

Intra-industry imitation in corporate environmental disclosure: A neo-institutional perspective.

Abstract

Corporate environmental reporting (CER) has been studied from different angles. In this paper we focus on CER from a neo-institutional perspective. CER could indeed be considered as a set of structures and practices that became institutionalised over time. Organizations derive their legitimacy in part from having reporting structures that are seen as appropriate. By incorporating legitimating structural elements (e.g. symbolizing the concept of stakeholder concern) in their reporting behavior, organizations signal conformity with societal concerns and expectations. Neo-institutional theory would predict a tendency towards conformity in implementation as CER became institutionalised over time. Mimetic isomorphism (DiMaggio & Powell, 1983) is one of the processes through which organizations change over time to become more similar to other organizations in their environment.

In this paper we study intra-industry imitation as one possible component of the process by which ER decisions are made. Content similarity is the focal construct in this research. Reporting mimetism is studied on the basis of structural content similarity (quantitative versus qualitative/descriptive) and disclosure level similarity of a predefined set of information items in a longitudinal research setting. Similarity indices are constructed according to company reference groups determined on the country / industry / year level. The sample covers a 6 year period and 3 countries with distinct legal and regulatory environments (Canada, Germany and France).

Results confirm and document mimetic tendencies. Higher rates of reporting similarity within a reference group predict a tendency to more similarity in the following period. Imitation tendencies are more pronounced on the higher information quality levels (quantitative or monetary information versus descriptive and qualitative information). The imitation relationship is reduced by public media exposure and remains unchallenged by economic variables (coercive forces). These results support an institutional mimetism interpretation of the imitation relationship. Mimetic tendencies are more pronounced in Canada where a significant tradition in CER developed earlier than in Germany and France.

Walter Aerts (Corresponding author)

Faculty of Applied Economics

University of Antwerp

Belgium

Walter.aerts@ua.ac.be

Denis Cormier

Ecole des sciences de la gestion

Université du Québec à Montréal

Canada

Michel Magnan

John Molson School of Business

Concordia University

Canada

1. Introduction

Corporate environmental reporting has been studied from different angles. One stream of research focuses on corporate environmental reporting as an institutionalized practice. Environmental reporting could indeed be considered as a set of structures and practices that became institutionalized over time, symbolizing the concept of stakeholder concern, of environment-conscious corporate behavior, Institutionalisation refers to the process by which societal expectations of appropriate organizational behavior influences the structuring and behavior of organizations in specific ways (Meyer & Rowan, 1977; Scott & Meyer, 1994; Dacin, 1997). Organizations can derive their legitimacy to a large degree from having (reporting) structures that are seen as appropriate. Organizations that incorporate legitimating structural elements are themselves legitimated, while those that do not, put their legitimacy at risk. Environmental reporting structures could be to a large degree implicated in this process. Organizations may adopt outwardly compliant environmental reporting structures as a visible demonstration of attentiveness to norms and schemas of environmental concerns, but at the same time preserving their discretionary managerial prerogatives by decoupling environmental reporting content from substantive practices.

Institutional processes exert their effect through mechanisms such as the imposition of organizational structure by coercive power, inducements created by resource dependence relationships, and through mimetic and normative mechanisms (Scott, 1991) and have a tendency to induce isomorphic reflexes in organizations. If Corporate Environmental Reporting (CER) is indeed implicated in these institutional processes, neo-institutional theory would predict a transition from customization to conformity in implementation as CER becomes institutionalized and norms of appropriate behavior get established. Within a context of indeterminate statute of CER and substantial rhetorical posturing around means and ends of environmental reporting, the process of CER itself is characterized by cognitive uncertainty in which the cognitive dynamics of interorganizational mimesis could flourish.

In this paper, we explore tendencies to conformity in environmental reporting over a six year period among a sample of large firms from three different countries: Canada, France and Germany. The multi-country sample adds an international

perspective to the study and enables us to investigate the country-effect as a significant institutional dimension. The different legal, socio-political, cultural and even financial contexts faced by German, French and Canadian firms constitute a primary source of differences in institutional context with potentially important ramifications on mimetic tendencies in CER. Germany and France are code law countries, where economic agents' rights and obligations are carefully delineated. Historically, both countries' stock markets were not very sensitive to external influences, with firm ownership being highly concentrated among key blockholders such as banks and financial groups, governments and closely-knit families. In contrast, Canadian firms essentially operate in a common law environment, with dynamic and open stock markets. Established voluntary reporting patterns (including levels and composition of CER) are affected by these institutional factors, with high levels of voluntary disclosure being more preeminent in Canada than in France and Germany.

The primary goal of this paper is to document and test imitation behavior in CER on the basis of intertemporal relationships of CER content. An adaptation of Wiseman's (1982, p. 62) instrument is used to measure a firm's CER content. We further test the presence of mimetic imitation tendencies in CER content by studying the impact of public media pressures that should normally challenge conformity driven CER, and explore the presence of mimetic tendencies for different information quality levels of CER content. This paper contributes both to the theoretical literature on institutional influences on corporate reporting and external stakeholder relationships and to the empirical research on environmental reporting. The theory focuses on the consequences of institutional norms of appropriate behavior on corporate action regarding environmental reporting, while the empirical research examines the impact of imitation on environmental reporting. In contrast to much previous research on CER, this study does not focus on disclosure level or disclosure indices, but on similarity patterns in CER content. An emphasis on the impact of more general social processes and on the use of social comparison in CER distinguishes this paper from more adaptationist and resource dependency perspectives on CER.

The remainder of the paper is organized as follows. A theoretical framework for mimetism in CER as well as research propositions are put forward in section 2. The study's methodology is described in section 3. Empirical results are presented in

section 4. Finally, a discussion of the results as well as their potential implications is provided in section 5.

2. Institutional pressures for conformity in environmental reporting

2.1. Pressures to institutional conformity

Meyer and Rowan (1977) suggest that to achieve legitimacy with their constituents, organizations have a tendency to construct and sustain stories about what they are doing. These stories correspond to socially prescribed beliefs and norms of what such an organization should do. They do not necessarily reflect what an organization is actually doing, but function as forms of symbolic reassurance to accommodate potentially influential publics. DiMaggio and Powell (1983) connect this line of reasoning with the question of why organizations are so similar. They argue that a large part of this similarity could be explained, not as a result of competitive or efficiency pressures, but because of the fact that organizations need to be perceived as legitimate within their larger environments.

Legitimacy criteria are to a large degree constructed within an organizational field: a group of organizations (members of an industry, customers and suppliers, consumers, regulatory agencies) that constitute a recognized area of institutional life. Their influence is manifested in institutions: rules, norms, and beliefs that describe reality for the organization, explaining what is and what is not, what can be acted upon and what cannot. Institutions create powerful pressures for organizations to seek legitimacy and strive for social conformity. Therefore, an increasing homogeneity of organizational structures is observed. Organizations within the same organizational field (facing the same environmental constraints and influences) will tend to resemble their environment and each other over time. The “structuration” of an organizational field pushes organizations towards homogeneity. DiMaggio and Powell (1983) label this process of homogenization as “isomorphism”. They identify two types of isomorphism: competitive and institutional isomorphism. Competitive isomorphism results from competitive pressures within a market environment, while institutional isomorphism is more focused on the struggle for political and institutional legitimacy, although without making abstraction of potential market influences.

2.2. Sources of pressures to institutional conformity

DiMaggio and Powell (1983) further analyze institutional isomorphism within three categories: coercive, normative and mimetic. Coercive isomorphism results on the one hand of pressures from other organizations on which the focal organization is dependent and on the other hand of pressure to conform to the cultural expectations of the larger society. Coercive isomorphism is thus to a large extent driven by resource dependence relationships. Normative isomorphism is pictured as a result of professionalization (through training and interaction within professional associations). Mimetic isomorphism is especially portrayed as a response to uncertainty: when a clear course of action is not available, organizations tend to mimic peers that they perceive to be successful.

These three mechanisms represent different sources of pressures for conformity to institutional norms. These include resource dependence relationships, professional norms and standards and uncertainty about task requirements. Uncertainty about means / ends relationships seems crucial in differentiating mimetic isomorphism. A key component of the argument of DiMaggio and Powell (1983) on mimetic isomorphism is that mimetic tendencies can result from efficient responses to uncertainty. When faced with uncertainty about the efficiency of practices and structures, organizations save on search costs (Cyert & March, 1963) and imitate the actions of other organizations, substituting institutional rules for technical rules. The presence of generally accepted rules and guiding principles or of practices with widespread support reduce ambiguity and provide a set of acceptable solutions that can be used in shaping one's own behavior. In the absence of explicit normative prescriptions organizations look at the pattern of use of practices by others to structure their own practices. The actions of others enable shaping one's own behavior. Mimetic isomorphism can also be driven by the kind of social-constructionist role-following that March (1981) called "obligatory action". Once enough social actors do something a certain way, that particular course of action becomes taken for granted or institutionalized, and thereafter, other social actors will undertake that course of action without thinking. If enough of one type of social actor adopt a course of action, then other, similar social actors will imitate them. Once a "logic of appropriateness" (March, 1994) has been cultivated, efficiency considerations and goal attainment are of much less importance. A sense of simply "doing something" or becoming identified with organizations perceived as responsive and successful and their practices is more critical. This is particularly attractive when significant others in the

organization's environment have little else upon which to judge an organization's actions.

2.3. Imitation in environmental reporting

2.3.1 Cognitive uncertainty about impact of environmental reporting

There seems to be no inherently efficient or effective way to structure an environmental reporting process. There are only socially constructed definitions of how a company should organize that boundary spanning process. The concept of mimetic isomorphism, in which organizations, operating within a context of cognitive uncertainty, mimic their peers because they do not know what else to do, fits closely with this view. Haunschild and Miner (1997) stress the point that the central logic behind the uncertainty argument for mimetic isomorphism is that it strengthens the importance of social processes. It stimulates the use of social comparison as the basis for making decisions. Thus, from a cognitive institutional perspective, managers observe environmental disclosure policy and content of other companies and reflexively enact those structures at their own company. In comparison to early adopters, later adopters would conform more closely to the normative pattern of practices introduced by other adopting organizations. In the literature we find the view that early adopters, motivated by technical-rational criteria, are more likely to customize practices to the organization's unique needs and capabilities. In contrast later adopters experiencing normative pressure to adopt legitimate practices, appear more likely to mimic the normative model or definition of CER adoption implemented in other companies. In this way, external social pressures are taken to have contributed to isomorphism in the form of CER. Organizations, concerned with survival and thus their legitimacy, take on reporting structures and formats not necessarily because particular structures and formats are technically appropriate but rather because they conform to socially constructed notions of what is appropriate. Social learning theory (Bandura, 1986) provides further theorizing for the social processes which seem fundamental to imitation behaviour. It argues that specific actions are often learned and enacted subconsciously. DiMaggio and Powell (1983) already argued that social modelling is a primary mechanism underlying mimetic isomorphism. Imitation results not only from conscious choice but also from less explicit socialization processes. Mimetic processes are driven by taken-for-granted

policy rules. These rules may be derived from the larger social structure which can operate as a repository or “carrier” of normative behaviour (Scott, 1995). In this vein, mimetic disclosure behaviour becomes the enactment of institutional scripts rather than a matter of internally grounded and autonomous choice, motivation and purpose (Scott, 1995).

Uncertainty induced mimetic isomorphism should flourish best in the absence of coercive or normative influences as these tend to heighten the importance of specific intrinsic relationships with potentially organization specific consequences (Mizruchi & Fein, 1999). For example, specific regulation on environmental disclosure could make disclosure content dependent on the occurrence of specific environmental events within the context of the organization, while active influences of pressure groups would induce a specific agenda for the focused companies. In this vein, we further argue that mimicry in CER will be challenged when public media exposure concerning a company’s environmental activities and effects would induce a coercive or normative structuring of the organization’s reporting agenda.

2.3.2. Documenting imitation behavior

Imitation has been documented starting from frequency measures on the basis of the argument that organizations tend to imitate actions that have been taken by large numbers of other organizations. Increases in volume are seen as indicative of institutionalization effects. Organizations adopt certain practices that are used by a large number of other organizations because when many organizations adopt a practice, the legitimacy or taken-for-granted status of that practice is seen to be largely supported. So, according to earlier institutional research, conformity through imitation has been evidenced when the number of firms adopting a certain behavior increased the likelihood that other firms would also do so (Fligstein, 1985; Palmer *et al.*, 1993). For our research question this would imply that higher scores of environmental disclosure would predict a tendency to more disclosure (increase in quantity/quality) in the following period. Mimetic isomorphism in CER does however not necessarily imply increasing sophistication and complexity of the CER content. Even if there is an increase in volume of CER this does not necessarily imply an increase in substance of CER (assuming that a clear vision of and agreement on substantive CER could be established). Mimetic isomorphism does however imply

growing conformity according to a socially constructed or taken-for-granted model of how CER could be appropriately sustained. Claiming that the behavior of a company is the result of imitation of another company should, according to Haunschild (1993) imply satisfaction on at least 3 conditions: (1) a model practice exhibited by a company or reference group at time t , (2) representatives of the imitating company are exposed to the model, and (3) the imitating company exhibits the practice with a time lag. We will apply these criteria indirectly in studying intra-industry imitation of CER on the basis of a similarity score (Westphal & Zajac, 1997; Westphal et al., 2001) where the model is assumed to be shaped within an industry context. We measured intra-industry imitation by greater or lower similarity between the focal company and other companies in its national industry.

The environmental disclosure structure exhibited in the reference group provides a concrete model that encourages imitation by the focal company, the reference group being defined as its national industry. Companies imitate companies within their population, as the actions of these companies tend to be more salient than the actions of companies in other populations (Haveman, 1993; Garcia-Pont & Nohria, 2002). Following previous work in organizational ecology we assume that the companies in one industry constitute a population, so that companies imitate the actions of companies within their industry. Porac et al. (1999) found direct evidence that firms typically compare themselves with competitors. This assumption is consistent with research findings in the context of CER. Prior research has shown that CER is, at least in part, dependent on industry and country (Gray and Bebbington, 2000). Not only the level of CER is different, but also the content of CER will reflect the particular industry environment of the company.

The imitation effect could be analyzed at an aggregate level or at specific content levels. Similarity scores operationalized at more specific, lower-level content variables would clearly document a stronger kind of imitation behavior. We will examine imitation with respect to two content dimensions: information quality level and topical amount of the information provided. Both aspects constitute the disclosure structure. Imitation would be evident if a particular disclosure structure were used by the companies in the reference group and afterwards followed by the focal company, e.g. if the companies of the reference group start to disclose monetary and quantitative

information on environmental litigation issues, this would be echoed by the focal company.

So we hypothesize:

H1 – Greater similarity in the environmental disclosure structure between other companies in its national industry will lead to greater similarity in the environmental disclosure structure between the focal company and other firms in its national industry.

2.4. Impact of public media exposure on CER imitation

Homogeneity in environmental disclosure structure largely depends on a taken-for-granted and homogeneous set of CER users. In certain circumstances companies will be more responsive to specific demands and concerns of stakeholders. Following legitimacy theory (Patten, 1991, 2000; Savage et al., 2000) the strategic importance and power of CER can become heightened under certain conditions. Legitimacy theory suggests that companies use CER as a means of addressing exposure to external pressures. According to this theory differences in public pressures lead to differences in the extent of environmental information disclosure. Strategic information disclosure would imply the release of specific information about the company's various programs and initiatives in a response to the demands of particular stakeholder groups.

If CER is actively implicated in legitimizing strategies, it is generally assumed that there exists an arousal event that solicits an active corporate stance in reaction to public suspicions or concerns that threaten legitimacy in one way or another or, in a more general sense, in overt changes in the way legitimacy is perceived and substantiated by relevant publics. In this context the study of Deegan et al. (2002) is of particular interest. They investigate the social and environmental disclosure policies of a particular company (BHP Ltd.) over a 14 years period. They relate the extent of media attention directed to specific social and environmental issues relating to the company and the content of the annual report disclosures pertaining to these particular events and found that the issues that attracted the largest amount of media attention were also those issues which were associated with the greatest amount of annual report disclosures. Savage et al. (2000) use news media reports as a measure of

organisational legitimacy and negative media reports as a measure of the magnitude of a company's legitimacy gap. O'Donovan (1999) also reveals that media coverage is important in directing management decisions about annual report disclosures. O'Dwyer (2002) notes that print media coverage is a significant source of social pressures on a company and that annual report disclosures are to a certain extent reactive to such pressures.

As long as specific concerns about the company's activities are not aroused, CER could develop from the assumption of a homogeneous set of CER users. However, when legitimacy is under scrutiny, targeted disclosures become important in an effort to alter perceptions of legitimacy. Neu et al. (1998) indicate that particular stakeholder groups can be more effective in demanding social and environmental disclosures. They assert that environmental disclosures are directed at important and/or supportive relevant publics and not at peripheral and critical publics. When these demands become pronounced (e.g. through media exposure) an idiosyncratic disclosure policy and content can be expected to result.

Given the arousal effect of public media exposure on environmental disclosure behaviour, we hypothesize:

H2 – The relationship between similarity in the environmental disclosure structure between other companies in the reference group and similarity between the focal company and other companies in the reference group will be weakened by news media exposure of the focal company.

2.5. Country-specific context

Within an institutional framework the country-specific context is relevant for the cultural, socio-political and regulatory factors it embodies. As an institutional field environment-conscious corporate behavior is to a certain degree dependent on the (para)legal environment surrounding that behavior with its laws, regulations and (professional) recommendations. The legal environment offers normative and cognitive guidance within a socially constructed field of proper, responsible, legitimate behavior. But at the same time a reverse causal dynamic may be operating as well, with regulatory systems enacting structures and practices that have become generally appreciated as appropriate, feasible or modern (Edelman and Suchman,

1997). So an institutional field can become relevant and mature long before it gets legally enacted in a system of principles, symbols and scripted roles. CER itself has typically developed without much regulatory interference, although within a context of growing environmental regulations. This surely has had an impact on the institutional status of CER. In a 1993 international survey study it was pointed out that demands for environmental performance data were increasingly coming from market users (e.g., customers and financial stakeholders) and that corporate environmental reports were increasingly being used to monitor, benchmark and rank companies (DTTI, 1993). North American-based evidence long suggested that a crucial part of any investor communications program is environmental management reporting since environmental issues are generally taken to be a key concern of investors and of other stakeholders (e.g., Blacconiere and Patten 1994, p. 359). Stakeholders' interest in environmental matters have been steadily increasing in Europe as well (Bebbington et al. 2000), especially in the nineties and without much legislative backing or pressure on the CER front.

KPMG surveys showed that CER rose significantly in all the European countries examined during the nineties (KPMG, 1999) and since year 2000 (KPMG, 2002). Although the main trend was clear, there were noticeable differences between countries and industries. In Germany, for instance, formal reporting by corporations of their environmental stewardship is more developed than in France. According to the KPMG survey, in 1999, 36% of German companies published an environmental report or a separate environmental section in their annual report (coming from 28% in 1996) compared to 4% for French firms. EMAS and its implied reporting schemes has also been relatively successful in Germany compared to other European countries. However, there seems to have been a tendency for international uniformity since in 2002, there is still 36% of German firms reporting environmental information compared to 21% for French firms. The KPMG survey (1999) also showed that in complete contrast with the European trend, the proportion of top American companies issuing environmental reports stabilized on a relatively high level (44% in 1996) and even declined afterwards. KPMG surveys (2002) show that in 2002, 44% of American firms published an environmental report compared to 30% in 1999 and 20% in 1996. In concert with American companies, Canadian firms also have a long history of extensive voluntary reporting. The preeminence of resources-based firms also lead to the enactment of considerable environmental regulations (Cormier and

Magnan, 1999) accompanied by a set of very specific environmental disclosure standards led to a relatively high environmental disclosure level even in the beginning of the nineties (standards related to asset removal and environmental debt, e.g. CICA No. 3060 in Canada in 1992; SFAS No. 121 in the USA in 1995; and SFAS No. 143 and 144 in 2002).

Mimetism in CER should normally flourish in a context where a significant tradition in CER has developed and where industry leaders have developed specific patterns of CER. This does not necessarily imply that the most extensive reporting formats (in both scale and scope) will be followed but that a certain mode of CER emerged. Mimetism would also be supported in a context where pressures for normative isomorphism have decreased (in the sense of the emergence of new environmental disclosure norms and their intertwining with financial reporting schemes). In view of these arguments it is expected that mimetic tendencies will be more pronounced in Canada than in Germany or France.

2.6. Mimetic CER and information quality levels

The potential impact and sensitivity of monetary / quantitative information is generally perceived to be higher than of descriptive and qualitative information disclosure. Corporate stakeholders definitely demand quantifiable data (KPMG, 1999; 2002). Sensitivity of information is directly related to uncertainty about the potential feedback consequences of its disclosure. It can be argued that the effect uncertainty of the disclosure increases with the quality level of the CER content. Stakeholders are increasingly using environmental performance data to monitor, benchmark and rank companies (KPMG, 1999). In this sense, quantitative performance data are in higher demand than descriptive and qualitative information. Following this argument, it can be assumed that uncertainty driven mimetic tendencies would not be indifferent to the disclosure quality level. To take into account this potential mediating effect we examine in an exploratory mode the mimetic patterns for three different information quality levels separately. We expect that the mimetic patterns will be stronger for the higher information quality level.

3. Method

3.1. Sample and data

Our method involves longitudinal analyses of imitation using content analytic data over a five-year or six-year period in three countries (1993-1997 for Canada and France; 1993-1998 for Germany). To lag our similarity data appropriately (see discussion further below) we additionally collected data for year 1992.

France

The French sample comprises 246 firm-year observations for environmental reporting which are selected in the following manner. First, all non-financial French firms contained in the Datastream database were identified. Because of their global exposure (through their inclusion in Datastream), these firms are expected to be most sensitive to stakeholders' and more specifically investors' concerns with respect to environmental issues. Their addresses were obtained from the DAFSA Corporate Directory (an annual publication describing all publicly listed French firms). Second, all these firms were then sent a request for their annual reports and/or environmental reports of the last 6 years. Out of 57 firms that were contacted, 50 firms responded to the request for a resulting sample of 246 firm-year observations: 240 annual reports and 6 environmental reports (not all firms sent reports for the six years). Finally, there were missing financial data, i.e., lagged stock price for the first year a firm was listed on a stock market, for 5 observations resulting in a sample of 241 firm-year observations.

Germany

The German sample comprises 337 firm-year observations for environmental reporting which are selected in the following manner. First, all non-financial firms contained in the Datastream database were identified. 76 firms were thus selected. Second, annual and/or environmental reports for 55 of these firms were available from the Antwerp University library for a potential total of 330 firm-year observations (7 years, 1992-1998). Since there were missing reports, the final sample includes 304 firm-year observations, including 13 environmental reports.

Canada

The Canadian sample comprises 614 firm-year observations for environmental reporting (including data from 27 environmental reports). First, all firms from environmentally-sensitive industrial sectors represented on the Toronto Stock Exchange 300 Index were identified, resulting in a total of 147 potential sample firms.

However, as a result of mergers, restructurings and acquisitions and because of the non-availability of some annual reports, the sample includes observations from only 118 firms. Financial data is collected from StockGuide.

Sample firms are active in seven industrial sectors: Consumer goods and services, Light and industrial manufacturing, Water, energy, chemicals and drugs, Distribution, Food and beverages, High technology, Heavy industry, Metals-gold-mines (Canada), Paper and forest products (Canada) and Oil and gas (Canada).

Data for the study was obtained from annual reports (environmental reporting), the Datastream and Stockguide databases, corporate financial statements (financial data) and from the DAFSA directory.

3.2. Measures

Content similarity

Content similarity is the focal construct in our mimetism research. Similarity is measured within a reference group at the industry-country level. We operationalized similarity in CER content at the individual data capture levels in the scoring instrument used for documenting CER content. We rely on several prior studies in measuring CER content. Environmental reporting is captured using an adaptation of the coding instrument developed by Wiseman (1982). CER is coded according to thirty-nine items that are grouped into six categories: economic factors, laws and regulations, pollution abatement, sustainable development, land remediation and contamination (including spills) and environmental management (See appendix). The CER content is rated as to information quality level based on a score of zero to three, three for an item described in monetary or quantitative terms, two when an item is described qualitatively but in specific terms, one for an item discussed in general, indicative terms and zero when there is no mention of an item.

The use of an adaptation of Wiseman's scale to qualify a firm's environmental reporting is appropriate for the following reasons. First, it allows for a detailed scoring on discrete topics that can be used as reference points to compare CER content between companies. Second, the process of reading and of coding a firm's annual and environmental reports, including financial statements' footnotes leads to a comprehensive covering of environmental reporting. Third, while other disclosure

studies rely on word counts to measure environmental reporting (e.g., Neu et al. 1998, p. 274), Wiseman's scale allows for the researcher's judgment to be impounded in rating the « value » of the disclosure made by a firm. While this process is more subjective, it ensures that irrelevant or redundant generalities are not considered to be strategic environmental reporting. Finally, Wiseman's scale has been used in prior research (e.g., Freedman and Walsey 1990, p. 185; Cormier and Magnan 1999, p. 435).

Annual and environmental reports issued by sample firms from 1992 to 1998 (Germany) or from 1992 to 1997 (Canada and France) were read and all environmental reporting items were duly noted and rated according to the level of detail provided by the firm. To ensure consistency over time and across firms, all individual scores were reviewed independently by two persons. All disagreements were subsequently reviewed by a third person (one of the co-researchers for the Canadian and French subsamples, a European colleague for the German sample).

Similarity in CER content was measured at individual data capture levels (combination of topic and information quality level). The similarity measures at individual data capture level were subsequently aggregated at company level. This approach constitutes a comprehensive measure of content similarity and allows a sensitive test of mimetic tendencies in CER.

For a continuous variable the measure of similarity is expressed as standard deviation units. In a given year, the content variable score (at data capture level) for each company was compared to the reference group mean (excluding the focal company) for that content variable and expressed as a standard deviation. The absolute values of the standard deviations for all content variables were totaled for each company. For a specific company i in a particular year the base measure can be illustrated with the following equation: $\sum_{(j=1 \text{ to } n)} \text{ABS} [(S_{ij} - M(S_j)) / \text{SD} (S_j)]$ where j is a specific content category and S_{ij} the value of content variable j for company i and where $M(S_j)$ and $\text{SD} (S_j)$ represent the mean and the standard deviation for content variable j in the company's reference group (excluding the focal company). This measure (a variation coefficient) is suggested in the earlier work of DiMaggio & Powell (1983:156) and by Scott (1995:76) and is used to indicate conformity to institutional norms. It uses the averages of companies as reference points. The applied measures were subtracted from the highest value in the sample so that higher values indicate greater similarity.

The reference group is operationalized as industry-country combinations where industry is measured at the two-digit SIC code level.

Alternatively, we measured similarity on a categorical variable (disclosure versus no disclosure). On a categorical variable similarity is measured with a variant of Blau's (1977) index of heterogeneity, defined as $(P_i)^2$, where P_i is the proportion of the dyads focal company – other companies within the same reference group sharing the i th category on a specific content dimension.

Reference group content similarity

For each company in the reference group an analogous content similarity index was calculated. This index was averaged over the reference group (the focal company excluded) and lagged by one year. This measure constitutes the focal company's reference group content similarity.

Public media exposure

Active monitoring by stakeholders, which reflects societal concerns about a firm's activities, is likely to interfere with and disrupt a company's imitation behavior. A proxy for such monitoring is the intensity of a firm's press coverage (Neu et al. 1998, p. 276). Through the use of the ABI/Inform database, newsstories about each sample firm's environmental management were reviewed annually from 1992 to 1997 (or 1998). Public Media Exposure is the number of newsstories for a particular firm in a given year. We use the product term approach to assess the interactive effect of reference group similarity and public media exposure on content similarity.

Lagged focal company similarity variable and economic variables

We included several control variables in the analysis. As disclosure positions can be largely ritualistic (Gibbins et al., 1990), disclosure activity (environmental reporting included) could be subject to significant inertial forces (Aerts, 2001) and may tend to become routinized over time. We controlled for this inertia factor by incorporating prior content similarity at the focal company as an independent variable. In doing so, we study the effect of reference group similarity on focal company similarity over routine influences.

We also control for several economic variables as proxies for competitive and coercive pressures in imitation behaviour. On the one hand, DiMaggio and Powell (1983) clearly differentiated between competitive and institutional isomorphism as potential processes leading to homogenization in organizational practices. On the other hand, DiMaggio and Powell (1983) made a distinction between three mechanisms supporting institutional isomorphism (coercive, normative and mimetic processes). This distinction is to a large extent analytical and not necessarily empirical. The three processes could operate simultaneously in which case it would be very difficult to disentangle them. Their separate effects will not always be clearly identifiable. They are not necessarily empirically identifiable and many authors researching isomorphic phenomena have tended to mix the mechanisms or take particular causes indicative of coercive isomorphism as sources of mimetic tendencies (Mizruchi & Fein, 1999). A set of control variables have been modeled to take into account these arguments. Normative influences are to a large extent captured by the country dummies. Coercive isomorphism is essentially driven by resource dependence relationships. Competitive forces in imitation behavior and coercive influences are proxied by the following economic variables:

- Profitability as measured by a firm's Return on assets (*ROA*);
- Market-to-book value of equity (*Market-to-book value*)
- Volatility, or perceived firm risk (*Risk*) as measured by the company's beta.
- Leverage (*Leverage*), as measured by (Long term financial debt)/(Equity);
- Concentrated ownership (*Concentrated ownership*);
- Extensive foreign ownership (*Foreign ownership*);
- Capital investment intensity (*Capital investment intensity*)
- Industry concentration (*Concentration ratio*)

Profitability is expected to be negatively related to imitation as poor performance could lead companies to change their past behavior, including their taken-for-granted reporting routines and their propensity to imitate others (Haveman, 1993). As an alternative measure of financial performance we included Market-to-book value of equity (Westphal *et al.*, 2001). Market premium is used as a proxy for the extent of intangible assets not accounted for in traditional financial statements.

There is prior evidence suggesting that firms in high technology exhibit higher market-to-book ratios (Frankel et al., 1999). We expect that the higher the level of intangible capital as proxied by market-to-book ratio, the lower is mimetic imitation.

Volatility and leverage, as risk indicators, are expected to be positively related to imitation as they could induce companies to conformity strategies to counter these distinctiveness features.

Concentrated ownership and significant foreign ownership is expected to be negatively related to intraindustry imitation as it could imply board room pressures on decision making towards a more group focused or international model of environmental reporting. Concentrated ownership is measured as a dichotomous variable taking a value of one (1) when an investor, or a related group of investors, owns more than 20% of a firm's outstanding voting shares, and zero (0) otherwise. According to International Accounting Standards, an ownership stake of 20% defines significant influence over a firm's affairs. Foreign ownership is measured as a dichotomous variable taking a value of one (1) when foreign investors own more than 20% of a firm's outstanding voting shares, and zero (0) otherwise.

Product market competition is expected to influence imitation behavior. A firm's decision to disclose information to investors is influenced by concern that such disclosures can damage their competitive position in product markets (Healy and Palepu, 2001). Barriers to entry (items that constitute a cost that a new entrant would have to face compared to existing companies) would certainly alleviate these concerns. Darrough and Stoughton (1990) highlight that a firm's disclosure policy depends on the potential entrant's prior belief about its private information and the cost to entry. The more it is difficult to enter a market, the more confident the incumbents will feel about disclosing information and the less the need for a conformity driven disclosure policy. As a proxy for product market competition, we use a well known measure of entry barriers: the level of capital investment as measured by gross property, plant and equipment as expressed in percentage of total assets. It is expected that capital investment intensity will be negatively related to mimetic imitation.

We controlled for industry concentration as it seemed likely that more imitation of competitors would be present in relatively concentrated industries (Westphal *et al.*, 2001). As a measure of industry concentration, we will use the

concentration ratio, i.e. an indicator of the relative size of firms in relation to the industry as a whole. This ratio helps to determine the market form of the industry. It is common to use the four-firm concentration ratio, which consists of the percentage of market share owned by the largest four firms in the industry. This is precisely the variable that will be used in this study. A positive association is expected between concentration ratio and mimetic imitation.

Control variables

We controlled for time-specific determinants of imitation by including year-specific dummy variables in the models. Additionally we controlled for the following variables:

- Age of a firm's property, plant and equipment (*Fixed Assets Age*);
- Firm size (*Firm Size*);
- SEC registrant (*SEC*).

Size has been shown to predict mimetic tendencies (Fligstein, 1991; Deephouse, 1996, Westphal *et al.*, 2001). On the other hand, prior evidence has consistently shown a positive relation between the extent of corporate disclosure and firm size (Scott 1994, p. 34; Cormier and Magnan 1999, p. 439; Neu et al. 1998, p. 276). It is measured as $\ln(\text{Assets})$. Fixed assets age is used as a proxy for a firm's polluting activities. We use the ratio of Accumulated depreciation on property, plant and equipment divided by annual depreciation expense. Finally, sample firms, or their subsidiaries, that are registered with the Securities and Exchange Commission are identified specifically (Scott 1994, p. 34; Cormier and Magnan 1999, p. 439). These firms are subject to more stringent and exhaustive disclosure regulations. SEC registration is introduced as a dichotomous variable (1; 0 if not).

4. Results

Table 1 provides some descriptive statistics about sample firms' independent variables. Firms are relatively large with total assets averaging 5 billion Euros. More than half of sample firms are closely-held and more than a quarter are listed to a US stock exchange.

Table 2 presents descriptive statistics related to environmental content (dis-)similarity variables. As for the specific content sections, intra-industry divergence is lowest for disclosures related to the ‘Laws and regulation’-topics and highest for disclosures on ‘Pollution abatement’ and ‘Environmental management’. As indicated earlier, the intra-industry divergence scores were subtracted for each individual content section from the highest value in the sample so that higher values indicate greater similarity. In terms of information quality level, descriptive content provides the highest similarity scores with a mean of 30.05, which indicates that reporting similarity practices are most pronounced for descriptive content. As for specific environmental components, the highest dissimilarity comes from pollution abatement information and environmental management. Further analyses by industry showed that the total similarity score was, on average, lowest for the ‘Paper and Forest Products’ industry (mean 76.04, s.d. 3.11) and for ‘Metals, Gold and Mines’ (mean 77.00, s.d. 5.70), and highest for the ‘Distribution’ industry (mean 88.12, s.d. 1.02) and ‘Technology’ companies (mean 85.44, s.d. 2.79).

Table 3 provides results for the OLS regression models of CER content similarity. Model 1 (the control model) indicates that intra-industry content similarity is significantly lower in Canada and significantly higher in France than in Germany (the omitted country category). Capital investment intensity, foreign ownership, company size and asset age are also significantly and in a negative sense related to CER content similarity. As expected, CER content similarity is significantly and positively related to risk and to the concentration ratio. The significant impact of financial risk (beta) establishes the fact that companies confronted with more risk will be more prone to imitate environmental reporting practices of other companies within their industry. The significant relationship with industry concentration suggests that similarity is higher in concentrated industries.

The results for model 2 support hypothesis 1 that greater similarity in the environmental disclosure content between companies in the reference group of the focal company (other companies within its national industry sector) will lead to greater similarity in the environmental disclosure content between the focal company and the reference group companies. After controlling for the significant effect of size, fixed assets age, risk and capital investment intensity and the lagged dependent variable (prior focal company content similarity), prior reference group content

similarity is positively and significantly related to focal company content similarity. The model including prior reference group content similarity improves model fit over the base model significantly. As hypothesized, these significant relationships represent strong evidence of an intraindustry imitation pattern in CER content. Moreover, using an alternative similarity measure (proportional similarity) the results were substantially unchanged.

Hypothesis 2 predicted an interaction effect between reference group similarity and news media exposure on the degree of intraindustry similarity in CER. Specifically we predict that public media exposure will be negatively related to mimetic isomorphism in CER. The results shown in model 3 of Table 3 provide support for this hypothesized interaction. The significant coefficient for “prior reference group similarity x public media exposure” indicate that the positive relationship between prior reference group similarity and reporting similarity decreases significantly as news media exposure increases. Again the model including both prior reference group content similarity and its interaction term with public media exposure significantly improves model fit over the model with only the main effect.

In general, the economic variables have a stronger effect on CER content similarity in model 1 than in the other models where prior focal company content similarity has been controlled for. This suggests that the effect of a number of the independent variables, which are relatively stable over time, are reflected in prior similarity of the focal firm. Among control variables, taking into account models 1 to 4, company size is the most consistent predictor of CER similarity. CER content similarity significantly decreases with company size. Separate analyses showed that company size acted in fact as a substitute for disclosure level and disclosure variety. The more environmental information is disclosed and the more variety in the information provided, the less similarity between the focal company and its model group. Of the other economic control variables (proxies for competitive and coercive isomorphism) only risk and capital investment intensity remain significant.

Most surprisingly, the effect of industry concentration degrades significantly in models 2 en 3, probably because of the lagged dependent variable. Its potential theoretical relevance brought us to additional analyses whereby the effect of industry concentration was reconceptualized as a reinforcement of the imitation model. In

concentrated industries, the larger companies could serve as especially strong role models for other companies within that industry. Following this argument, we scaled the reference group model according to the concentration ratio and reestimated the regression model (model 4). The results in model 4 mainly replicate those of model 3, except that the significance of the interaction term of reference group similarity with news media exposure is strongly upgraded. In the following analyses we tested both the scaled and not-scaled versions of the reference group model impact. These tests did not reveal important differences between the two versions. As the scaled version was slightly more sensitive to our research hypotheses we use that version for presentation purposes in the following tables. Additional correlational analyses by industry revealed that the mimetic patterns were strongest for the ‘Technology’ and Consumer goods and services’ industries and nearly totally absent for the industries ‘Oil and gas’ and ‘Paper and forest products’, two industries with potentially highly polluting activities. These results corroborate the significant negative impact of fixed asset age (as a proxy for polluting activities) on CER content similarity.

Model 5 in Table 3 tests whether the relationship between focal company similarity and reference group similarity can be reversed. The dependent variable in this model is the current-year reference group content similarity and the main independent variable is prior year focal company content similarity. This is the reverse of the relationship tested in model 2 in Table 3. This additional analysis can be seen as a strong test for mimetic behavior (Haunschild, 1993). The results show that prior focal company content similarity is not related to current reference group content similarity. This result indicates that the imitation relationship does not reverse and that there is not some third variable common to both the focal company and the reference group companies that is causing the observed content similarity relationship.

Table 4 documents the differential impact of information quality level of the information provided on mimetic tendencies in CER. As discussed earlier, the environmental disclosures were scored according to three information quality levels: qualitative-indicative disclosures, qualitative-descriptive disclosures and quantitative-monetary disclosures. As Table 4 indicates, the hypothesized relationships were convincingly replicated for similarity in quantitative/monetary CER content, but are generally weaker for indicative content disclosures and even nonexistent for the

intermediary descriptive content category. The adjusted R-square especially is a good indicator of the strength of the empirical relationships. These results confirm the less significant mimetic tendencies for lower information quality levels. For the lower quality level (which reflects only a symbolic information disclosure attitude) being under SEC-supervision leads to less CER content similarity within the reference group, a result not replicated for the other information quality levels.

Separate analyses by country are presented in Table 5 (overall content similarity scores) and in Table 6 (quantitative/monetary similarity scores). In general, mimetic tendencies are significantly present in Canada, but are basically nonexistent in France. German companies show mixed results. Additional analyses showed that for France coercive forces emanating from ownership structures (foreign and concentrated ownership) were the dominating predictors of CER similarity, while industry concentration (and its derived role model effect) had no significant impact at all on CER imitation in France.

5. Discussion and conclusion

Overall, the results provide considerable evidence that imitation plays a significant role in corporate environmental reporting. There is a significant relationship between the focal company's similarity in environmental reporting content and the content similarity of the other companies in its reference group which acts as a reporting model. So greater similarity in the reference group context leads on average to greater similarity between a focal company and its industry based model. This relationship does not seem to be driven by some variable related to the companies being subject to similar conditions as the reverse relationship does not hold.

The imitation relationship is influenced by news media exposure and remains largely unchallenged by the economic variables modelled. This offers additional support for the mimetism interpretation of the imitation relationship which is based on general cognitive uncertainty about the hows and whys of environmental reporting relative to its potential effects, as the main factor driving content similarity in time. Once this cognitive uncertainty is challenged by active external monitoring (proxied

by public media exposure), companies seem to actively interfere in the environmental disclosure process, leading to a significant negative impact on conformity tendencies.

The mimetic tendencies are strongest for the information level category where uncertainty about the potential effect of the information disclosed on the recipients is highest (in casu for the disclosure of monetary and quantitative information).

However, the relative strength of different forms of imitation patterns is however country dependent. Our analyses reveal that mimetic tendencies are consistently present in Canada, but are nearly inexistent in France where coercive (and probably normative) forces seem to dominate CER content in the period studied. A potential explanation could be found in the fact that mimetism flourishes only within an environment where a significant degree of institutionalized practices has been established. Voluntary environmental reporting shows a relatively stabilized pattern more early in Canada than in Europe where the period under study in this paper was characterized by still growing environmental disclosure practice and by a number of specific environmental regulation initiatives (e.g. EMAS).

The current research in a sense complements the stakeholder theory view and the legitimacy theory view on CER (Deegan, 2002). It portrays more general social forces in the process of CER than those implied by resource dependency relationships. These forces are to a large extent unintentional and result from taken-for-granted patterns of doing things. The institutional mimetism rationale also explains why CER exists and even flourishes in the absence of legitimacy threatening events or active demands of various stakeholder groups. It is consistent with the seemingly contradictory observations as documented in O'Dwyer's survey study (2002) in that he reconciles the predominant corporate management's view of the incapability for CER of facilitating the achievement of a state of legitimacy, with his observation that many of the interviewees' companies did not abandon CER and continued to engage in some form of environmental disclosures.

Our results also challenge the idealistic and normative view that CER emanates from a societal accountability process – as a natural response to people's inalienable right-to-know about the environmental impact of corporate activities. This would imply a process that is much more transformative and substance driven than the highly ceremonial CER patterns that could be observed in actual corporate practices.

Although we controlled for economic factors indicative of competitive and coercive forces behind imitation tendencies, it could be argued that legitimacy threats and their impact on CER would promote a form of coercive isomorphism. Legitimacy pressures can bring management to consider issues and to report items that would normally stay out of an uncertainty driven reporting agenda, but would be put on the agenda under pressure of specific and powerful demands. If these demands were to be voiced by regulatory bodies, portrayed by Neu et al. (1998) as especially powerful stakeholder groups, they could lead to a pattern of normative isomorphism in which the explicit rules and categories set by the regulatory bodies would become the norm around which conformity would develop. Presently, these alternative forms of isomorphism seem less plausible. On the one hand because of the lack of generally accepted and unequivocal legal, para-legal or professional guidelines at the content level of CER. On the other hand because coercive forces would not necessarily lead to more conformity. As Deegan (2002) points out, it would be very difficult to predict how managers would react in their disclosure strategy to legitimacy threats, “conceivably different managers will adopt different legitimising strategies from the array of possibilities that would be available – and again, any prediction would be problematic” (p.298). Effective legitimacy driven CER does not necessarily imply a definite, clear-cut or sophisticated disclosure agenda. In this vein Oliver (1991) argued that demands of particular stakeholder groups could conflict and that under such circumstances it would make tactical sense to dismiss or at best “minimally appease” the information demands of the less powerful stakeholders (the environmentalists versus financial stakeholders). This brings O’Dwyer (2002) to argue that: “Low effort symbolic gestures, such as the provision of elementary environmental disclosures, may therefore be used to demonstrate minimal appeasement as an alternative to outright defiance. This implies that minimal as opposed to detailed environmental disclosures may be more likely to form part of a legitimacy process aimed at appeasing the concerns of less powerful “relevant publics” (p.411).

The view elaborated in this paper emphasizes the interplay of cognitive and socio-political factors in the establishment of CER action. Both types of influences are involved in shaping environmental reporting. Neither political, nor cognitive factors can explain, by themselves, decision making regarding CER.

Given the ambiguity inherent in CER, the reliance on institutionalized rules through well-established practices facilitates decisions on CER by providing readily available solutions for reporting questions. The results of this research suggest that, in part, contemporaries observe CER of other industry constituents and consider the popularity of specific topics and presentation levels to be indicative of its appropriateness. Such conformity driven CER serves as a kind of societal truce in that it both responds to broad societal forces and accommodates in a stable manner potentially conflicting interests in the corporate environment. This conformity driven CER is jeopardized once entity-specific efficiency criteria with regard to CER become transparent and challenging through public voicing, e.g. through public media action.

Bibliography

- Aerts, W. (2001). Inertia in the attributional content of annual accounting narratives. *European Accounting Review*, 10(1): 3-32.
- Alnajjar, F.K. (2000). Determinants of social responsibility disclosures of U.S. Fortune 500 firms: An application of content analysis. *Advances in environmental accounting & management*, 1, 163-200.
- Arndt, M. and B. Bigelow (2000). Presenting structural innovation in an institutional environment: Hospitals' use of impression management. *Administrative Science Quarterly*, 45: 494-522.
- Bandura, A. (1986). *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice-Hall.
- Bebbington, J., R. Gray and C. Larranniga (2000). Editorial: Environmental and Social Accounting in Europe. *European Accounting Review* 9(1): 3-6
- Bewley, K. and Li, Y. (2000). Disclosure of environmental information by Canadian manufacturing companies: A voluntary disclosure perspective. *Advances in environmental accounting & management*, 1, 201-226.
- Blacconiere, W.G. and D.M. Patten (1994). Environmental Disclosures, Regulatory Costs and Changes in Firm Value. *Journal of Accounting and Economics* 18(3): 357-377.
- Blau, P.M. (1977). *Inequality and Heterogeneity*. Glencoe, IL: Free Press.
- Cormier, D. and M. Magnan (1999). Corporate Environmental Disclosure Strategies: Determinants, Costs and Benefits. *Journal of Accounting, Auditing and Finance* 14(3): 429-451.
- Cormier, D. and M. Magnan (2003). Environmental Reporting Management: A European Perspective. *Journal of Accounting and Public Policy* 22: 43-62.
- Cyert, R.M. and March, J.G. (1963). *A Behavioral Theory of the Firm*. Englewood Cliffs, NJ: Prentice-Hall.
- D'Aunno T., Succi M. and Alexander J.A. (2000). The role of institutional and market forces in divergent organizational change. *Administrative Science Quarterly*, 45: 679-703.
- Dacin M.T. (1997). Isomorphism in context: The power and prescription of institutional norms. *Academy of Management Journal*, 40 (1): 46-81.
- Darrough, M. and N. Stoughton (1990). Financial Disclosure Policy in an Entry Game. *Journal of Accounting and Economics* (January): 219-243.
- Deegan, C. (2002). The legitimising effect of social and environmental disclosures – a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15 (3): 282-311.
- Deegan, C., Rankin, M. and Tobin, J. (2002). An examination of the corporate social and environmental disclosures of BHP from 1983-1997. *Accounting, Auditing & Accountability Journal*, 15 (3): 312-343.
- Deephouse, D.L. (1996). Does Isomorphism legitimate ? *Academy of Management Journal*, 39: 1024-1039.
- Deephouse, D.L. (1999). To be different, or to be the same? It's a question (and theory) of strategic balance. *Strategic Management Journal*, 20: 147-166.
- DiMaggio, P.J. and Powell, W.W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48: 147-160.

- DTTI, IISD, & Sustainability (1993). *Coming Clean – Corporate Environmental Reporting, Opening Up for Sustainable Development*. London: Deloitte Touche Tohmatsu International.
- Edelman, L.B. and Suchman, M.C. (1997). The legal environments of organizations. *Annual Review of Sociology*, 23: 479-515.
- Frankel, R., M. Johnson and D.J. Skinner (1999). An Empirical Examination of Conference Calls as a Voluntary Disclosure Medium. *Journal of Accounting Research* 37(1): 133-150.
- Freedman, M. and C. Wasley (1990). The Association Between Environmental Performance and Environmental Disclosure in Annual Reports and 10Ks. *Advances in Public Interest Accounting* 3: 183-193.
- Fligstein, N. (1985). The spread of the multidivisional form among large firms, 1919-1979. *American Sociological Review*, 50: 377-391.
- Fligstein, N. (1991). The structural transformation of American industry: The causes of diversification in the largest firms, 1919-1979. In W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organisational Analysis*: 311-336. Chicago: University of Chicago Press.
- Garcia-Pont, C. and Nohria, N. (2002). Local versus global mimetism: The dynamics of alliance formation in the automobile industry. *Strategic Management Journal*, 23: 307-321.
- Gibbins, M., Richardson, A. and Waterhouse, J. (1990). The management of corporate financial disclosure: opportunism, ritualism, policies and processes. *Journal of Accounting Research*, 28(1): 121-143.
- Glaskiewicz, J. and S. Wasserman (1989). Mimetic processes within an organizational field: An empirical test. *Administrative Science Quarterly*, 34: 454-479.
- Gooderham, P.N., Nordhaug, O. and K.Ringdal (1999). Institutional and rational determinants of organizational practices: Human resource management in European firms. *Administrative Science Quarterly*, 44: 507-531.
- Goodrick, E. and G.R. Salancik (1996). Organizational discretion in responding to institutional practices: Hospitals and cesarean births. *Administrative Science Quarterly*, 41: 1-28.
- Gray, R.H. and K.J.Bebbington (2000). *Accounting for the Environment*. 2nd Edition London: Sage.
- Haunschild, P.R.(1993). Interorganizational Imitation: The impact of interlocks on corporate acquisition activity. *Administrative Science Quarterly*, 38 (December): 564-592.
- Haunschild, P.R. and Miner, A.S. (1997). Modes of interorganizational imitation: The effects of outcome salience and uncertainty. *Administrative Science Quarterly*, 42 (September): 472-500.
- Haveman, H.A. (1993). Follow the leader: Mimetic isomorphism and entry into new markets. *Administrative Science Quarterly*, 38: 593-627.
- Healy, P.M. and K.G. Palepu (2001). Information Asymmetry, Corporate Disclosure, and Capital Markets: A Review of Empirical Disclosure Literature. *Journal of Accounting and Economics* 31(1/3): 405-440.
- KPMG (1999). *KPMG International Survey of Environmental Reporting 1999*. De Meern: KPMG.
- KPMG (2002). *KPMG International Survey of Corporate Sustainability Reporting 2002*. De Meern: KPMG.

- March, J.G. (1981). Decisions in organizations and theories of choice. In A.H. Van de Ven and W.F. Joyce (eds.), *Perspectives on Organization Design and Behavior*: 205-244. New York: Wiley.
- March, J.G. (1994). *A Primer on Decision Making: How Decisions Happen*. New York: Free Press.
- Meyer, J.W. and Rowan, B. (1977). Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83:340-363.
- Mezias S.J. (1990). An institutional model of organizational practice: Financial reporting at the Fortune 200. *Administrative Science Quarterly*, 35:431-457.
- Milne, M.J. and Patten, D.M. (2002). Securing organizational legitimacy. An experimental decision case examining the impact of environmental disclosures. *Accounting, Auditing & Accountability Journal*, 15 (3): 372-405.
- Mizruchi M.S. and Stearn L.B. (1988). A longitudinal study of the formation of interlocking directorates. *Administrative Science Quarterly*, 33:194-210.
- Mizruchi, M.S. and Fein, L.C. (1999). The social construction of organizational knowledge: A study of the uses of coercive, mimetic and normative isomorphism. *Administrative Science Quarterly*, 44:653-683.
- Neu, D., H. Warsame and K. Pedwell (1998). Managing Public Impressions : Environmental Disclosures in Annual Reports. *Accounting, Organizations and Society* 23(3): 265-282.
- O'Donovan, G. (1999). Managing legitimacy through increased corporate environmental reporting: an exploratory study. *Interdisciplinary Environmental Review*. 1(1) : 63-99.
- O'Donovan, G. (2002). Environmental disclosures in the annual report. Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 15 (3): 344-371.
- O'Dwyer, B. (2002). Managerial perceptions of corporate social disclosure. An Irish story. *Accounting, Auditing & Accountability Journal*, 15 (3): 406-436.
- Oliver C. (1997) – Sustainable competitive advantage: Combining institutional and resource-based views (SMJ)
- Palmer, D.A., Devereaux Jennings, P., and X. Zhou (1993).Late adoption of the multidivisional form by large US corporations: Institutional, political and economic activity. *Administrative Science Quarterly*, 38: 100-131.
- Patten, D. (1991). Exposure, Legitimacy, and Social Disclosure. *Journal of Accounting and Public Policy* 10 (3): 297-308.
- Patten, D.M. (2000). Changing superfund disclosure and its relation to the provision of other environmental information. *Advances in environmental accounting & management*, 1:101-121.
- Porac, J.F., Thomas, H., Wilson, F., Paton, D., & Kanfer, A. (1995). Rivalry and the industry model of Scottish knitwear producers. *Administrative Science Quarterly*, 40: 203-227.
- Savage, A., Cataldo, A.J. & Rowlands, J. (2000). A multi-case investigation of environmental legitimation in annual reports. *Advances in environmental accounting & management*, 1: 45-81.
- Scott, T. (1994). Incentives and Disincentives for Financial Disclosure: Voluntary Disclosure of Defined Benefit Pension Plan Information by French Firms. *The Accounting Review* 69 (January): 26-43.
- Scott, W.R. (1991). Unpacking institutional arguments. In W.W. Powell and P.J. DiMaggio (eds.), *The New Institutionalism in Organizational Analysis*, 164-182. Chicago: University of Chicago Press.

- Scott, W.R., & Meyer, J.W. (1994). *Institutional environments and organizations*. Thousand Oaks, CA: Sage.
- Scott, W.R. (1995). *Institutions and Organizations*. Thousand Oaks, CA: Sage.
- Westphal, J.D., & Zajac, E.J. (1997). Defections from the inner circle: Social exchange, reciprocity and the diffusion of board independence in U.S. corporations. *Administrative Science Quarterly*, 42: 161-183.
- Westphal, J.D., Gulati, R. and Shortell, S.M. (1997). Customization or conformity ? An institutional and network perspective on the content and consequences of TQM adoption. *Administrative Science Quarterly*, 42: 366-394.
- Westphal, J.D. and E.J. Zajac (1997). Defections from the inner circle: Social exchange, reciprocity, and the diffusion of board independence in U.S. corporations. *Administrative Science Quarterly*, 42: 161-183.
- Westphal, J.D. and E.J. Zajac (1998). The symbolic management of stockholders: corporate reforms and shareholder reactions. *Administrative Science Quarterly*, 43: 127-153.
- Westphal, J.D., Seidel, M.-D., and Stewart, K.J. (2001). Second-order imitation: Uncovering latent effects of board network ties, *Administrative Science Quarterly*, 46: 717-747.
- Wiseman, J. (1982). An Evaluation of Environmental Disclosures Made in Corporate Annual Reports. *Accounting, Organizations and Society* 7 (4): 53-64.

Appendix

Environmental reporting ratings (adapted from Wiseman's scale, 1982)

Economic factors:

- Past and current expenditures for pollution control equipment and facilities
- Past and current operating costs of pollution control equipment and facilities
- Future estimates of expenditures for pollution control equipment and facilities
- Future estimates of operating costs for pollution control equipment and facilities
- Financing for pollution control equipment or facilities
- Environmental debt
- Risk provision
- Provision for charge

Laws and regulation:

- Litigation (present and potential)
- Fines
- Orders to conform
- Corrective actions
- Incidents
- Future legislation or regulation requirements

Pollution abatement:

- Air emission information
- Water discharge information
- Solid waste disposal information
- Control, installations, facilities or processes described
- Compliance status of facilities
- Noise and odours

Sustainable development reporting:

- Conservation of natural resources
- Recycling
- Life cycle information

Land remediation and contamination:

- Sites
- Efforts of remediation (present and future)
- Cost/potential liability (Provisions for site remediation)
- Spills: (number, nature, efforts to reduce)
- Liabilities (actual and potential)

Environmental management:

- Environmental policies or company concern for the environment
- Environmental management system
- Environmental auditing
- Goals and targets
- Awards
- Department or office for pollution control
- ISO 14000
- Participation in elaboration of environmental standards
- Joint projects with other firms on environmental management

Rating scale:

- 3 : Item described in monetary or quantitative terms
- 2 : Item described specifically
- 1 : Item discussed in general

Table 1				
Descriptive statistics				
Financial Variables				
<i>Variable</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>Risk</i>	-0.41	2.09	0.77	0.40
<i>ROA</i>	-0.15	0.37	0.03	0.09
<i>Foreign ownership</i>	0.00	1.00	0.15	0.36
<i>Concentrated ownership</i>	0.00	1.00	0.56	0.49
<i>Leverage</i>	0.00	60.13	0.61	2.54
<i>Fixed asset age</i>	0.00	115.62	7.14	6.82
<i>Size</i> <i>(Assets in 000 euro)</i>	1,075.25	140,000,000.00	4,986,299.00	12,979,677.00
<i>Market-to-book value</i>	-7.94	150.34	2.55	5.80
<i>Sales (in 000 Euro)</i>	0.00	130,000,000.00	4,240,818.00	10,843,755.00
<i>Fixed assets (in 000 Euro)</i>	0.00	70,000,000.00	1,643,267.00	4,693,797.00
<i>Capital investment intensity</i>	0.00	1.00	0.44	0.26
<i>Concentration ratio</i>	0.47	0.90	0.6545	0.1144
<i>Media Exposure</i>	0.00	7.00	0.12	0.51
<i>SEC</i>	0.00	1.00	0.27	0.45
N= 1185				

Table 2				
Descriptive statistics				
(Dis-)Similarity scores on specific content variables				
<i>Content variable</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>Dissimilarity scores by specific content sections:</i>				
- <i>Economic factors</i>	0.00	7.50	1.29	1.30
- <i>Laws and regulation</i>	0.00	9.77	1.07	1.07
- <i>Pollution abatement</i>	0.00	8.58	1.71	1.71
- <i>Sustainable development reporting</i>	0.00	10.67	1.46	1.46
- <i>Land remediation and contamination</i>	0.00	9.86	1.10	1.10
- <i>Environmental management</i>	0.00	9.43	1.71	1.71
<i>Total similarity score</i>	49.37	89.14	80.78	5.01
<i>Similarity scores by information quality levels:</i>				
- <i>Indicative content</i>	6.91	26.63	23.31	2.06
- <i>Descriptive content</i>	17.92	32.49	30.05	2.13
- <i>Quantitative content</i>	14.83	30.02	27.43	2.20
Total sample (N= 1185)				

Table 3					
Regression of focal company content similarity on its determinants (models 1 to 4) and of reverse relationship in model 5 (regression of reference group content similarity)					
<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Intercept	***105.48	***31.91	***31.98	***32.97	**9.25
Prior focal company content similarity		***0.67	***0.66	***0.67	0.02
Prior reference group content similarity		**0.04	**0.04		***0.87
Prior reference group content similarity X Public media exposure			** -0.01		
Prior reference group content similarity X Reference group concentration				**0.03	
Prior reference group content similarity X Reference group concentration X Public media exposure				*** -0.01	
Canada	***-4.99	***-1.27	***-1.25	***-1.34	***-1.41
France	***3.03	*0.58	*0.60	0.55	***-1.26
<i>Economic variables</i>					
Risk	***1.66	**0.80	**0.80	**0.76	0.09
Leverage	0.05	0.01	0.01	0.01	0.01
Capital investment intensity	***-2.17	*-0.76	*-0.83	** -0.93	0.56
Market-to-book value	-0.04	0.01	0.01	0.01	-0.05
ROA	-0.24	0.38	0.34	0.30	-0.29
Concentrated ownership	0.30	0.21	0.21	0.24	0.22
Foreign ownership	** -0.90	-0.18	-0.19	-0.17	-0.48
Concentration ratio	***4.65	1.20	1.02		-0.26
<i>Control variables</i>					
Fixed assets age	***-0.08	** -0.03	*-0.03	*-0.03	0.01
Size	***-1.13	***-0.35	***-0.32	***-0.29	0.05
SEC	-0.33	-0.26	-0.22	-0.28	-0.31
<i>Adjusted R-square</i>	37.8%	67.3%	67.5%	67.5%	82.7%
<i>Incremental R-square</i>		39.1%	0.3%		
<i>F Change</i>		***388.61	**4.85		
1. Unstandardized coefficient.					
2. *: p < 0.10; **: p < 0.05; ***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.					
3. N = 874					
4. Year-specific coefficients not presented					

Table 4			
Regression of focal company content similarity on its determinants according to information quality level of content (concentration scaled)			
<i>Variable</i>	<i>Indicative content</i>	<i>Descriptive content</i>	<i>Quantitative/Monetary content</i>
Intercept	***13.53	***19.44	***14.03
Prior focal company content similarity	***0.53	***0.47	***0.60
Prior reference group content similarity	0.02	0.02	***0.06
Prior reference group content similarity X Public media exposure	** -0.02	-0.01	** -0.02
Canada	-0.16	***-1.46	** -0.35
France	**0.48	-0.14	***0.57
<i>Economic variables</i>			
Risk	**0.43	*0.32	0.19
Leverage	0.01	0.01	0.01
Capital intensity	-0.36	-0.13	***-0.61
Market-to-book	-0.01	-0.01	0.01
ROA	0.24	0.25	-0.19
Concentrated ownership	0.10	0.05	0.10
Foreign ownership	-0.13	0.02	-0.15
<i>Control variables</i>			
Fixed assets age	** -0.02	0.01	* -0.01
Size	*** -0.12	*** -0.14	*** -0.17
SEC	** -0.35	0.13	-0.02
<i>Adjusted R-square</i>	39.9%	44.7%	62.4%
<i>F Change (Reference group variables)</i>	**3.416	1.121	***11.193
1. Unstandardized coefficient.			
2. *: p < 0.10; **: p < 0.05; ***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.			
3. N = 874			
4. Year-specific coefficients not presented			

Table 5			
Regression of focal company content similarity on its determinants by country (concentration scaled)			
<i>Variable</i>	<i>Canada</i>	<i>France</i>	<i>Germany</i>
Intercept	***41.05	***18.98	***43.12
Prior focal company content similarity	***0.61	***0.76	***0.55
Prior reference group content similarity	***0.07	-0.01	***0.04
Prior reference group content similarity X Public media exposure	** -0.02	-*0.01	0.01
<i>Economic variables</i>			
Risk	*0.99	-0.09	0.32
Leverage	0.01	-0.25	0.14
Capital intensity	1.03	*-2.81	***-1.87
Market-to-book	0.01	0.01	0.09
ROA	0.94	-4.18	-1.91
Concentrated ownership	0.51	**1.04	-0.04
Foreign ownership	0.25	-0.62	-0.12
<i>Control variables</i>			
Fixed assets age	-0.04	-0.02	-0.06
Size	***-0.65	0.05	***-0.33
SEC	-0.19	-0.42	-0.72
<i>Adjusted R-square</i>	<i>60.1%</i>	<i>71.0%</i>	<i>51.1%</i>
<i>F Change (Reference group variables)</i>	<i>***7.511</i>	<i>0.972</i>	<i>**3.739</i>
1. Unstandardized coefficient.			
2. *: p < 0.10; **: p < 0.05; ***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.			
3. N = 874			
4. Year-specific coefficients not presented			

Table 6			
Regression of focal company content similarity (quantitative/monetary) on its determinants by country (concentration scaled)			
<i>Variable</i>	<i>Canada</i>	<i>France</i>	<i>Germany</i>
Intercept	***18.07	**5.49	***17.08
Prior focal company content similarity	***0.53	***0.76	***0.54
Prior reference group content similarity	***0.13	0.01	***0.06
Prior reference group content similarity X Public media exposure	** -0.02	-0.01	0.01
<i>Economic variables</i>			
Risk	0.29	-0.38	0.07
Leverage	0.01	-0.02	-0.01
Capital intensity	0.05	-0.87	***-0.97
Market-to-book	-0.02	**0.03	0.02
ROA	-0.04	-1.04	-0.52
Concentrated ownership	0.11	***0.58	-0.1
Foreign ownership	0.08	-0.27	-0.21
<i>Control variables</i>			
Fixed assets age	** -0.03	0.01	-0.02
Size	***-0.34	0.04	***-0.205
SEC	-0.02	-0.05	0.34
<i>Adjusted R-square</i>	57.3%	67.3%	48.8%
<i>F Change (Reference group variables)</i>	***13.070	0.693	**3.578
1. Unstandardized coefficient.			
2. *: p < 0.10; **: p < 0.05; ***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.			
3. N = 874			
4. Year-specific coefficients not presented			