Their paper is an attempt to extract factors that determine stakeholder salience – i.e. “the degree to which managers give priority to competing stakeholder claims” (Mitchell *et al.*, 1997, 869). They suggest that three attributes – power, legitimacy, urgency – determine why a manager pays more attention to stakeholder *x* in his business environment than to stakeholder *y*. According to this theory, stakeholder salience is a function of one, two, or all three of the attributes power, urgency, and legitimacy. The number of attributes that a manager perceives as relevant with regard to one particular stakeholder will determine this stakeholder’s salience. The more attributes managers assess as strong, the higher the salience of this particular stakeholder.
- 7 The question, which stakeholders a manager interacts with, is very much dependent on the issues under consideration. We will focus on environmental issues, very similarly to what Gago and Antolín (2004) did in their empirical study on stakeholder salience of Spanish manufacturing companies. We will thus examine environmental stakeholder attributes and their influence on environmental stakeholder salience, i.e. we look at why managers give priority to certain stakeholders in their business environment regarding environmental issues.

Environmental power of stakeholders

- 8 Mitchell *et al.* (1997) define stakeholder power through resource dependence theory: Stakeholder *x* has power over a company, if he can make the company do things that it would not have done without the influence of stakeholder *x* (compare Pfeffer and Salancik, 1978). The use of *power* as one element of environmental stakeholder salience is also supported by neo-institutional theory from sociology, which states that coercive pressures strongly determine managers’ decisions (DiMaggio and Powell, 1983). Institutional pressures – or the environmental power of a stakeholder – can influence the survival of the company. In the environmental salience model power influences environmental salience: the more power against a firm a stakeholder has with his environmental claims, the more attention the firm will pay to them. Consequently, our first hypothesis is:
 - 9 H 1: The stronger a manager perceives a stakeholder’s environmental power, the higher the stakeholder’s environmental salience.

Environmental legitimacy of a stakeholder

- 10 Mitchell *et al.* (1997) show that many definitions of the term *stakeholder* imply the notion of *legitimacy*, which integrates a normative aspect into the term *stakeholder* and the concept of stakeholder salience. They use Suchman’s (1995) definition: “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions”. Legitimacy is often connected to power, i.e. a manager will not

very likely deal with a powerful actor, whom he does not regard as legitimate. We derive our second hypothesis from this definition:

- 11 H 2: The higher a manager perceives a stakeholder's environmental legitimacy, the higher the stakeholder's environmental salience.

Environmental urgency of a stakeholder

- 12 Mitchell *et al.* (1997) have included *urgency* into their concept in order to move the model from static to dynamic. They argue that urgency is based on the following two attributes: (1) *time sensitivity* – the degree to which managerial delay in attending to the claims or relationship is unacceptable to the stakeholder, and (2) *criticality* – the importance of the claim or relationship to the stakeholder. They define urgency as: “the degree to which stakeholder claims call for immediate action.” Our third hypothesis of environmental stakeholder salience is:
- 13 H 3: The stronger a manager perceives a stakeholder's environmental urgency, the higher the stakeholder's environmental salience.

Economic geography and stakeholder theory

- 14 The yet unanswered question in economic geography – to whom (or what) do managers pay attention – is particularly important from the perspective of environmental economic geography, as environmental strategies seem to more and more integrate stakeholder communication. Most studies in geography that examine the task environment of companies do not look much for explanations on the micro-level, i.e. management (Zöller, 2005). Those studies that have used the stakeholder concept on a micro-perspective have often used Freeman's term without questioning its broadness, or they used it without considering the importance of societal stakeholders.
- 15 However, referring to Gröner and Zapf (1998), who typify stakeholders according to their *willingness to co-operate* and their *potential to influence*, Braun (2003) also stresses the aspect of co-operation. From our perspective, Mitchell *et al.* (1997) have neglected this rather important aspect in their stakeholder salience concept, as much environmental improvement today works through learning in partnerships. Therefore, we suggest broadening the stakeholder salience concept through the (environmental) stakeholder attribute *willingness to co-operate with the firm* (on environmental issues). This leads to our fourth hypothesis:
- 16 H 4: The higher a manager perceives that a stakeholder is willing to co-operate on environmental issues (environmental co-operation), the higher the stakeholder's environmental salience.

Environmental stakeholder salience

- 17 In accordance to Mitchell *et al.* (1997) and enhanced through the above discussion, we can now define environmental stakeholder salience to be determined by a combination of four environmental stakeholder attributes: power, legitimacy, urgency and willingness to co-operate. Our fifth hypothesis in correspondence to Mitchell's *et al.* salience theory is (compare also Gago and Antolín, 2004, 68):

- 18 H 5: The accumulation of the attributes environmental power, environmental legitimacy, environmental urgency and environmental co-operation will be associated with greater environmental stakeholder salience.

Industry, firm and product characteristics

- 19 In our attempt to explain and test which factors determine environmental salience of stakeholders, we go a little further than either Mitchell *et al.* (1997) or Gago and Antolín (2004) did. In their quest to explain why certain firms adopt environmental management practices beyond regulatory compliance, Delmas and Toffel (2004) set up a theoretical framework of institutional pressures. They argue that pressure is not perceived by managers as it is, but that company and plant characteristics moderate the way how managers perceive their stakeholders' claims. Firms adopt heterogeneous sets of environmental management practices, they argue, because plant and company characteristics modify the way they interpret external claims. In accordance with their suggestion, we assume that the way how managers perceive stakeholder attributes is mediated by various characteristics referring to the firm, its location, the products produced, and also stakeholder characteristics. Our argument is also supported by the literature that analyses which campaign strategies environmental NGOs follow. According to these studies environmental NGOs select their *targets* according to company- and product-related characteristics (Hendry, 2003; Frooman and Murrell, 2005). Thus, we propose the following hypothesis to be tested in our model:
- 20 H 6: Company- and product-related characteristics do positively or negatively influence environmental stakeholder salience.

Methodology

Sample

- 21 In 2006 we conducted a questionnaire survey of all German manufacturing firms that are certified according to EMAS (European Eco-Management and Audit Scheme). Our objective was to find out how managers assess different stakeholders and their attributes in relation to environmental issues. We selected EMAS-certified companies, because they can be assumed to be already sensitised for environmental issues. The response rate obtained was 25 per cent or 250 valid questionnaires in total (out of about 1.000 firms contacted). The companies that responded are relatively large in average (45 per cent have more than 500 employees, only 21 per cent have less than 50 employees) and can be allocated to the following industries (Table 1).

Table 1. Firms in the sample by industry.

Industry (Nace codes)	number	as %
Food processing (15,16)	20	8.0
Wood, furniture, textile, toys (17,18,20,36)	14	5.6

Paper, publishers, printers (21,22)	26	10.4
Chemicals and plastics (24,25)	51	20.4
Metal processing (27,28)	45	18.0
Mechanical engineering, automobile (29,30,31,32,33,34,35)	50	20.0
Electricity and water supply (40,41)	13	5.2
Others	31	12,4
Total	250	100.0

Measures of environmental stakeholder attributes

- 22 We explicitly defined the environmental stakeholder attributes in the following way in the questionnaire. The answers were given on a five-point Likert scale.
- 23 **Environmental stakeholder salience** : degree to which managers give priority to competing stakeholder claims – measured through the extent of environmental information exchange with a particular stakeholder (1 = no information exchange ; 5 = very frequent interaction) ;
- Environmental power** : perceived strength of a stakeholder’s potential demands to influence management decisions regarding the protection of the natural environment (1 = no potential ; 5 = very high potential) ;
- Environmental urgency (demands)** : perceived strength of a stakeholder’s concrete demands to influence management decisions regarding the protection of the natural environment (1 = no demands ; 5 = very high demands) ;
- Environmental legitimacy** : perceived legitimacy of a stakeholder’s demands that are related to the natural environment (1 = no legitimacy ; 5 = very high legitimacy) ;
- Environmental co-operation** : willingness to co-operate on a company’s environment-related activities (1 = no willingness to co-operate ; 5 = very high willingness to co-operate).

Statistical tests and models

- 24 At first we undertook a descriptive analysis to find out whether some stakeholders or attributes are more important than others. For each attribute, the mean values of the 14 stakeholders were compared to see if there were any significant differences between them. We then carried out a correlation analysis of the salience of the different stakeholders in order to find out if there were any similarities among the stakeholders.
- 25 Through bivariate correlation analysis, multiple linear regression models and Kruskal-Wallis tests we tried to explain environmental stakeholder salience in terms of their environmental attributes (power, urgency, legitimacy, co-operation). Finally, we applied bivariate analyses and logistic regression models in order to control for the influences of company- and product-related factors on environmental salience.

Results

Descriptive analysis

- 26 Each manager evaluated his stakeholders according to *saliency* and to the four environmental attributes *power*, *urgency*, *legitimacy*, and *co-operation*. Table 1 presents the mean values of the environmental stakeholder attributes, as perceived by the managers. Overall, managers evaluated the attributes highest for five stakeholders: owners, local governments, national/state governments, clients, and employees (compare Table 2).

Table 2. Evaluation of environmental stakeholder attributes (mean values).

	Power	Urgency	Legitimacy	Co-operation	Saliency
Employees	3,60	3,17	4,42	4,07	4,14
Owners	4,50	3,67	4,71	4,19	3,82
Clients	3,88	3,25	4,26	3,47	3,35
Local governments	3,97	3,30	4,08	3,50	3,32
National/state governments	3,87	3,18	4,05	3,26	2,92
Suppliers	2,30	1,75	2,58	3,05	2,83
Business associations	2,81	2,29	3,01	3,24	2,77
Consumers	3,26	2,49	4,02	2,83	2,53
Local communities	3,41	2,28	4,00	3,00	2,45
Media	2,98	1,84	2,57	2,68	2,34
Banks	2,86	2,06	3,25	2,60	2,13
Local environmentalist groups	2,91	1,75	3,14	2,79	1,89
Trade unions	2,30	1,55	2,35	2,34	1,71
(Inter-)National environmentalist groups	2,63	1,53	2,80	2,45	1,62
N =250					

- 27 Owners have the highest scores for four attributes ; only interaction with employees on environmental issues (i.e. saliency) had a higher mean score for employees than for all other stakeholders. This result differs somewhat from the study by Gago and Antolín (2004), which shows that Spanish manufacturing firms perceive the government as strongest stakeholder for all attributes. In the Spanish study, owners even drop to the

fourth (legitimacy) and fifth (urgency) rank. This may indicate that firm owners in Germany are already more sensitised for environmental issues than owners of Spanish firms, and act more independently from the government in environmental issues.

- 28 Compared to the other stakeholders, the local government is perceived as having strong power and demanding much, followed by the clients and national/state governments. In terms of legitimacy owners, employees and clients stand out, only followed by local and national/state governments. The fact that governments are not regarded as the most legitimate group shows that many managers tend to regard business aims as higher than state regulation. In contrast, owners and employees are being regarded as the stakeholders most willing to co-operate, followed by the local governments and clients.
- 29 Environmental salience is highest for employees and owners, i.e. managers dedicate most time for exchanging environmental information with these two stakeholders. A little surprising in our results is the high perception of employees' environmental salience. It may result from the fact that managers interact most often in the day-to-day business of implementing environmental policies with their employees. Owners might rather define the broader direction, which requires less frequent interaction.
- 30 Highly ranked in environmental salience are also clients and local governments, followed by national/state governments. The low mean salience values for (inter)national environmental groups, and the moderate values for the government stakeholders suggests that the most time-consuming issue is the de-facto implementation of environmental standards and management routines, in which environmental groups and governments play a less important role.
- 31 Among all stakeholders, trade unions are regarded as the least important environmental stakeholders. To our surprise, national and international NGOs were also seen as little important with regard to most environmental attributes. Whereas their values are rather low in average, they are somewhat higher in food processing and energy/water supply industries, i.e. directly consumer-oriented ones.
- 32 To find out if there are similarities among the stakeholders we tested the correlations between environmental stakeholder salience of the different stakeholders. Table 3 shows that there were positive and significant correlations between most stakeholders. This means that companies that pay attention to the environmental demands of a specific stakeholder also do with most other stakeholders. These results almost fully correspond to the findings of Gago and Antolín's (2004) study.

Table 3. Correlation between stakeholders' environmental saliences (Spearman coefficients).

								Rank								
	1	2	3	4	5	6	7		8	9	10	11	12	13		
1. Owners	1															
2. Employees	0.43 ***	1														
3. Clients	0.22 ***	0.36 ***	1													
4. Consumers	0.07	0.23 **	0.40 ***	1												
5. Banks	0.25 ***	0.14 *	0.30 ***	0.30 ***	1											
6. Suppliers	0.10	0.35 ***	0.53 ***	0.32 ***	0.24 ***	1										
7. Business associations	0.09	0.22 **	0.29 ***	0.25 ***	0.36 ***	0.36 ***	1									
8. Local Governments National/State Governments	0.05	0.30 ***	0.18 **	0.19 **	0.24 ***	0.23 ***	0.43 ***	1								
9. Media	0.03	0.13 *	0.08	0.15 *	0.25 ***	0.19 **	0.38 ***	0.62 ***	1							
10. Local environmentalist groups	0.12	0.31 ***	0.30 ***	0.48 **	0.39 ***	0.34 ***	0.42 ***	0.42 ***	0.32 ***	1						
11. Inter(national) environmentalist groups	0.09	0.15 *	0.13	0.33 ***	0.31 ***	0.24 ***	0.34 ***	0.44 ***	0.37 ***	0.54 ***	1					
12. Trade unions	0.09	0.07	0.17 **	0.32 ***	0.36 ***	0.23 ***	0.32 ***	0.31 ***	0.33 ***	0.44 ***	0.73 ***	1				
13. Local community	0.03	0.14 *	0.18 **	0.18 **	0.39 ***	0.27 ***	0.42 ***	0.38 ***	0.37 ***	0.34 ***	0.43 ***	0.49 ***	1			
14. Local community	0.12	0.20 **	0.20 **	0.23 **	0.36 ***	0.19 **	0.35 ***	0.45 ***	0.32 ***	0.48 ***	0.58 ***	0.45 ***	0.37 ***	1		

The only stakeholder group that does not correlate significantly with most other groups are the owners. Interacting with owners on environmental issues does obviously not imply that more interaction on environmental issues happens with clients, suppliers, business associations, local governments, national/state governments, the media, environmental groups, trade unions, and the local community. In total, the following relationships stand out :

- Those who pay attention to clients also pay attention to suppliers – which may suggest that some firms are rather focused on their business partners in environmental matters (market-driven companies).
- Those who pay attention to local environmentalist groups also pay attention to (inter)national environmentalist groups. This is the strongest single correlation. But there are also groups which are especially sensitive to the locality in general : Those who pay attention to local environmentalist groups also pay attention to the local community (society-driven companies).
- Finally, those who pay attention to the media also pay attention to local environmentalist groups. This is a quite obvious relationship, because local environmentalists usually work through the media. However, surprisingly the correlation is weaker between (inter)national environmentalist groups and the media.

Environmental stakeholder salience

- 33 The analyses of the factors responsible for the extend of environmental salience is based on firstly, a bivariate correlation analysis and secondly, a multiple linear regression analysis using the stepwise method.
- 34 Both analyses consider environmental salience of each stakeholder as the dependent variable and the rest of the environmental attributes – power, urgency, legitimacy and co-operation – as independent variables. As can be seen in Table 4, all bivariate

correlations are positive and significant. The correlation coefficients range between 0.22 and 0.67. Obviously all stakeholder attributes influence stakeholder salience to a significant degree. However, the attributes *environmental urgency* and *environmental co-operation* show somewhat higher average values for almost all stakeholders than the attributes *power* or *legitimacy*. Moreover, values are lower for some stakeholders (e.g. employees, suppliers) than for others (e.g. owners, (inter)national environmentalist groups, trade unions).

Table 4. Bivariate correlation analysis (Spearman coefficients).

	Environmental salience				
	Owners	Employees	Clients	Consumers	Banks
Power	0.41***	0.26***	0.34***	0.53***	0.45***
Urgency	0.65***	0.42***	0.52***	0.62***	0.55***
Legitimacy	0.31***	0.24***	0.32***	0.44***	0.33***
Co-operation	0.59***	0.37***	0.39***	0.55***	0.56***
	Environmental salience				
	Suppliers	Business associations	Local governments	National/state governments	Media
Power	0.22**	0.34***	0.38***	0.39***	0.29***
Urgency	0.26***	0.26***	0.59***	0.53***	0.40***
Legitimacy	0.27***	0.27***	0.38***	0.33***	0.32***
Co-operation	0.48***	0.48***	0.48***	0.44***	0.40***
	Environmental salience				
	Local environmentalist groups	(Inter)national environmentalist groups	Trade unions	Local community	
Power	0.41***	0.48***	0.60***	0.35***	
Urgency	0.55***	0.62***	0.67***	0.60***	
Legitimacy	0.34***	0.35***	0.55***	0.21***	

Co-operation	0.42***	0.50***	0.60***	0.47***	
Significance : *** p < 0.001 ; ** p < 0.010 ; * p < 0.050					

- 35 The bivariate correlation analysis lends some support to hypotheses H 1 to H 4. The attributes environmental power, urgency, legitimacy, and co-operation influence a stakeholder's environmental salience in a positive way when all attributes are treated separately.
- 36 Multiple linear regression analysis, in contrast, also takes account of possible interrelations between the different attributes. The results of the regression models applied can be seen in Table 5. The determination coefficients (R^2) range from 0.24 for employees to 0.56 for trade unions. Table 5 also reveals the regression coefficients in the 14 analyses performed.

Table 5. Multiple regression analysis.

		Non-standardized coefficients			
		B	standard error	t	P
Owners	Constant	0.763	0.134	3.265	0.001
F = 111.106 ; p = 0.000	Urgency	0.365	0.053	6.890	0.000
R ² adjusted = 0.497	Co-operation	0.421	0.069	6.074	0.000
Employees	Constant	2.200	0.257	8.561	0.000
F = 38.303 ; p = 0.000	Urgency	0.266	0.047	5.675	0.000
R ² adjusted = 0.244	Co-operation	0.272	0.065	4.194	0.000
Clients	Constant	1.412	0.210	6.738	0.000
F = 50.493 ; p = 0.000	Urgency	0.301	0.048	6.302	0.000
R ² adjusted = 0.305	Co-operation	0.276	0.061	4.555	0.000

Consumers	Constant	0.170	0.253	0.672	0.503
$F = 58.426 ; p = 0.000$	Urgency	0.459	0.066	6.972	0.000
R^2 adjusted = 0.446	Co-operation	0.216	0.073	2.962	0.003
	Legitimacy	0.154	0.071	2.164	0.032
Banks	Constant	0.647	0.143	4.510	0.000
$F = 65.363 ; p = 0.000$	Urgency	0.349	0.640	5.439	0.000
R^2 adjusted = 0.379	Co-operation	0.302	0.062	4.831	0.000
Suppliers	Constant	1.116	0.202	5.518	0.000
$F = 41.758 ; p = 0.000$	Urgency	0.471	0.060	7.814	0.000
R^2 adjusted = 0.269	Co-operation	0.181	0.069	2.618	0.009
Business associations	Constant	0.818	0.197	4.151	0.000
$F = 62.664 ; p = 0.000$	Urgency	0.408	0.060	6.778	0.000
R^2 adjusted = 0.352	Co-operation	0.313	0.062	5.059	0.000
Local governments	Constant	1.155	0.206	5.608	0.000
$F = 63.822 ; p = 0.000$	Urgency	0.402	0.058	6.956	0.000
R^2 adjusted = 0.350	Co-operation	0.268	0.062	3.809	0.000
National/state governments	Constant	1.045	0.197	5.289	0.000
$F = 54.161 ; p = 0.000$	Urgency	0.370	0.059	6.276	0.000
R^2 adjusted = 0.318	Co-operation	0.216	0.065	3.299	0.001

Media	Constant	0.932	0.191	4.874	0.000
F =35.978 ; p = 0.000	Urgency	0.343	0.070	4.931	0.000
R ² adjusted = 0.251	Co-operation	0.310	0.068	4,591	0.000
Local environmentalist groups	Constant	0.370	0.170	2.178	0.031
F =57.517 ; p = 0.000	Urgency	0.503	0.063	7.921	0.000
R ² adjusted = 0.357	Co-operation	0.247	0.055	4.495	0.000
(Inter)national environmentalist groups	Constant	0.113	0.127	0.885	0.377
F =68.426 ; p = 0.000	Urgency	0.510	0.063	8.091	0.000
R ² adjusted = 0.500	Power	0.155	0.048	3.230	0.001
	Co-operation	0.144	0.053	2.722	0.007
Trade unions	Constant	0.136	0.111	1.231	0.220
F =88.791 ; p = 0.000	Urgency	0.373	0.062	6.021	0.000
R ² adjusted = 0.559	Co-operation	0.233	0.048	4.813	0.000
	Power	0.212	0.051	4.109	0.000
Local community	Constant	0.597	0.163	3.656	0.000
F =82.050 ; p = 0.000	Urgency	0.436	0.048	9.009	0.000
R ² adjusted = 0.431	Co-operation	0.292	0.049	5.944	0.000

- 37 In order to avoid over-parametrization all non-significant variables were eliminated from the equations step by step (stepwise method). In most cases only two independent variables were sufficient to predict the values of the dependent variable (environmental salience) to an acceptable degree. Power and legitimacy – though still positive – proved to be of lesser importance than urgency and co-operation. The latter

two variables were not excluded from the final model of any of the stakeholders. They seem to be the dominant predictors for environmental salience. This result strongly supports the hypotheses H 3 and H 4. For practically all stakeholders, environmental urgency stands out as having the greatest effect on environmental salience. In all regression equations, except for owners and employees, this attribute has the highest coefficient. With regard to the attribute *urgency*, this is very much in line with the results of the study of Gago and Antolín (2004) of 277 Spanish manufacturers and the study of Agle *et al.* (1999) of 80 large U.S. firms.

- 38 The statistical support for H 1 and H 2 is somewhat weaker, as power was only included in the model for (inter)national environmentalist groups and the model for trade unions. Environmental legitimacy was only included in the consumers' model. In this respect our findings differ slightly from the study by Gago and Antolín (2004), whose results show that for almost all stakeholders three environmental attributes (power, urgency, legitimacy) remain important for the manager. However, they did not test for environmental co-operation which seems to superpose the (positive) effects of power and legitimacy. In our case legitimacy and power also become more prominent in the regression equations when we exclude the variable *co-operation* from the models. Models calculated without the variable *co-operation* showed that the effect of power became significant for owners, clients, banks, the media, environmentalist groups, trade unions and the local community. Legitimacy became significant for owners, employees, clients, consumers, suppliers, business associations, local environmentalist groups, trade unions and the local community. Thus, urgency remained the most important determinant.
- 39 Overall, it seems that concrete, urgent demands and the willingness to co-operate are more important to managers than the general capacity or power of a stakeholder to influence corporate environmental actions or the perceived legitimacy of its claims.
- 40 With a technique very similar to the one that was put forward by Agle *et al.* (1999) and Gago and Antolín (2004) we analyzed the joint effect of power, urgency, legitimacy and co-operation on environmental stakeholder salience. It involved creating a new variable for each of the 14 stakeholders, which adopted five possible values (0, 1, 2, 3, 4) according to the number of attributes given by each manager. The criteria established to indicate whether a stakeholder had a specific attribute or not was the comparison between the score given by the managers surveyed and the mean score corresponding to the 250 companies in the sample. If a manager gave a greater than average score to a particular attribute, that attribute was considered important for the particular stakeholder. The variable that measured the accumulation of attributes for each stakeholder can have five values ranging from 0 to 4 according to the number of attributes with above-average scores given by the managers surveyed.
- 41 Table 6 shows the main results from the Kruskal-Wallis test. With this analysis we tested the equality or inequality of the medians of the accumulated attributes in relation to the environmental salience of stakeholders. The results clearly reject the H_0 -hypothesis that all the effects are homogenous. In other words, there are significant differences in the environmental salience of stakeholders depending on the number of attributes accumulated. In order to find out the direction of the differentiating effect a bivariate correlation analysis was performed (see Table 7).

Table 6. Kruskal-Wallis test in relation to environmental salience of groups defined by the accumulation of attributes.

	Environmental salience				
	Owners	Employees	Clients	Consumers	Banks
Chi square	86.258***	40.619***	64.538***	90.385***	69.876***
	Suppliers	Business associations	Local government	National/state government	Media
Chi square	36.788***	65.977***	76.644***	63.168***	53.091***
	Local environmentalist groups	(Inter)national environmentalist groups	Trade unions	Local community	
Chi square	76.391***	84.769***	107.986***	63.533***	
Significance : *** p < 0.001 ; ** p < 0.010 ; * p < 0.050					

Table 7. Correlation between environmental salience and accumulation of attributes (Spearman coefficients).

	Environmental salience				
	Owners	Employees	Clients	Consumers	Banks
Accumulated attributes	0.592***	0.404***	0.507***	0.614***	0.535***
	Suppliers	Business associations	Local government	National/state government	Media
Accumulated attributes	0.356***	0.508***	0.555***	0.494***	0.414***

	Local environmentalist groups	(Inter)national environmentalist groups	Trade unions	Local community	
Accumulated attributes	0.555***	0.591***	0.669***	0.506***	
Significance : *** p < 0.001 ; ** p < 0.010 ; * p < 0.050					

- 42 The results show significant correlations between stakeholder salience and the accumulation of attributes. The coefficients range from 0.40 to 0.67, with positive values for all stakeholders indicating a positive relation between the variables in all cases. The results strongly support hypothesis H 5, i.e. the enhanced stakeholder salience theory. Moreover, they show striking similarities to the empirical results reported by Gago and Antolín (2004) for 277 Spanish manufacturers and the ones of Agle *et al.* (1999) for 80 large U.S. firms. The obvious similarities between the results from different countries indicate rather robust statistical correlations that are relatively independent from national differences or differing firm samples.

Testing environmental salience for company- and product-related characteristics

- 43 As a next step we were interested in determining the role of company-related and product-related characteristics for environmental salience. The direct effects of selected firm variables (size, branch, location, ISO 14001 certification etc.) and selected product-related variables (brands, environmental advertising) were measured by chi square tests and by a comparison of means (t-test) in the case of firm size (number of employees). To make these tests applicable, the environmental salience variable was dichotomized (0 = below average score, 1 = above average score). An overview of the results is presented in Table 8.

Table 8. Interrelation between environmental salience and company- or product-related characteristics (overview table).

		Environmental salience				
	Test	Owners	Employees	Clients	Consumers	Banks
Size (number of employees)	t-test	n.s.	n.s.	n.s.	n.s.	n.s.
Type of industry (8 industries)	chi sq.	n.s.	n.s.	n.s.	related ***	n.s.

Location in residential area (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
Location type (urban/rural)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
Location in large core city (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
ISO 14001 certification (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
Environmental firm codes (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
Well-known brand(s) (yes/no)	chi sq.	n.s.	n.s.	n.s.	positive *	positive *
Environmental advertising (yes/no)	chi sq.	positive *	positive ***	positive ***	positive **	n.s.
		Environmental salience				
	Test	Suppliers	Business associations	Local governments	National/ state governments	Media
Size (number of employees)	t-test	n.s.	positive **	positive **	positive **	n.s.
Type of industry (8 industries)	chi sq.	related *	n.s.	n.s.	n.s.	n.s.
Location in residential area (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	positive *
Location type (urban/rural)	chi sq.	n.s.	n.s.	n.s.	positive **	n.s.
Location in large core city (yes/no)	chi sq.	n.s.	n.s.	positive **	n.s.	n.s.

ISO 14001 certification (yes/no)	chi sq.	n.s.	positive **	positive *	positive **	n.s.
Environmental firm codes (yes/no)	chi sq.	n.s.	positive *	n.s.	n.s.	n.s.
Well-known brand(s) (yes/no)	chi sq.	n.s.	positive **	positive *	n.s.	positive **
Environmental advertising (yes/no)	chi sq.	n.s.	n.s.	positive **	n.s.	positive *
		Environmental salience				
	Test	Local environmentalist groups	(Inter)national environmentalist groups	Trade unions	Local community	
Size (number of employees)	t-test	positive ***	positive ***	positive ***	positive ***	
Type of industry (8 industries)	chi sq.	related **	related *	n.s.	n.s.	
Location in residential area (yes/no)	chi sq.	positive ***	positive *	n.s.	positive *	
Location type (urban/rural)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
Location in large core city (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	n.s.
ISO 14001 certification (yes/no)	chi sq.	n.s.	n.s.	positive **	n.s.	
Environmental firm codes (yes/no)	chi sq.	n.s.	positive *	positive *	positive *	
Well-known brand(s) (yes/no)	chi sq.	positive *	n.s.	positive ***	n.s.	

Environmental advertising (yes/no)	chi sq.	n.s.	n.s.	n.s.	n.s.	
Significance : *** p < 0.001 ; ** p < 0.010 ; * p < 0.050 ; n.s. not significant						

- 44 As can be seen from the table, the attention managers attribute to stakeholder demands increases significantly with firm size in the case of business associations, national/state governments, environmentalist groups, trade unions and local communities. Surprisingly, size does not influence the interaction with the media to a significant degree. The reason for this might be that larger firms have special departments dealing with environmental problems and environmental stakeholders. For the salience of *internal* stakeholders like owners or employees firm size is obviously not a determining factor. The same is true for market-related stakeholders such as clients, consumers or suppliers.
- 45 The level of environmental salience also differs between industries – especially for clients, suppliers and environmentalist groups. The most sensitive industries in this regard are food processors and electricity/water supply companies. Other important firm-related variables are locational characteristics of plants (significant for local, state and national governments, environmentalist groups, the media and the local community) as well as voluntary environmental management standards such as ISO 14001 certifications and the adoption of firm-specific environmental codes of conduct (significant for business associations, local governments, state/ national governments and trade unions). Finally, the results show a significant relationship between environmental salience and the fact whether a company puts emphasis on environmental issues in advertising (for employees and clients) and whether it is a well-known brand (trade unions).

Combining company- and product-related characteristics and stakeholder attributes

- 46 In order to combine company- and product-related characteristics with stakeholder attributes we applied logistic regression models. Logistic regressions are basically non-linear transformations of ordinary linear regressions. While the dependent variable must have a binary format, variables of all scales are accepted as independent variables. In our regression models each stakeholder's environmental salience (binary dependent variable) is described by below-average (0) or above-average scores (1). The predictors (independent variables) consisted of the four stakeholder attributes (power, urgency, legitimacy, co-operation) as well as of nine company-related and product-related variables (for definitions see Table 8). Logistic regression models were calculated for all 14 stakeholders. Due to a stepwise exclusion of variables, with $p > 0.1$, only statistically relevant parameters were included. All models were significant at the 1 per cent level according to model chi square statistic. The percentages of correct predictions were also acceptable, ranging between 71 and 85 per cent.

47 The results of the logistic regression model will not be reported in detail in this paper, as the effects of the environmental stakeholder attributes – especially urgency, power and co-operation – clearly dominate over company- and product-related effects. Overall, stakeholder attributes seem to be more important for environmental salience than factors related to the company and its products. Accordingly, no clear support for hypothesis H 6 was found. However, at least some company- and product-related predictors proved to be significant. Firm size, for instance, plays a role for the environmental salience of environmentalist groups, business associations and the local community. Environmental advertising significantly correlates to the salience of employees, local governments, the media and clients. The locational characteristics of the company (urban or rural location, location in industrial or predominantly residential areas) are of some importance with respect to owners, local and national governments and the media. But in general these effects are relatively weak in comparison to the stakeholder attributes.

Conclusions

48 In summary, our results show that managers of EMAS certified companies in Germany perceive the owners as the most important stakeholder group with regard to the environmental attributes *power*, *urgency*, *legitimacy*, and *co-operation*. Only when regarding *environmental salience* or the actual interaction between a firm and its stakeholders on environmental issues, employees are evaluated as the most important stakeholder group by the managers. According to these descriptive results, our study reveals an evident difference to the results of a Spanish study (Gago and Antolín, 2004), which showed that the government is still by far the most important stakeholder in the Spanish context (as it was in some older German studies ; e.g. James *et al.*, 1997 ; Braun, 2003 ; for Norway see Ytterhus, 2006). The comparison between the results from Spain and Germany might suggest that managers in Germany already have a higher awareness of environmental management issues and deal more pro-actively than their Spanish colleagues, who are re-acting more on government policies. Overall, environmentalist groups rank relatively low for most stakeholder attributes in the perspective of company managers. This suggests that intensive interaction between firms and NGOs on environmental issues – although often stressed as critical for corporate greening in the environmental management literature – is by far not business as usual for German manufacturing companies. An exception to this is that some more consumer-oriented firms which operate on environmentally sensitive markets, mostly from the food and the water/energy supply sector, evaluate concerns from environmentalists and consumers significantly higher.

49 Regarding the stakeholder salience model, our findings are surprisingly similar to the results from the Spanish study (Gago and Antolín, 2004). Our findings support the stakeholder salience theory, and very significantly support our suggestion to enhance the theory by including the attribute of *willingness to co-operate*. However, it is also evident from the analyses that not all attributes determine environmental stakeholder salience to the same degree. Environmental urgency is clearly the strongest determinant of environmental stakeholder salience. The practical interpretation is that firms do not primarily interact with stakeholders on environmental issues if they only regard them as powerful or legitimate. This is indeed surprising, as most definitions of

the term *stakeholder* include the element of power or legitimacy (Mitchell *et al.*, 1997). Instead, it seems to be more important, how urgent a stakeholder demand is or can be expressed. Obviously, the concrete claims stakeholders raise to a firm are the decisive drivers for a firm to interact with a stakeholder. In addition, our results also show that how a manager evaluates the willingness of a stakeholder to co-operate on environmental issues is decisive. This result could be a motivation even for stakeholders who are not very powerful to raise environmental demands against firms, but at the same time be open to engage in long-term interaction. This underlines the tendency within the last few years to highlight the importance of partnerships and mutual learning within these partnerships.

- 50 Obviously, there are limitations to this empirical study. Firstly, respondents in a survey tend to give answers that improve their own image. Therefore some respondents could have overestimated the environmental attributes of some stakeholders, as the environment is an issue of considerable social sensitivity. Moreover, the environment has been considered in a generic manner without specifying particular problems. Studies on companies subject to more specific environmental conditions could provide more detailed and specific insights into the process of environmental management.
- 51 With regard to economic geography we suggest from our findings that economic geographers (and environmental economic geographers in particular) should think much more conceptually about the term *stakeholder* when they use it. Our analysis shows that the stakeholder approach can help to understand the business environment of a firm much better. But the term *stakeholder* should not degenerate to become a synonym for anything. Our findings suggest that research in environmental economic geography should look more closely into issues of urgency and co-operation between firms and their stakeholders, which seem to be of high importance for managers when evaluating their business environment. The environmental salience theory has proven to be a useful framework to do this.

BIBLIOGRAPHY

AGLE B., MITCHELL R. & SONNENFELD D. (1999), "Who matters to CEOs ? An investigation of stakeholder attributes and salience, corporate performance, and CEO values", *Academy of Management Journal* 42 (5), pp. 507-525.

BRAUN B. (2003), *Unternehmen zwischen ökologischen und ökonomischen Zielen. Konzepte, Akteure und Chancen des Umweltmanagements aus wirtschaftsgeographischer Sicht*, Münster, Lit.

BRAUN B. (2006), "What makes environmental management systems successful ? An empirical study in the German manufacturing sector", in SCHALTEGGER S. & WAGNER M. (eds.), *Managing the business case for sustainability. The integration of social, environmental and economic performance*, Sheffield, Greenleaf, pp. 589-614.

- BRAUN B., SCHULZ C. & SOYEZ D. (2003), "Konzepte und Leitthemen einer ökologischen Modernisierung der Wirtschaftsgeographie", *Zeitschrift für Wirtschaftsgeographie* 47 (3-4), pp. 213-248.
- DELMAS M. & TOFFEL M. (2004), "Stakeholder and environmental management practices : an institutional framework", *Business Strategy and the Environment* 13 (4), pp. 209-222.
- DIMAGGIO P. & POWELL W. (1983), "The iron cage revisited : institutional isomorphism and collective rationality in organizational fields", *American Sociological Review* 48 (2), pp. 147-160.
- DONALDSON T. & PRESTON L. (1995), "The stakeholder theory of the corporation : concepts, evidence and implications", *The Academy of Management Review* 20 (1), pp. 65-91.
- FREEMAN R. (1984), "Strategic management : a stakeholder approach", Boston, Pitman.
- FRIEDMAN M. (1997), "The social responsibility of business is to increase its profits", in BEAUCHAMP T. & BOWIE N. (eds.), *Ethical theory and business* (5th edition), New Jersey, Prentice Hall, pp. 56-60.
- FROOMAN J. & MURRELL A. (2005), "Stakeholder influence strategies : the roles of structural and demographic determinants", *Business & Society* 44 (1), pp. 3-31.
- GAGO R. & ANTOLÍN M. (2004), "Stakeholder salience in corporate environmental strategy", *Corporate Governance* 4 (3), pp. 65-76.
- GLASZE G. & ZÖLLER K. (1998), "Dialogorientierte Umweltkommunikation im Umfeld von Unternehmen", *Standort* 22 (4), pp. 26-31.
- GRÖNER S. & ZAPF M. (1998), "Unternehmen, Stakeholder und Umweltschutz", *Umweltwirtschaftforum*, 6 (1), pp. 52-57.
- HENDRY J. (2003), "Environmental NGOs and Business", *Business & Society*, 42 (2), pp. 267-276.
- JAMES P., PREHN M. & STEGER U. (1997), *Corporate environmental management in Britain and Germany*, Layerthorpe, Anglo-German Foundation for the Study of Industrial Society.
- MATIKAINEN E. (1994), *Stakeholder theory – classification and analysis of stakeholder approaches*, Working Papers 107, Helsinki, Helsinki School of Economics and Business Administration.
- MITCHELL R., AGLE B. & WOOD D. (1997), "Toward a theory of stakeholder identification and salience : defining the principle of who and what really counts", *The Academy of Management Review*, 22 (4), pp. 853-886.
- PFEFFER J. & SALANCIK G. (1978), *The external control of organizations*, New York, Harper & Row.
- SCHULZ C. (2005), "Agenten des Wandels ? Unternehmensbezogene Dienstleister im industriellen Produktionssystem", München, Oekom.
- SUCHMAN M. (1995), "Managing legitimacy : strategic and institutional approaches", *The Academy of Management Review*, 20 (3), pp. 571-610.
- YTTERHUS B. (2006), "The Norwegian environmental business barometer", in SCHALTEGGER S. & WAGNER M. (eds.), *Managing the business case for sustainability. The integration of social, environmental and economic performance*, Sheffield, Greenleaf, pp. 328-344.
- ZÖLLER K. (2005), *Akzeptanz durch Dialog ? Eine wirtschaftsgeographische Untersuchung deutscher und amerikanischer Chemiedialoge*, Stuttgart, Universität Stuttgart – Institut für Sozialwissenschaften, Stuttgarter Beiträge zur Risiko- und Nachhaltigkeitsforschung, 4.

ABSTRACTS

In this paper we aim to show that stakeholder theory can enrich analysis in (environmental) economic geography. By applying and modifying the stakeholder salience model from management studies, we analyse which factors influence company managers in their environmental decision-making and which priorities they give to competing stakeholder claims. We test the model on data from 250 German manufacturing firms. Overall, the results strongly support the basic assumptions of stakeholder theory. They indicate that stakeholder attributes such as legitimacy, power and urgency and the stakeholders' willingness to co-operate are more important for stakeholder salience than company- and product-related characteristics. Moreover, the results confirm the findings of a recent study of Spanish manufacturing firms by Gago and Antolín.

Das Ziel dieses Beitrags ist es aufzuzeigen, dass die aus den Managementwissenschaften stammende Stakeholder-Theorie eine Bereicherung für die (umweltorientierte) Wirtschaftsgeographie sein kann. Anhand eines modifizierten Stakeholder Salience-Modells wird untersucht, welche Faktoren Manager von Unternehmen bei Umweltschutz-Entscheidungen beeinflussen und welche Prioritäten sie konkurrierenden Forderungen einräumen. Das Modell wird anhand der Daten von 250 deutschen Industrieunternehmen empirisch getestet. Insgesamt bestätigen die Ergebnisse zentrale Annahmen der Stakeholder-Theorie. Sie zeigen, dass den Anspruchsgruppen zugewiesene Eigenschaften wie Legitimität, Durchsetzungsfähigkeit, Dringlichkeit und Kooperationsbereitschaft für deren Wahrnehmung im Unternehmensmanagement deutlich wichtiger sind als strukturelle Merkmale der betroffenen Unternehmen und ihrer Produkte. Die Ergebnisse bestätigen auch weitgehend die Befunde einer neueren Studie von Gago und Antolín zu spanischen Industrieunternehmen.

INDEX

Keywords: stakeholder theory, environmental management, manufacturing, environmental economic geography

Schlüsselwörter: Stakeholder-Theorie, Anspruchsgruppen, Umweltmanagement, verarbeitendes Gewerbe, umweltorientierte Wirtschaftsgeographie

AUTHORS

BORIS BRAUN

Universität zu Köln, Albertus Magnus Platz, D-50923 Köln (Cologne), boris.braun@uni-koeln.de

MARK STARMANNS

Universität Zürich, Geographisches Institut, Winterthurerstr. 190, CH-8057 Zürich, mark.starmanns@geo.uzh.ch