

The Future of Corporate Environmental Communication: Trends, Contents, Media, Technologies

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Abstract

The various developments within the field of corporate environmental communication are arranged to a comprehensive and reasonably structured survey. On the one hand, from an academics' perspective, this survey offers an overview of recent literature and empirical studies in the field. On the other hand, from a practitioner's point of view, helpful guidance is provided how to employ the Internet and other associated technologies productively. The survey focuses primarily on environmental aspects; it is based on rising challenges by which companies are more and more confronted. However, the general insights can be transferred also to financial, social, or sustainability communication - seen as a currently emerging phenomenon towards an integrated approach containing financial, environmental, and social aspects, in particular their mutual interrelations. According to the pioneering effort of structuring the multitude of developments, it appears useful to describe the overall contours in a basic framework. In a more detailed fashion, the framework rests on a set of four substantial categories, illustrated by four characteristics that are relevant for the field of corporate environmental communication on the whole. This framework includes: (i) current trends representing the major developments, tendencies, and determinants for progress, (ii) important contents representing essential subjects, crucial themes, and critical issues companies and target groups are communicating, (iii) various media like hypermedia, multimedia, print media etc. used for corporate environmental communication, and (iv) the professional employment of information and communication technologies (ICT) and its applications, in particular the technical benefits by employing Internet technologies and Internet services. The proposed framework should be regarded as schematic, not photo-realistic. However, it is helpful to highlight substantial differences between outdated, very early stages of managing corporate environmental communication e.g. by providing simple "green glossy brochures" on print media or just put by Portable Document Format (PDF) on the Internet for the sake of merely smart presentations in contrast to a forward-looking environmental communication system - often called a "sustainability communication system" or a "cybernetic communication system". As such, a cutting-edge environmental communication system offers a set of appropriate contents (customised information and personal

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reports on demand), media (print media, Internet, CD-ROM), presentation styles (target group tailoring), and distributing principles (push, pull) by an efficient manner. In terms of corporate environmental communication, taking the four categories into account will improve the way in which companies give environmental information, communicate environmental related topics, and manage their environmental management internally and externally. By so doing, such a corporate environmental communication system may be beneficial for all members involved that are reporting companies, key target groups addressed, and other stakeholders involved like standard setting institutions, and benchmarking organisations.

1 The Need for Orientation in the Rapidly Developing Field of Corporate Environmental Communication

Corporate environmental communication is a multifaceted, rapidly developing field, affecting companies' communication strategies and image profiles as well as organisational structures, personal and legislation aspects, and, in particular, their ICT capabilities. Hence, today it is quite difficult to predict what exact shape the future of corporate environmental communication will take. The assessment of addressed companies, which are primarily affected by the developments, but also the estimation of their different target groups vary from opportunities to threats, strengths to weaknesses, and chances to risks. In this ambivalent situation substantial orientation is needed. Companies as well as customers, suppliers, legislators, consultants, financial analysts, insurance agents, media representatives, and the public on the one hand as well as (environmental) computer scientists, software developers, database experts, and internet service providers on the other hand will benefit from such a substantial forward-looking orientation. Of course, no one is able to anticipate the future of corporate environmental communication in all its details, but everyone who takes responsibility in this field should take care of going ahead, and, as a rationale consequence, everyone should set the course for success, preferably at an early stage.

At first glance, corporate environmental communication is the genuine domain of companies' environmental management staff or other related departments which are designing the fashion of environmental communication practice directly. Furthermore, also politicians, academics, environmental agencies, researchers and scientists, media experts and journalists, ranking and rating organisations are addressed. They have an indirect, but considerable influence on profiles, requirements, standards, and effects of corporate environmental communication, e.g. by environmental legislation, by defining norms like the amendments of the European Eco Management and Auditing Scheme (EMAS II) or the world wide ISO 14000 series, by setting industry specific standards and committing guidelines, and, last but not least, by researching and teaching in several educational establishments.

In this contribution, substantial orientation is given and probably promising ways of change towards a forward-looking corporate environmental communication sys-

tem are presented. As a larger goal, the contribution provides useful guidance for all who are professionally dealing with or affected by corporate environmental communication, especially companies' environmental management staff, members of public and financial relations, and, no less importantly, members of the ICT department.

2 Framework for Orientation by Four Categories

The various developments within the field of corporate environmental communication include theoretical insights and conceptual proposals (Isenmann/Lenz 2002; Isenmann et al. 2001; Wheeler/Elkington 2001; SustainAbility 2001; Isenmann/Warkotsch 1999; Skillius/Wennberg 1998) as well as empirical findings and studies of best practice (KPMG 2002; Isenmann/Lenz/Müller-Merbach 2001; ACCA 2001; Gröner 2000; Jones/Alabaster/Hetherington 1999); they are structured by a basic framework which rests on four main categories: (i) trends, (ii) contents, (iii) media, and (iv) technologies. Starting right from the current state, these four categories represent a convenient scheme for surveying the multitude of heterogeneous movements within the field that are crucially important for corporate environmental communication in a broader sense:

1. Trends: What are the so-called "big issues", "hot topics" and emerging tendencies relevant for and affecting the field of corporate environmental communication seen from the perspective of different key target groups?
2. Contents: What are the essential subjects, crucial themes, and critical issues companies and target groups are communicating today and probably in the future?
3. Media: What kind of media may be employed to prepare, administrate, distribute, and present environmental communication vehicles appropriately, while meeting the target groups' requirements?
4. Technologies: What may be the role of contemporary ICT and ICT-applications for corporate environmental communication, a buzzword, a nice accessory, or an indispensable tool, emphasising the outstanding role the Internet may have e.g. for stakeholder relations, customisation, and dialogue?

These four categories are identified as the key drivers influencing the paths and affecting the developments the field of corporate environmental communication will probably take in the future. They represent converging criteria every foresighted company should take into account and they symbolise crucial prerequisites for understanding environmental communication as an integral part of corporate business.

2.1 First Category: Trends

Having analysed the literature in the field, the observed trends are divided into five characteristic domains: (i) broadening of environmental communication purposes,

(ii) penetration of environmental communication into general corporate communications, (iii) customisation of communication vehicles, (iv) increasing dialogue-orientation, and (v) standardisation of communication vehicles in form and content.

The first trend relates to the systematically opening up of the range of underlying communication objectives e.g. for professional stakeholder relations and for a “greening of investor relations”. Basically, the aim is to spread out environmental communication for creating added value internally and externally. Internally, managers are going to benefit from environmental communication vehicles as green management tools e.g. utilising for resource controlling. Externally, professional users on capital markets are realising the economic value of environmental communication vehicles as substantial additional sources to evaluate the companies’ overall success for credit ratings, risk assessment, and competition analyses.

The second trend illustrates that the penetration of environmental communication is getting started into (i) internal corporate communications such as balanced scorecards, (ii) common business communications e.g. with suppliers in the context of a supply chain management and with investors within the area of financial reporting, and (iii) public relations in the context of precautionary risk and anticipatory crisis communications. This penetration offers huge opportunities to differentiate from competitors, especially in competitive fields with major environmental impacts.

The third trend results from the fact that key target groups and other stakeholders are more critical on companies’ business and well informed about their activities. Consequently, they expect fine-tuned, individualised, and, at last, personalised communication vehicles meeting their specific information needs. Communicating only via uniformed reports on print media shows significant shortcomings in dialogue, feedback and interactivity. Further, the information needs in form, content, media, and distribution principles are rather heterogeneous. Hence, the demand for internet-based customised environmental communication is still increasing. Moreover, employing the Internet may open up new stakeholders by providing a mix of infotainment, ecotainment, and emotainment.

According to the fourth trend environmental communication vehicles are more and more used to initiate interactivity and to create a two-way communication process instead of an one-way monologue just disseminated by the companies’ communication channels without any opportunities for feedback or criticism. Here, it seems crucially important to emphasise the outstanding role the Internet will have for the provision of dialogue-oriented communication vehicles.

Despite the heterogeneity of currently available communication vehicles and certain differences of proposed guidelines in detail, there is an emerging fifth trend for a standardisation in form and content due to developments of environmental liabilities, guidelines, and scientific requirements such as the efforts towards a generally accepted framework for good environmental communication practice (Lenz et al. 2002). It is expected that the quota of standardised communication vehicles taken as a whole as well as their elements in form and content will probably increase.

2.2 Second Category: Contents

Concerning the environmental related contents companies are primarily communicating, two converging domains could be clearly identified: (i) integration of environmental communication with financial and social communication towards an integrated approach perhaps in the sense of sustainability communication and (ii) the engagement of key target groups and other stakeholders into certain environmental communication vehicles.

The first content-oriented domain is the combination of so far separated and free-standing communication vehicles to integrated and comprehensive ones. These vehicles often contain financial, environmental, and social issues, perhaps according to the triple bottom line approach. Consequently, the crucially important interrelations between economic issues, ecological topics and health and safety matters are communicated, more and more via computer-based media and with the help of Internet technologies and Internet services. More precisely, these new media and technologies and services represent indispensable tools to pass premature communication stages for reaching an integrated and comprehensive communication system (Isenmann et al. 2001): For example, they facilitate the complementary incorporation e.g. of environmental information by financial and social communication vehicles and vice versa (Henseler/Isenmann/Müller-Merbach 2002). Further, they enable a skilful connection and smart cross-linking between up to now isolated single vehicles. Finally, they allow the provision of comprehensive all-inclusive sustainability communication vehicles of a piece. The already available realisations of sustainability communication vehicles on the one hand and the initiatives for establishing sustainability communication vehicles on the other hand (GRI 2000; EC 2001) indicate a powerful content-oriented domain towards integrated and comprehensive communication. In view of their responsibility for sustainability at global level, leading-edge companies may need sustainability communication vehicles, nowadays.

The second content-oriented domain may be understood in terms of engaging the companies' key target groups. This domain represents a collective term that companies are getting started on communicating so-called "big issues" and "hot topics" of global, international, national, and local importance according to measured relevance. Especially global players producing major environmental effects are going to stimulate the key target groups' engagement - perhaps by a "challenger report", and a number of pioneering companies make certain efforts to give not only the good news but also some of the bad ones (Clausen/Fichter 1995).

2.3 Third Category: Media

In a forward-looking environmental communication system the up to now rather predominating role of print media will be relativised by employing computer-based media like the Internet and CD-ROM to an increasing extent. These computer-based

media offer huge opportunities and provide an impressive battery of technical benefits which may be exploited. Thus, it is possible to provide an efficient, integrated, hypermedia-featured, interactive, dialogue-oriented, and customised corporate environmental communication system. The rationale e.g. for greater Internet use is considered not to replace or drop printed communication vehicles but to supplement them by electronic publications on computer-based media. Hence, it is not going to be a case of either print media or computer-based media respectively of either paper-based communication vehicles or internet-based ones, but of both in order to offer a cross-media environmental communication system. As such, it provides a set of contents, media, presentation styles, and distributing principles meeting exactly the users' requirements and personal preferences. Consequently, the main challenge of employing the available media is to make them work like in tandem.

Despite the credo of some environmental agencies obviously ignoring the power of computer-based media and contemporary ICT (IÖW/imug 2001, 42), environmental communication only via uniformed vehicles on print media shows significant shortcomings. In the words of L. Mach (cited by: MacLean/Gottfrid 2000, 248): "An organization needs to send the right messages through the right distribution channels to the right audiences. To accomplish this, it may need a variety of communications vehicles - not just a single report. One size doesn't fit all in today's Internet world of mass customization". Therefore, companies need to use different media in particular for disseminating and presenting environmental communication vehicles "cross-media", according to the users' favoured preferences (Lenz/Isenmann/Reitz 2001). This is confirmed e.g. in EMAS II (EC, 2001, annex III, 3.6) and emphasised by several proposals (e.g. Jones 1999). Summed up, using computer-based media, especially the Internet, becomes a business standard since the requirements e.g. concerning customisation and dialogue-orientation can hardly be realised by print media.

2.4 Fourth Category: Technologies

In order to accomplish the challenges accompanied with the emerging trends and to provide the new contents efficiently on different media, companies may use sophisticated ICT, in particular up-to-date Internet technologies and other associated technologies and services. In companies it is therefore expected that using Internet technologies and Internet services rather facilitate environmental communication processes. Especially the utilisation of the eXtensible Markup Language (XML) will improve the whole communication workflow: For efficient preparation additional content can be easily extracted from heterogeneous data sources and conflated according to a document type definition (DTD) (Lenz et al. 2002). Standardised data formats, semantic markup as well as the use of meta data (RDF) and database technologies allow a comfortable administration. By transforming the data into different media the environmental content may be distributed in a customised fashion e.g. as a

PDF-document by email or a printed fact sheet via fax. At last, a smart but substantial presentation of content can be accomplished by using individual stylesheets (XSL) meeting the users' preferences (Lenz/Isenmann/Reitz 2001).

The trend towards customisation is seen as a starting point for employing internet-based push and pull technologies (Isenmann/Lenz 2001). These enable companies to provide individualised environmental information and personally designed communication vehicles on demand according to different information needs and suiting to the users' preferences. The preferences can be stored in user profiles containing data e.g. about the target group assigned (data view), density (status), media (kind of data), breadth (topical selection), depth (specification), time (timeliness and date of availability) and form (style, layout, format). Furthermore, companies can gain greater insights into heterogeneous communication preferences of their target groups when they analyse log files. These insights may benefit companies because they are provided with additional opportunities for refining, fine-tuning, and enhancing their entire environmental communication strategies.

3 Conclusions and Recommendations

The presented survey concerning the future of corporate environmental communication serves as a helpful theoretical overview and a hands-on practical guidance how the current state of practice may probably develop. For the companies, the survey provides converging criteria that should be taken into account, for others professionally dealing with or affected by corporate environmental communication, it contributes to exploit the opportunities the new media may enable and the Internet technologies may offer for corporate environmental communication purposes. Sensing that traditional environmental communication may have run its course, companies are considering how to improve their practice in general. Bearing this in mind, one challenge seems to be the forward-looking management of trends, contents, media, and technologies. Internet-based corporate environmental communication will change the workflow of environmental communicating processes as well as the underlying purposes, contents, and design of the various communicating vehicles.

References

- Association of Chartered Certified Accountants (ACCA) (2001): ACCA UK Environmental Reporting Awards 2000. Report of the Judges. London.
- Clausen, J.; Fichter, K.: Umweltberichterstattung: Give the good news and the bad! In: IÖW/VÖW-Informationsdienst, vol. 10, no. 3-4, pp. 1-3.
- European Commission (EC): Commission Recommendation of 30th May 2001 on the Recognition, Measurement and Disclosure of Environmental Issues in the Annual Accounts and Annual Reports of Companies. Brussels 2001.

- European Communities (EC): Regulation (EC) No. 761/2001 of the European Parliament and of the Council of 19th March 2001 (EMAS II), L 114.
- Global Reporting Initiative (GRI): Sustainability Reporting Guidelines on Economic, Environmental, and Social Performance. Boston 2000.
- Gröner, S.: Umweltberichterstattung für eine nachhaltige Entwicklung. Aachen 2000.
- Henseler, J.; Isenmann, R.; Müller-Merbach, H.: Internetbasierte Geschäftsberichterstattung. Berlin 2002 (forthcoming).
- Institut für ökologische Wirtschaftsforschung (IÖW); imug Institut für Markt - Umwelt - Gesellschaft: Der Nachhaltigkeitsbericht. Berlin 2001.
- Isenmann, R. et al.: Nachhaltigkeitsberichterstattung. In: Information Age Economy, ed. by H.U. Buhl; A. Huther; B. Reitwiesner. Heidelberg 2001, pp. 817-830.
- Isenmann, R.; Lenz C.: Customized Corporate Environmental Reporting by Internet-based Push and Pull Technologies. In: Eco-Management and Auditing, vol. 8, 2001, issue 2, pp. 100-110.
- Isenmann, R.; Lenz C.: Internet Use for Corporate Environmental Reporting. In: Business Strategy and the Environment, vol. 11, 2002, issue 3, pp. 181-202.
- Isenmann, R.; Lenz C.; Müller-Merbach, H.: Betriebliche Umweltberichterstattung im Internet. In: Praxis der Wirtschaftsinformatik, vol. 38, 2001, no. 218, pp. 97-107.
- Isenmann, R.; Warkotsch, N.: Internetbasierte Umweltberichterstattung. In: Das Wirtschaftsstudium, vol. 28, 1999, no. 11, pp. 1509-1517.
- Jones K.: Study on Environmental Reporting by Companies. Commissioned by the European Commission (EU). University of Sunderland 1999.
- Jones K.; Alabaster T.; Hetherington K.: Internet-based Environmental Reporting. Current Trends. In: Greener Management International, vol. 26, 1999, no. 3, pp. 69-90.
- KPMG Global Sustainability Service (Eds.): KPMG International Survey of Corporate Sustainability Reporting 2002. Amsterdam 2002.
- Lenz, C. et al.: Standardisation of XML-based DTDs for Corporate Environmental Reporting. In: Proceedings 16th Int. Symposium on Environmental Informatics 2002.
- Lenz, C.; Isenmann, R.; Reitz, C.: Zielgruppenorientierte Umweltberichterstattung von Unternehmen mit XML. In: Neue Methoden für das Wissensmanagement im Umweltschutz, ed. by K. Tochtermann; W.-F. Riekert. Marburg 2001, pp. 57-69.
- MacLean, R.; Gottfrid, R.: Corporate Environmental Reports. In: Corporate Environmental Strategy, vol. 7, 2000, no. 3, pp. 244-255.
- Skillius Å.; Wennberg U.: Continuity, Credibility and Comparability. A Report commissioned by the European Environment Agency. Lund University 1998.
- SustainAbility Ltd.: Virtual Sustainability. Print Version. London 2001.
- Wheeler D.; Elkington J.: The End of The Corporate Environmental Report? In: Business Strategy and the Environment, vol. 10, 2001, issue 1, pp. 1-14.