Web 2.0 for sustainability reporting: Approach to refining communication on sustainability

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Abstract
Making use of web 2.0 principles for sustainability reporting provides a promising digital approach of sustainability online communication using the principles of current web 2.0 applications. Web 2.0 inspired sustainability reporting may overcome the limitations of orthodox reporting methods as it provides an array of specific capabilities to improve the way of communicating sustainability issues both, for companies (reporters), and their various stakeholders (report readers), e.g. along interactivity, customisation, reporting à la carte, stakeholder dialogue, and participation. This paper gives an outline on this up-and-coming sustainability reporting approach along two perspectives: (i) Media-specific trends in sustainability reporting are observed. (ii) New opportunities web 2.0 applications are offering for sustainability reporting are identified. Finally, web 2.0 inspired sustainability reporting represents a promising approach as is has the potential to elevate sustainability reporting from a rather managerial closed-shop and one-way company controlled exercise to a more stakeholder-driven process providing a variety of mechanism for dialogue, feedback, interactivity, and customization.

Keywords: Customisation, online communication, stakeholder dialogue, sustainability report, web 2.0 technologies

1. Introduction
Corporate sustainability reporting has its roots in environmental respectively in non-financial reporting (DTTI et al., 1993). It follows a development path towards a concept of balanced reporting, usually communicating the three pillars of environmental, social, and economic performance and mutual interrelations, in business terms often called the triple bottom line approach. Sometimes, this approach is put in popular terms like “making values count” (ACCA, 1998), or “linking values with value” (KPMG, 2000), or described as “creating value and optimizing prosperity according to the Triple P bottom line” (DCCA, 2006). The latter is understood as combining shareholder value, eco-efficiency, and corporate citizenship, or being part of corporate social responsibility (CSR Europe, 2000).
In the 10 years since sustainability reporting first became a topic of broader interest in academia, business, and government, it has rapidly grown to a field of research with increasing relevance for companies (Kolk, 2004) and capital markets (Hesse, 2007), even in the eyes of investors (BSR, 2008). At present, sustainability reporting seems to become part of companies’ daily affairs, even entering (to a certain extent) the business mainstream. Hence, for a growing number, not just for some pioneering companies, the question is now how to report on sustainability issues, and no longer whether to report at all (Marshall and Brown, 2003). In parallel, a solid and powerful institutional infrastructure for corporate sustainability has been built, with various initiatives and organizations active world-wide, in particular with a centre in Europe (Waddock, 2008).
Within several industrial sectors, there is further empirical evidence that environmental and sustainability reporting today has become of competitive relevance (Fichter, 1998) and strategic importance (Larsen, 2000), with an impact on brand value (Interbrand, 2008). Today, “greenwashing” (Futerra, 2008), i.e. merely provision of “green glossy brochures” (UNEP and SustainAbility, 1994), does not seem to be sufficient any longer; a substantial amount of information is required. Further, sustainability reporting is only successful if the underlying management systems are appropriate and the associated processes are effective and operational. For example, goals have to be set, responsibilities have to be assigned to reach the goals, and outcomes must be assessed and used as the basis for forthcoming efforts.

Following Mesterharm (2001), comprehensive environmental or sustainability reports are regarded as the primary and leading vehicles and thus the pivotal instruments of such voluntary communication (Brophy and Starkey, 1996) because of its unique claim to credibility and reliability external stakeholders ascribe to it, containing quantitative and qualitative data. These reports are usually addressing a wide range of target groups, are often produced as single documents and issued for a certain period of time. Companies use such reports for disclosing activities and integrated performance, often including the following topics: top management statement, management policy and system as well as input-output-inventory of impacts of production processes and products in terms of sustainability.

While the field is still evolving, as sustainability reporting matures and practice develops into a more sophisticated stage, companies have to realize that the “honeymoon period” (DTTI et al., 1993) in which comprehensive non-financial reports received media and public attention just for the fact that they publish reports at all rather than for what was disclosed is over. Nowadays, advanced reporting approaches with substantial information are required. However, further to the relevance of contents, issues of communication style and data quality also become of greater importance (Beattie and Pratt, 2003; Hund et al., 2004; ACCA, 2004), in particular:

- interactivity (Teo et al., 2003; Isenmann and Kim, 2006),
- target group tailoring (Jensen and Xiao, 2001; Isenmann and Marx Gómez, 2004),
- and stakeholder dialogue (WBCSD, 2002; Unerman and Bennett, 2004).

Due to cross media availability and other innovative opportunities offered by the internet and its associated technologies and services, companies are entering a new transitional stage of online reporting (Isenmann et al., 2007; Isenmann and Marx Gómez, 2008). For example, in “The 2001 Benchmark Survey of the State of Global Environmental and Social Reporting” carried out by the CSR network (Line et al., 2002), internet-based reporting and a more balanced reporting approach are seen as the top reporting priorities. Just a short time later, many sustainability communication vehicles and reporting instruments are already available on the WWW, or – at least – benefit from internet support (ACCA, 2001; Shepherd et al., 2001; Isenmann and Lenz, 2002; Scott and Jackson, 2002; Rikhardsson et al., 2002; Andrew, 2003; Lodhia, 2004; Isenmann, 2004): Reports, brochures, leaflets, newsletters, press releases, slides, presentations, audio sequences, video clips etc. are accessible via download and/or online, or can be “pulled” or automatically disseminated via email or other current “push” technologies (Isenmann and Lenz, 2001). Despite progression companies have made in recent years however, reports are more or less available in a layout oriented data format like HTML and PDF.

In this paper, we provide an outline of how to benefit from web 2.0 technologies for communicating sustainability issues, while moving from early stages towards a more sophisticated digital approach, particularly overcoming monologue and one-way-communication and developing towards more dialogue, interactivity and participation in reporting.

In contrast to the widely accepted importance of how to communicate and report in codes of conducts (e.g. Højensgard and Wahlberg 2004), standards (e.g. ISO 2003), guidelines (e.g. WBCSD 2003), and other recommendations (Hund et al. 2004) however, current practice shows significant room for improvements, even for the best reporters. Hence, an outline is given of how to develop from early sustainability report-
ing stages towards a more sophisticated approach, with special emphasis on interactivity and stakeholder dialogue, while fully exploiting the benefits of the internet and using especially support of web 2.0 technologies:

- First, media-specific trends in sustainability reporting are observed.
- Second, a concept of sustainability reporting powered through web 2.0 is proposed.
- Third new opportunities based on web 2.0 technologies are for sustainability reporting are identified, and early implementations of current practice are presented.

Trends, concept, software tool, and illustrations from current practice reveal that companies are in a phase of transition, experimenting with web 2.0 technologies, new reporting methods, and using some features new technologies are offering. This may be an indicator that companies are on the way to improving sustainably reporting, paying more attention to target groups’ different information needs, and offering more opportunities for feedback, stakeholder dialogue and participation.

2. Four directions of sustainability communication

Sustainability reporting is a field of ongoing research. Much effort can be done to improve the quality of sustainability reporting processes. Some of these are of structural matter, like refining appropriate content and guides (GRI 2006), others focus on improved input and target-group tailoring (Süpke 2007, Cerebral 2007), or document engineering (Isenmann, Marx Gómez 2009). While many publications provide different approaches for improvement, one general aspect often is left unattended; implicitly, there is a focus on the way companies can improve the report itself. The possibility for other ways of communication based on the report itself are not the primary target of research. First steps towards going beyond the report itself and examining the ways of communication itself can be found in (Isenmann et al. 2007), notably the trend from one-way-communication towards dialogue-based interaction:

<table>
<thead>
<tr>
<th>Traditional reporting approach</th>
<th>Sophisticated reporting approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial closed shop procedure</td>
<td>Quasi-public effort</td>
</tr>
<tr>
<td>One-way company controlled exercise</td>
<td>Stakeholder involvement</td>
</tr>
<tr>
<td>Monologue</td>
<td>Dialogue</td>
</tr>
<tr>
<td>One-way communication</td>
<td>Two-way communication</td>
</tr>
<tr>
<td>One size fits all reports</td>
<td>Customized reports</td>
</tr>
<tr>
<td>Ad-hoc distribution of information</td>
<td>Continual exchange of ideas</td>
</tr>
<tr>
<td>Few opportunities for response</td>
<td>Many mechanisms for feedback and criticism</td>
</tr>
<tr>
<td>Hard copies</td>
<td>Computer-based media</td>
</tr>
<tr>
<td>Print media fixation</td>
<td>Cross-media availability</td>
</tr>
</tbody>
</table>

Table 1: Converging trends pushing the field towards sustainability online reporting
(Isenmann et al. 2007)

In (Süpke et al. 2008) we presented an approach to consider all possible ways of information exchange between companies and stakeholders, while retaining important steps like two-way communication and dialogue (feedback). Four possible way of information exchange based on sustainability reports are described (see. Figure ). These are:

a) From the company to the stakeholders: This is the basis of all communication in this context. The company creates a sustainability report and makes it available to all its stakeholders, e.g. over the web. All other forms of exchange are based on this report.

b) From stakeholders to stakeholders: This level of communication is reached, once stakeholders are given the opportunity to discuss the content provided by the company amongst themselves. Exchange of information between readers is also the basis for building an active community.
c) From stakeholders to the company: If stakeholders are enabled to give feedback about the report, the information flow is changing from strict one-way direction of communication to a bidirectional process, allowing readers to participate in the evaluation of data, and giving companies the opportunity, to establish direct contact with its stakeholders.

d) From companies to companies: This possibility describes a form of communication, where different companies are exchanging information about their sustainability performance with each other, e.g. for comparison or to evaluate the collaboration of different companies among a supply chain.

Figure 1: Four possible way of communication based on sustainability reports

Three (a, b, c) of the four ways have been analysed, suggesting specific ways of improvement. This ongoing analysis will be presented here with its current progress. The communication of many companies e.g. along a supply-chain (d) is covered in another contribution in this proceedings (Solsbach et al. 2009).

3. Enabling dialogue-based, feedback oriented sustainability reporting

Focusing on improving (respectively establishing) reporting processes should consider available methods of user interaction, information exchange, and flexible communication. Regarding the trend towards internet-based reporting, one keyword comes to mind: “Web 2.0” and its radical new ways of handling information bottom-up, by users rather than providers. Successful and popular implementations such features can be examined for their applicability towards sustainability reporting.

There are many different interpretations for the term Web 2.0 (e.g. O’Reilly 2007, Shuen 2007). Yet, there is one concept standing out: stakeholders are to be involved directly into the communication process to improve the quality of a website the more of them are actively involved. On many websites, this is even going as far as the content itself being delivered no more by the operator of the page, but by the users themselves. Prominent examples are e.g. YouTube or MySpace. This can not be applied directly to sustainability reporting, as the report content still has to be about, and thus, from the company itself. Therefore, the following definition is suggested for Web 2.0 in the context of sustainability reporting:

“(Sustainability) Pages based on Web 2.0 allow a steady improvement of the provided content by enabling a linked communication for its users, with the goal of a user-driven, targeted and interactive processing of content”

Using this definition, promising features can be extracted and applied for sustainability reporting. One source for finding successful implementation of such features are prominent web sites, e.g. according to Alexa, which lists websites according to their “traffic rank”:

“Alexa's traffic rankings are based on the usage patterns of Alexa Toolbar users and data collected from other, diverse sources over a rolling 3 month period. A site's ranking is based on a combined measure of
reach and pageviews. Reach is determined by the number of unique Alexa users who visit a site on a given day. Pageviews are the total number of Alexa user URL requests for a site.\(^1\)

Based on the Alexa top 50 list from September 15, 2008, all websites were recorded with name, URL (address), Alexa-ranking, a general description, connection to Web 2.0, and a list of all features identified. A problem occurred with many sites being listed multiple times under different country-code top-level domains. For instance, Google was listed as google.com as well as eleven other national domains like google.de, without any added functionality. A small number of sites was listed neither English nor German and hence also discarded. Further on, two websites of pornographic content were included, but not analysed any further. Ultimately, 25 pages were examined in the analysis.

The recognised features were site-specific implementations, yet often very similar. In a second step, all features have been aggregated and sorted in an abstract version, not related to their origin anymore. Finally, the remaining features will be examined for their feasibility and adaptability towards sustainability reporting. To give examples on how examined feature. First results of this analysis are summarised in the following table (Table 2, Excerpt):

<table>
<thead>
<tr>
<th>Web 2.0 platform</th>
<th>Uniform resource locator (URL)</th>
<th>Beneficial features for sustainability reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon</td>
<td><a href="http://www.amazon.com">www.amazon.com</a></td>
<td>Recommender engine; automated profile creation; user generated favorite lists, comments, evaluation</td>
</tr>
<tr>
<td>Blogger</td>
<td><a href="http://www.blogger.com">www.blogger.com</a></td>
<td>Enriched content by articles from employees’; exchange of comments; automated linking of content; tagging</td>
</tr>
<tr>
<td>Craigslist</td>
<td><a href="http://www.craigslist.org">www.craigslist.org</a></td>
<td>Self-regulation of user content by flagging</td>
</tr>
<tr>
<td>eBay</td>
<td><a href="http://www.ebay.com">www.ebay.com</a></td>
<td>Evaluation by users; user-created discussion channels</td>
</tr>
<tr>
<td>Facebook</td>
<td><a href="http://www.facebook.com">www.facebook.com</a></td>
<td>Linking users with similar interests; creating interest groups; providing inter-user communication platforms</td>
</tr>
<tr>
<td>Flickr</td>
<td><a href="http://www.flickr.com">www.flickr.com</a></td>
<td>Geotagging; commenting</td>
</tr>
<tr>
<td>Friendster</td>
<td><a href="http://www.friendster.com">www.friendster.com</a></td>
<td>See FaceBook</td>
</tr>
<tr>
<td>Google</td>
<td><a href="http://www.google.com">www.google.com</a></td>
<td>Ranking of features according to number and quality of links(^2)*</td>
</tr>
<tr>
<td>Hi5</td>
<td><a href="http://www.hi5.com">www.hi5.com</a></td>
<td>See FaceBook</td>
</tr>
<tr>
<td>ImageShack</td>
<td><a href="http://www.imageshack.us">www.imageshack.us</a></td>
<td>Evaluation of content lists and commenting</td>
</tr>
<tr>
<td>MySpace</td>
<td><a href="http://www.myspace.com">www.myspace.com</a></td>
<td>See FaceBook</td>
</tr>
<tr>
<td>Orkut</td>
<td><a href="http://www.orkut.com">www.orkut.com</a></td>
<td>See FaceBook</td>
</tr>
<tr>
<td>Photobucket</td>
<td><a href="http://www.photobucket.com">www.photobucket.com</a></td>
<td>Clustering users to groups created by users</td>
</tr>
<tr>
<td>The Internet Movie Database</td>
<td><a href="http://www.imdb.com">www.imdb.com</a></td>
<td>Evaluation and reviewing by users; possibility to suggest improvements and corrections; recommender engine</td>
</tr>
<tr>
<td>Wikipedia</td>
<td><a href="http://www.wikipedia.org">www.wikipedia.org</a></td>
<td>Clustering users; (limited) editing possibilities</td>
</tr>
<tr>
<td>Windows Live</td>
<td><a href="http://www.live.com">www.live.com</a></td>
<td>*</td>
</tr>
</tbody>
</table>

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2. The functionality of Google and other search engines is generally not disclosed; it is known in the case of Google however that the so-called page rank (value or position) of a website is based on network effects like the number of websites linking each other. As the underlying algorithms of various search engines are not transparent and publicly available the adapted features can neither be extracted completely nor systematically.
4. Conclusion & Outlook

Sustainability reporting is of growing importance. While there is much progress in terms of standardisation, the social side regarding user participation and feedback has not made much progress in comparison. By involving readers in the reporting process, a company can prove its willingness to be member of a sustainable society while also increasing loyalty and communication with its stakeholders.

Web 2.0 and its distinctive features are suitable to be a major driving force in reaching these goals. The conducted study demonstrates that many successful web sites harness the next generation of the web. These features can be applied to sustainability reporting in many ways. But using these techniques also rises new questions: Most web 2.0 features are only useful when enough users are already participating; how many users are required in the context of sustainability reporting? And how to attract the early adopters? Furthermore, how can privacy concerns be taken into consideration, e.g. in the user profiles required for a recommender engine?

These questions have to be answered, before a prototype of such a system can be realised. Still, the potentials behind this new, “social” web promise to be an effective tool towards dialogue-based sustainability reporting.

References


Cerebral, Student project group (2007): Abschlussbericht (Final report), available at University Oldenburg, Germany, or from the authors of this paper


Futerra Sustainability Communications (2008): The greenwash guide. <www.futerra.co.uk>, last access 2008-09-17.


KPMG (2000): Beyond the numbers: How leading organizations are linking values with value to gain competitive advantage. KPMG’s Assurance & Advisory Services Center (AASC), KPMG.


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