Inter-organizational Sustainability Reporting – A harmonized XRBL approach based on GRI G4 XBRL and further Guidelines

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Abstract

The ongoing development and the alterations of sustainability reporting, like the change towards internet-based reporting which allows stakeholder orientation and integration of supply chain disclosure, will lead to an increased generation of sustainability reports (or corporate social responsibility reporting). By April 2012, 53% of the S&P 500 companies provide corporate sustainability reports and 63% are based on the Global Reporting Initiative (GRI) guidelines, 5% are referencing towards GRI so that only 32% are non-GRI reports. This is a huge increase of sustainability reporting compared to 19%-20% in 2011. [1] A proposed Directive of the Council of the European Communities [2] regarding the disclosure of nonfinancial and diversity information by certain large companies and groups, what will be realized by sustainability reports, will possible lead to mandatory reporting instead of voluntary reporting. Larger companies and groups will force their suppliers to report impacts of their processes and products in the supply chain due to supply chain disclosure. Therefore, companies are forced to reduce efforts in the process of generating a sustainability report, increase the value and accessibility of reports by machine readable reports. The paper will present the approach of inter-organizational sustainability reporting to enrich the current GRI G4 XBRL [3] version towards an inter-organisational reporting. Further guidelines for harmonizing such as United Nations Global Compact [4], Organization for Economic Cooperation and Development Guidelines for Multinational Enterprises [5], Eco Management and Audit Scheme III [6] and European Federation of Financial Analysts Societies [7] to overcome the necessity to use bridge documents will be shown. Further, ideas how to integrate the inter-organisational sustainability reporting approach will be discussed.

1. Sustainability Reporting Trends

The ongoing development and the alterations of sustainability reporting, like the change towards internet-based reporting which allows stakeholder orientation and integration of supply chain disclosure, will lead to an increased generation of sustainability reports (or corporate social responsibility reporting). By April 2012, 53% of the S&P 500 companies provide corporate sustainability reports and 63% are based on the Global Reporting Initiative guidelines, 5% are referencing towards GRI so that only 32% are non-GRI reports. This is a huge increase of sustainability reporting compared to 19%-20% in 2011. [1]

A proposed Directive of the Council of the European Communities [2] regarding the disclosure of nonfinancial and diversity information by certain large companies and groups, what will be realized by sustainability reports, will possible lead to mandatory reporting instead of voluntary reporting.

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Larger companies and groups will force their suppliers to report impacts of their processes and products in the supply chain due to supply chain disclosure. Therefore, companies are forced to reduce efforts in the process of generating a sustainability report, increase the value and accessibility of reports by machine readable reports using formats to exchange data which can be automatically used such as eXtensible Business Reporting Language (XBRL). XBRL offers several benefits due to its origin from eXtensible Markup Language (XML) it separate data from structural information, can be adopted by tags and other options towards any kind of required structure which will support enlarged structured of reports of companies due to change of boarders by including information of supply chains into the reporting. One other main benefit is the wide acceptance of XBRL. Due to its origin from the financial communication, company reports are generated in a XBRL format and are shared with public and other stakeholder groups.

The paper presents an inter-organizational sustainability reporting approach to enrich the current GRI G4 XBRL [3] version towards an inter-organisational reporting. It provides an harmonized approach including GRI G$ XBRL and further other guidelines, like United Nations Global Compact (UNGC) [4], Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises [5], Eco Management and Audit Scheme (EMAS) III [6] and European Federation of Financial Analysts Societies (EFFAS) [7] to overcome the necessity to use bridge documents. The approach is shown in Figure 1.

Figure 1: Elements of a harmonized XBRL approach for inter-organizational sustainability reporting

The further guidelines analysed to include elements into a harmonized XBRL approach are chosen due to different reasons: (1) principle oriented guideline such as UNGC from a non-governmental organization (bridge document to GRI exists), (2) principle oriented guideline such as OEC guidelines for Multinational Enterprises from a governmental organization (bridge document exists), (3) an environmental declaration such as EMAS III (to show how environmental declaration could be included), and the indicator oriented approach from the European Federation of Financial Analysts Societies for corporate responsibility reporting to include how approaches with different background can be included for later on an integrated reporting as outlook.

The aim is to overcome the current gap that bridge documents have to be used to indicate automatically missing content if a company has a sustainability report following GRI to prepare the report for a further guideline e.g. UNGC. The idea is to support the process of the generation of the sustainability report and to reduce efforts for companies and organisation using XBRL derived from XML which allows several techniques to verify documents concerning content.

2. Inter-organizational sustainability reporting

Current developments and trends, such as publishing not only information and impacts of one's own activities but integrating for example the emissions of the processes of all suppliers along the chain, will extend current reporting. The impact on sustainability of a company is the sum of all its activities and is influenced by the activities of all its suppliers. The suppliers are also taken into account in order to prevent companies from outsourcing not sustainable activities like productions with a high usage of natural resources or child labor. This situation asks for a reporting from two perspectives: the network and the member perspective. This kind of reporting is state-of-the-art in financial reporting. It will be transferred to the sustainability reporting domain with the inter-organizational approach (borrowed from Kasperzak [8]**Fehler! Verweisquelle konnte nicht gefunden werden.**).

The GRI guidelines G3 and G3.1 do not allow to report impacts of suppliers if the reporting company has no influence on the supplying company. Therefore the boundaries of sustainability reporting are discussed by several authors such as Lundie and Lenzen [9] or Bey [10]. The approach of Lundie and Lenzen reveals how sustainability reporting can be seen without boundaries and compares the impact of a company with the national economy **Fehler! Verweisquelle konnte nicht gefunden werden.**. Bey demands that setting boundaries of sustainability reporting will be one main research question concerning acceptance of sustainability reporting. The boundaries of sustainability reporting are not only discussed by researchers, Nestlé AG stated out in their non-financial report "Der Nestlé-Bericht zur gemeinsamen Wertschöpfung" of 2007 (roughly: Nestlé report about the creation of combined added value) [11] that Nestlé AG aims to include their suppliers and not wholly-owned subsidiaries in their ongoing reporting activities, but that they currently are not included in the sustainability reports due to missing guideline support. At that time, the quasi-standard for sustainability reports, GRI G3.1, covered only wholly-owned subsidiaries or any other company on which the reporting company has an influence. Joint reports could be quite useful for companies that are located in an industrial park and want to show how their joint activities of waste or energy management reduces their and the overall environmental impact. The scope of sustainability reporting including companies based on existing business processes and information exchanges without having a direct influence on them. The current state of sustainability reporting encloses only the reporting company and wholly-owned subsidiaries. The inter-organizational approach requires extending current guidelines by indicators and other aspects to specify the scope and kind of network. In addition, the approach has to handle the case of joining and leaving the network during the reporting phase. Therefore, current guidelines have to be extended. This must be handled appropriately, since the leaving of companies must not result in a breakup of the network. The inter-organizational sustainability reporting still requires several reporting cycles; with activities and next steps disclosed in a report, the outcome towards social, economic and environmental aspects will be obvious.

2.1. Approach

The inter-organizational sustainability reporting approach includes a procedural method shown in Fig. 2. Schaefer's method [12] for life cycling of strategic company networks is applied to inter-organizational sustainability reporting: decision phase divided into two phases: prephase (2) and preparation phase (3) and a return option from the prephase and cooperation phase towards initiation phase to adjust to changes in the prephase and prevent the phase-out of the company network. The new phases are needed to handle the complexity of sustainability reporting. The phase are used to prepare structure and content of the sustainability report, the return option allows

to handle joining and leaving in the network without a phase-out due to that the main outcomes of sustainability reporting and the dialog with stakeholders require several reporting cycles. Further, the approach of inter-organizational sustainability reporting includes an adopted reporting framework based (document engineering) to handle a joint report from a company network.

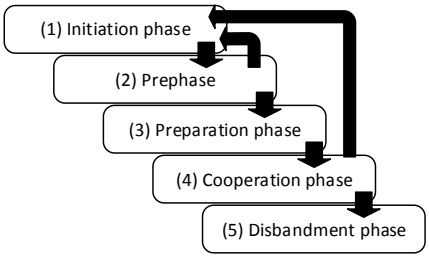

Figure 2: Inter-organizational sustainability reporting procedural method (extends [12]*)*

2.2. Added Values

The approach of inter-organizational sustainability reporting supports a company's sustainability communication and enhanced the added values of sustainability reporting. Benefits are for example (1) competitive advantages (internally and externally) by reason of improved use of natural resources (e.g. usage of secondary raw materials, overview of material and energy inserts) to reduce costs; (2) increased reputation and transparency of reporting by covering-up outsourcing of material- and energy-intensive processes due to disclosure of supply chains (or in the network); (3) inclusion of external impacts (tri-partite reporting) without having an influence on each company; and (4) reduction of risks for the reporting company due to inclusion of sustainable activities of suppliers (preventing child labor or corruption).

3. Harmonized XBRL approach for inter-organizational sustainability reporting

3.1. GRI G4 XBRL

The Global Reporting Initiative has recently published the fourth version of their sustainability reporting guidelines called G4 **Fehler! Verweisquelle konnte nicht gefunden werden.**. The GRI G4 guideline is divided into two parts: (1) Reporting Principles and Standard Disclosure and (2) Implementation Manual. The first part discusses the content of sustainability reports when using the GRI G4 guideline and the second part shows how to preprocess information for including it in the report. The first part also documents very well, how much know how as well as information is needed when preparing a sustainability report. As further support the GRI published the reporting framework based on XBRL to increase the value as machine readable exchange format. [13] The GRI G4 XBRL guidelines include general standard disclosures (in total 58 disclosures), specific standard disclosures (in total 92 disclosures), and attachments if necessary.

The GRI guidelines are currently a quasi-standard for sustainability reporting and fulfill the requirements towards and extensible indicator-based guideline for an inter-organizational sustainability reporting in following criteria:

- Extensibility of the guideline (criteria, contact with guideline publisher necessary…)
- Transparency (criteria and weighting are described in the guideline)
- Acceptance of the guideline
- Coordination and communication efforts necessary for choice, weighting and reporting of criteria etc.

- Boundaries of reporting (minimize efforts and allowing adopting boundaries towards supply chains or a company network)

The GRI provides following documents (see Figure 3) for their GRI 4 XBRL guideline [14] using XBRL 2.1 [15] and Dimensions 1.0[16] specification:

- Entry point schema (defining and importing namespaces, namespace prefixes, and linkbases)
- Label linkbase (labelling of concepts e.g. in US English and further languages if necessary)
- Reference linkbase (reference towards the specific version, section etc. of the GRI 4 guideline of reportable concept)
- Definition linkbase (dimensions, domains and role types for hypercube)
- Presentation linkbase (extended link roles for general and specific standard disclosures)

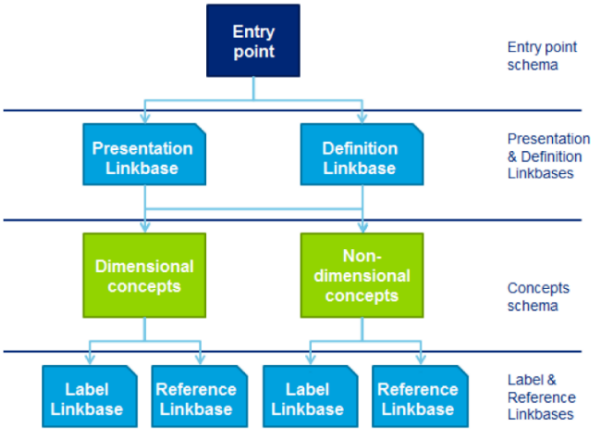

Figure 3: GRI G4 XRBL structure [14, p. 10]

3.2. Enrichment of GRI G4 XBRL content by further guidelines for inter-organizational sustainability reporting

To support the inter-organizational sustainability reporting guidelines have to support in particular following requirements:

- Support extensibility possibilities of the guideline with further indicators and principles required for a joint report of a network of reporting companies
- Support transparency to support network and member view of reporting companies
- Acceptance of the standard to decrease communication and coordination activities (therefore an indicator-based approach of guidelines is preferred)
- Decreased Coordination and communications efforts (e.g. indicators and statements are well described, no contact with external organizations or national contact point are required, and boarders of reporting can be adjusted towards network requirements)
- Support of adjustment of boarders of reporting (e.g. principle of materiality to include support chains, and value chains)

Therefore, several guidelines (Organisation for Economic Co-operation and Development (OECD) guidelines for Multinational Enterprises [5], United Nations Global Compact [17], GRI guidelines (G3, G3.1, G4, and High Five!) [18]–[21], KPIs for Environmental, Social & Governance Issues [7], International Network for Environmental Management Sustainability Reporting Guide [22]), environmental declaration such as Eco-Management and Audit Scheme III [6], and International Organization for Standardization (ISO) norm ISO 26000:2010 – Guidance on social responsibility [23] were analysed how they support an inter-organizational sustainability report. As result, the

GRI G4 guidelines with the XBRL were selected as basis guideline for the inter-organizational sustainability reporting approach due to:

- GRI G4 guidelines are indicator-based and allow extension such as sector supplements published for GRI G3.1 supporting the requirement of extensibility; indicator-based approach supports ratings and benchmarks due to that indicators are described in detail
- All disclosures are well described in the framework to decrease misunderstanding, by using the extension of XBRL the exchange of information can be annotated reducing misunderstanding in necessary communication activities in an company network
- The GRI guidelines are well known in the community and companies, organizations, and researcher were involved in the creating of the guidelines to increase acceptance; use of XBRL as accepted standard for business communication increase the acceptance in the field of environmental communication; European Union declares GRI as de-facto-standard by an declaration in the Greenbook for tripartite communication [24]
- Use of XBRL and an indicator-based guideline such as GRI G4 decrease communication processes due to call backs from companies requiring support in understanding the guidelines

The mentioned guidelines were analysed in the same kind of way and related approaches [25]and as result of the selection of GRI G4 as basis the guidelines and environmental declaration was chosen as shown in Figure 1. GRI G4 with the help of the disclosures allow the linkage of GRI G4 indicators and the principles of United Nations Global Compact (UNGC), exemplary G4-10 and G4-11 are linked with principle three of UNGC concerning labour issues. [3], [17], [20] The known linkages of GRI G4 and UNGC allows with existing bridge documents of GRI G3.1 and UNGC to estimate how much information is missing to have not only a full sustainability report following GRI G4 but also a report following UNGC. That estimation will allow to switch if necessary a reporting guideline. The linkage to OECD guidelines exists also in the G4 guidelines [3], [20], which support the use of the OECD guidelines for the enrichment of the GRI G4 XBRL. The OECD guidelines focus on extensibility by giving eleven topics as starting points for reporting by the support of national contact points of the member states which can be sued for extension of the GRI G4 guidelines. The OECD support the principle of disclosure of information but the required coordination with national contact points without having detailed indicators reveals that OECD guideline cannot be used as basis of our approach. [26] The Eco Management and Audit Scheme (EMAS) III, environmental declaration, shows how an established environmental management can be used for gathering environmental data as part of the sustainability reporting process. EMAS III requires an environmental management system and in the inter-organizational sustainability reporting approach data could be accessed via the environmental management system for the report. [6] The guidelines concerning KPIs for Environmental, Social & Governance Issues (ESG) are divided into two parts: (1) conceptual framework, and (2) KPIs by subsector. The conceptual framework includes preconditions for ESG reporting such as that the reporting should be based on a structured reporting which is fulfilled by GRI G4, for external reporting it should follow the DVFA Principles for Effective Financial Communication principles (relevance, transparency, continuity and recentness) [27, p. 11p], and reporting cycle (ones a year). Therefore, GRI G4 XBRL considerably supports the approach of inter-organizational sustainability reporting.

3.3. Proposal of a harmonized reporting framework based on GRI G4 and further guidelines using XBRL

A harmonized reporting framework using GRI G4 XBRL as basis will benefit by the open taxonomy of GRI which allows extensions to enrich the GRI standard and specific disclosures with required concepts and further elements such as:

- Reference from a concept such as EN1 indicator towards a company specific EN1 indicator for each reporting company (allowing network and members view)
- Use of a calculation linkbase to calculate e.g. the EN1 indicator on bases off all EN1 indicators' of reporting companies or alternatives
- Managing joining and leaving of companies to calculate correctly indicators by calculation linkbase or alternatives (exemplary, company A is a participating member in 2013 but in 2014 they leave; then in a comparison of 2013 and 2014 the data of company A should be excluded in the comparison or on the other hand if a company Z joins in 2014 their data should not be used for comparison of 2013 and 2014)
- The changing participating members requires the use of typed dimension to allow unknown members be integrated in the ongoing reporting process
- To support validation of different guidelines we currently analyse XBRL for using taxonomy extension for each guideline (resulting in five extension: one for each guideline and one for the inter-organizational sustainability reporting approach to include necessary elements for a network of companies which have not to be linked by a supply chain or value chain)

The research is currently focusing on the potential of XBRL and functionality to support the inter-organizational sustainability reporting approach. First results show that XRBL allows such an extension by the current supported functionality but the research is currently in the step to create a first version of such an XBRL document supporting GRI G4, the mentioned guidelines, environmental declaration, and the inter-organizational approach and has to be further specified.

4. Conclusions and Outlook

Consolidated, the paper describes the inter-organizational sustainability approach and current state-of-the-art in the field of XBRL. Also the carbon disclosure project focuses on supporting a reporting taxonomy to improve the way of reporting. Therefore, the approach to select a sustainability reporting guideline in XBRL as basis of these works looks promising and future papers a detailed semantic analysis of the guidelines will illustrate how such an approach can be realized. The approach could be a benefit for other environmental developments supported by IT such as the ongoing development of corporate environmental management information systems such as in the IT-for-Green project. [28]

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