

Socio-environmental auditing methods: a method of comparison

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Abstract

This project proposes a method of comparison for socio-environmental auditing methods (SEAMs). For this purpose a design science approach is followed. In phase I, the problem investigation, it is determined that a method for comparison could resolve two difficulties: 1) choosing which SEAM an enterprise should use, and 2) comparing enterprises' socio-environmental impact when using different SEAMs. In phase II of the design cycle, treatment design, a method of comparison is proposed. This method is adapted from Lautenschutz, D. (2016). *Defining an auditing protocol to measure the maturity level of sustainable ict in utrecht university* (Master's thesis, Utrecht University, Faculty of Science) and consists of meta-modelling the SEAMs under review and comparing their indicators through a qualitative analysis. During phase III of the design cycle, treatment validation, the method is validated by applying it in order to compare two SEAMs: the Global Reporting Initiative and the Common Good Balance. The output of this comparison is validated through an expert interview, while the workings of the method itself are analysed in order to improve the method. The result of this project is a method that can be used to analyse and compare SEAMs.

1 Introduction

In 1602 the Dutch East India Company (VOC) was established as a chartered company for the trade of spices. With the monopoly on Dutch spice-trade it received from the United Provinces' states general, it grew to be a powerful company with the ability to wage war, establish colonies, and negotiate treaties. Due to its international character it is by many considered to have been the first multinational corporation.

Despite its success when looking at the monetary profits, the VOC is not looked back upon favorably by contemporary historians. Slave trade, massacres of the indigenous peoples of the Indonesian archipelago, and the burnings of entire forests: many acts of the VOC would be considered unacceptable in this day and age.

The fact that we consider the ways of the VOC atrocious shows that we do not merely care about monetary gain when it comes to running an organisation. There are other factors in play, such as an organisation's impact on the environment, and the manner in which it treats its employees. Over the course of this project we will investigate those factors that we would consider to be part of sustainability. More concretely, we will put forward a method to compare various socio-environmental auditing methods (SEAMs): methods that are used to measure organisations' impact on the world and its inhabitants.

1.1 Context of this work

While shopping at a local supermarket, one is likely to encounter various labels that provide information on the impact a product or its manufacturer has on certain aspects of life, whether it is animal welfare or CO₂-emissions. A similar multitude of labels can be found when one looks at organisations as a whole: hundreds of different indicators and indices have been suggested to measure the socio-environmental impact of an organisation (Hak, Modan & Dahl, 2012).

Hak et al. (2012) recognise that different indicators and indices are used for different purposes in different contexts. One might find it tempting to develop a universal standard that covers all use cases, and this is where we would like to refer to the webcomic XKCD in figure 1 (Munroe, 2011).

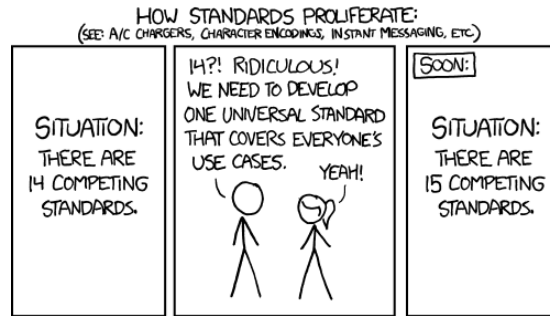


Figure 1: XKCD 927 - Standards

Indeed, many standards have been created in the field of socio-environmental auditing. Not one standard has evolved to become a universal one, however. Hak et al. (2012) argue that different indicators and indices are best suited to report on socio-environmental impact in different contexts. Therefore, the multitude of SEAMs in and of itself is not to be considered a problem that needs solving.

This multitude of existing indicators and indices does make it difficult for actors to interpret, understand, and compare organisations' socio-environmental performance, however. Furthermore, many SEAMs do overlap in their criteria. As such, measurements for these criteria can potentially be reused when applying a different SEAM. If a method existed to compare SEAMs to each other, it would become possible for an organisation to easily apply another SEAM to their organisation: one would only have to investigate the indicators that are not taken into consideration in the already applied SEAM(s). A conversation of ours with an employee of a financial investment advisory firm shows that this is indeed something organisations want to do.

1.2 Research goal

We want to provide actors struggling with the difficulties created by a multitude of existing SEAMs with a method of comparison between these SEAMs. As such, our ultimate research goal is to:

Provide a method to compare socio-environmental auditing methods to each other.

Based on this research goal four research questions are formulated that we set out to answer over the course of this project:

1. What problems are caused by the existing multitude of SEAMs?
2. What method can be used to compare SEAMs?
3. What are the strengths and weaknesses in our method to compare SEAMs?
4. Is a comparison between SEAMs useful?

1.3 Research methodology

In order to achieve the research goal a method through which SEAMs can be compared is designed. Wieringa's cycle for designing methodologies is followed, which consists of four phases: problem evaluation, treatment design, treatment evaluation, and treatment implementation (Wieringa, 2014).

The following subsections will elaborate upon the steps that will be undertaken throughout each phase of the design cycle.

1.3.1 Problem investigation

In phase I the problems caused by the existing multitude of SEAMs are investigated through a literature research. A brief history of socio-environmental auditing and present relevant research is presented. This allows us to answer research question 1.

1.3.2 Treatment design

In phase II a method of comparison for SEAMs is conceptualised. First an output that helps tackle the problems described in part I is proposed, before defining a method to generate this output. Literature research is conducted to find methodologies that we can use to our ends. The proposed method is the answer to research question 2.

1.3.3 Treatment validation

Our design is validated in phase III by applying the proposed method to two SEAMs. This process provides valuable insights in the method's strengths and weaknesses, allowing us to answer research question 3. Literature research is conducted to select candidates for comparison.

The output of the comparison is then validated through an expert interview. Insights from this process help answer research question 4.

1.3.4 Treatment implementation

Treatment implementation is outside of the scope of this project, but investigation of the implementation warrants further research.

Part I

Problem investigation

In this phase we provide some context on the field of socio-environmental auditing, in the process elaborating upon the problem as sketched in the introduction.

Firstly, a brief history of socio-environmental auditing is given, outlining why there is not one single standard. Secondly, relevant research is presented that shows the multitude of different SEAMs to be a problem worth investigating.

2 A brief history of socio-environmental auditing

Socio-environmental auditing, also generally known as sustainability reporting, has evolved to become a broad term, encompassing different concepts depending on whom is asked. It is closely related to environmental auditing, which originated in the United States in the early 1970s (Pahuja, 2013). Whereas environmental auditing is devised to safeguard the environment (International Chamber of Commerce, 1989), however, socio-environmental auditing may also take aspects such as organisational democracy and working conditions in the entire supply chain into account.

Due to the broad scope that socio-environmental auditing encompasses, many scholars have come up with their own definitions of the term. Currently, the most widely cited definition is that of the Brundtland Commission of the

United Nations: “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland committee, 1987).”

Despite being the most cited, it is far from being unanimously accepted. Kates, Parris and Leiserowitz (2005) argue that while a clear, fixed meaning of sustainability remains elusive, the term’s ambiguity is what delivers most of its resonance and power. This allows people and organisations to focus on the aspects they find most important: a stricter definition would alienate those who find themselves in the outer regions of the concept of sustainability. On the other hand, Kates et al. (2005) recognise that a core set of guiding principles and values has evolved. These are in accordance with the goals for sustainable development the 2005 Summit on Social Development identified: economic development, social development, and environmental protection (UN General Assembly, 2005).

These three goals are what we consider to be the common denominator for socio-environmental impact in this research. It is worthwhile to recognise, however, that the absence of a universally accepted concept of sustainability is exactly what has given rise to the multitude of SEAMs; each with their own areas of focus.

3 Problems caused by the multitude of SEAMs

Ness, Urbel-Piirsalu, Anderberg and Olsson (2006) assess that there have neither been any attempts to inventory the existing SEAMs, nor to quantify their importance by the number of studies or publications for each one. They propose a categorisation of sustainability assessment tools, but do not categorise any SEAMs themselves.

Gasparatos and Scolobig (2012) recognise that there is no shortage of SEAMs, but what is lacking is a method to choose between SEAMs. They conclude that in order to prevent assessments from being erroneous, effort should be spent on selecting the right one. They do not, however, propose a concrete method to do so, and merely recognise that significant research is required to define such a method.

Hak et al. (2012) assert that two difficulties have been created, by the existing multitude of SEAMs:

1. It is difficult to determine which SEAM is best suited for measuring an organisation’s socio-environmental impact.
2. It is difficult to compare organisations’ socio-environmental impact when they are not applying the same SEAM.

We believe that a comparison between different SEAMs can help overcome these two difficulties. Equipped with such a comparison, actors can more easily tell which socio-environmental aspects that are of interest to them are covered

by which SEAMs, as well as more easily determine how results of different organisations using different SEAMs relate to one another.

Part II

Treatment design

4 Proposed output

In order to achieve the research goal we want to create a method that satisfies the following criteria:

1. The method should provide a comprehensive overview of the socio-environmental aspects measured by each SEAM.
2. The method should provide a comprehensive overview of the differences between socio-environmental aspects measured by each SEAM.

In practice, the method should yield a list of indicators that are taken into account by all compared SEAMs and lists for unique indicators in the compared SEAMs. Additionally, it should be clear which indicators correspond to each other in compared SEAMs.

We believe the best way to represent this information is through a matrix structure, ideally using a pivot table to quickly see where information from any SEAM returns in other SEAMs. A simplified visualisation of this can be found in table 1. This visualisation works well to intuitively determine whether or not there is a match for indicators between different SEAMs, and whether or not that match is spread across multiple indicators.

| SEAM A | SEAM B | SEAM C |
|--------------|--------------|------------------------------|
| indicatorA01 | indicatorB08 | indicatorC11 indicatorC09 |
| indicatorA02 | indicatorB03 | |
| indicatorA03 | | indicatorC02 indicatorC03 |

Table 1: Simplified example of proposed output visualisation for comparison method

5 Method of comparison

Rather than design a method of comparison from scratch, we apply a method that was provided by another research project at Utrecht University. This

method was designed by Lautenschutz (2016) for the purpose of comparing maturity models. Applying this method will, in addition to yielding insights into SEAMs, also serve to validate the method proposed by this project.

The sections below elaborate upon the selected method before providing an adaption tailored to our needs.

5.1 Selected candidate

The method proposed by Lautenschutz (2016) was originally created to compare different maturity models, but the proposed steps are general enough to be applied to the domain of SEAMs as well. It was modeled through a process-deliverable diagram, or PDD for short, which is provided in appendix B. The method consists of four steps, which are discussed below.

In step one, one selects the maturity models to be compared. Depending on the goal of the comparison, one selects a reference model. A typical example of this would be the model used by an organisation, with the goal of comparison being extension of the model.

Over the course of step two, the maturity models to be compared are analysed. The main goal of this analysis is to determine all domain components and the way the model is applied. For each model, the following elements are described: main goal, application, construct diagram, theoretical foundation, and meta-model.

Step three is the most crucial part of the comparison, according to Lautenschutz (2016). This is the step in which the actual comparison takes place. A method for determining the constructs for comparison that is provided by the authors is qualitative content analysis, as proposed by Elo and Kyngäs (2008).

The fourth and final step of the method involves improvement of the reference maturity method. This is done based on the differences established through the comparison in step three. Findings are translated into proposals, which can then be considered for extension of the reference method.

5.2 Adapted method

The method developed by Lautenschutz (2016) is robust enough in and of itself to be applied to the domain of SEAMs. Only namings were changed in order to reflect the method's application to our ends. In step three of the method Lautenschutz (2016) describes an algorithm for finding correspondences, our adaption of which can be found in algorithm 1 on page 8.

While steps one through three remain largely the same, it is important to note that we disregard step four of Lautenschutz (2016)'s method. This step involves the improvement of the reference maturity model, but extending the SEAMs we are analysing is not within the scope of this project.

Algorithm 1: Algorithm for the comparison of SEAMs

Input : ListOfSEAMethods seamlist;
Output : ComparisonMatrix matrix;
Variables: SEAMethod refseamethod, seamethod;
Construct cons, consref, newcons;
Text result;
Boolean foundmatch;
PairwiseComparison comp;

```
1 refseamethod := seamlist.reference;  
2 foreach seamethod in seamlist do  
3   foreach cons in seamethod.constructs do  
4     foundmatch := False;  
5     foreach consref in refseamethod.constructs do  
6       result := assessMatch(consref, cons);  
7       if result = "=" or result = ">" or result = "<" then  
8         PairwiseComparison.newPC(consref, cons, result, matrix);  
9         foundMatch := True;  
10      else  
11      end  
12      if foundMatch = False then  
13        consref := NewConstruct.newCons(con.Name, cons.Definition,  
14        refseamethod);  
15        PairwiseComparison.newPC(consref, cons, 'new', matrix);  
16      else  
17      end  
18      foreach comp in PairwiseComparison where  
19        (comp.source=refseamethod and comp.target=seamethod) do  
20        if comp.Operation='>' or comp.Operation='<' then  
21          performDeductiveContentAnalysis(comp);  
22        else  
23        end  
24        foreach comp in PairwiseComparison where comp.source =  
25        refseamethod and comp.Operation = 'new' do  
26          performInductiveContentAnalysis(comp);  
27        end  
28      end  
29    end  
30  end
```

6 Meta-modelling method

The method adapted from the comparison method described by Lautenschutz (2016) requires a meta-model of the SEAMs one wants to compare. Therefore, we must decide upon a method for meta-modelling the SEAMs.

6.1 Literature research

After conducting literature research, three methods for meta-modelling were identified as candidates: MAP, ISO/IEC24744, and PDD. Due to our familiarity with it, we chose PDD as the meta-modelling technique we will be applying. The method put forward by Lautenschutz (2016) is modelled through PDD as well and PDD is widely used within the department of information and computing sciences at Utrecht University. As such, knowledge regarding the method is readily accessible within the department.

6.2 Selected candidate

PDD is thoroughly described by Van de Weerd (2005). Van de Weerd adopted the modelling technique to reveal relations between activities (process) and the artifacts (data) created in the process. To do so PDD combines a UML activity diagram with a UML class diagram. This distinction allows for analysis and comparison of both of these aspects between SEAMs.

Part III

Treatment validation

In order to validate the method we select two SEAMs to apply our method to. In order to do so three criteria for SEAMs are formulated:

1. The SEAM and its criteria should be publicly available, in order to ensure we have access to the relevant documentation.
2. The SEAM should be applicable to companies, which rules out SEAMs created specifically for governmental institutions. Our second criterion ensures the methods can be used with the same intent, namely reporting on companies.
3. All documentation should be available in either English or Dutch, for reasons related to our mastery of these languages (and, more importantly, lack of mastery in other languages).

7 Literature research

A rudimentary literature search was performed by querying the following terms or combinations thereof: *sustainability*, *socio-environmental measurement*, *auditing*, *method*, *framework*. The most common results were then reviewed and four viable candidates that matched our criteria were identified:

- Global Reporting Initiative
- Common Good Balance
- B Corp certification
- Dow Jones Sustainability Indexes

It should be noted that this list of viable candidates is by no means exhaustive: the reviewed results merely scratch the surface. Compiling an exhaustive list of SEAMs is outside the scope of this project, however, and these results suit our purposes well.

From these four candidates the Global Reporting Initiative (GRI) and the Common Good Balance (CGB) are selected. The reasoning for this differs per SEAM. The GRI is arguably the best documented and reviewed due to its widespread use, making the analysis easier to perform.

The CGB is not documented as well, but within the department of computer sciences at Utrecht University extensive knowledge of this SEAM exists, which can prove to be rather valuable during the analysis. In addition to this, the matrix structure of the CGB allows for easy application of the comparison method, making this a natural candidate for the reference method.

8 Selected candidates

In the sections below background information on both the GRI and the CGB is provided.

8.1 Common Good Balance

Despite the history, according to the Association for the Promotion of the Economy for the Common Good (2015), of ECG going back to 383 B.C. with Aristotle naming the concept of economy, the ECG itself identifies August 2011 as its birth. This coincides with the release of the Economy for the Common Good Book, which first outlined the principles and method of the ECG.

Adequately named, the ECG's vision is that all economic activity should contribute to the "common good". The ECG itself does not provide a strict definition of the common good, but instead refers to various philosophers that have outlined the concept of common good throughout the ages. Even though the ECG does not promote sustainability in and of itself, we recognise many shared concepts between sustainability and the values the ECG promotes. These

values include human dignity, ecological sustainability, and social justice (Association for the Promotion of the Economy for the Common Good, 2013a).

While the ECG itself can be described as an initiative with a core set of principles, it has developed a method that measures the contribution of organisations towards the common good. This method is known as the Common Good Balance (CGB) and is tightly related to the Common Good Matrix (CGM): a matrix that lists five values, five groups of stakeholders, and a total of seventeen indicators. Additionally, five negative indicators are listed. Version 4.1 of the Common Good Matrix can be found in appendix A. All indicators revolve around a stakeholder and their relation to the five ethical values of the CGM. These ethical values are:

- Human dignity
- Cooperation and solidarity
- Ecological sustainability
- Social justice
- Democratic co-determination and transparency

The negative indicators are not linked to any of the stakeholders within the matrix. Instead, they are each part of the ethical values.

An organisation can score points for each of the seventeen indicators. Points are deducted for the negative indicators. An organisation can score a maximum of a 1000 common good points, which translate to five tiers contribution to the common good. In the future, the ECG wants to achieve benefits for organisations that score well, including tax benefits and preferential treatment in public procurement (Association for the Promotion of the Economy for the Common Good, 2013b).

There are three ways to obtain a score on the CGB. Firstly, a company could perform a self-audit, which would give them an initial idea of their contribution to the common good. If a company wants to up the ante, they can perform a peer-review and receive one in return, adding to the credibility of their score. The last stage for a company is to become a member of the ECG association and have their report be audited by the association (Association for the Promotion of the Economy for the Common Good, 2013b). This external audit remains the most objective rating within the SEAM.

An issue we encountered while analysing the CGB was the availability of information through the ECG website. Many links and redirects were outdated, and several files critical to the method were seemingly unavailable. These issues were largely resolved by making use of the Internet archive’s Wayback machine (Internet Archive, 1996), but the answer to why the information was so difficult to obtain remains elusive. We can only assume the ECG information portals are undergoing a transformation in anticipation of the release of version 5 of the method, but this is indeed only an assumption.

8.2 GRI

The GRI was founded by two US-based non-profit organisations (Ceres and Tellus Institute) with involvement from the United Nations Environment Programme (UNEP) in 1997 (Global Reporting Initiative, n.d.). In 2000 it released the first version of its guidelines, “representing the first global framework for sustainability reporting”. The guidelines released by the GRI are what we consider to be its SEAM, the latest version of which was released in October 2016.

The standards set by the GRI can be divided into four modular but related series and one glossary which defines key-terms. The first of the series is universal, with the other three being topic-specific. These sets are labeled in series of hundreds, as follows:

- 100: Universal standards
 - 101: Foundation
 - 102: General disclosures
 - 103: Management approach
- 200: Economic standards
- 300: Environmental standards
- 400: Social standards

Evidently the 200 through 400 series mirror the core set of guiding principles and values Kates et al. (2005) recognised, as described in section 2. The three sets are further divided in topic-specific guidelines, also referred to as material topics. An organisation has to assess for itself which topic-specific guidelines are of relevance. The 101 guideline puts it as follows:

“Relevant topics (...) are those that can reasonably be considered important for reflecting the organisation’s economic, environmental and social impacts, or influencing the decisions of stakeholders.”

For an agricultural organisation, for example, it would be worthwhile to report on its effects on biodiversity in the area, whereas this would be superfluous for a software development company.

A full overview of the topic-specific guidelines is provided below:

- 200: Economic standards
 - 201: Economic performance
 - 202: Market presence
 - 203: Indirect economic impacts
 - 204: Procurement practices
 - 205: Anti-corruption

- 206: Anti-competitive behaviour
- 300: Environmental standards
 - 301: Materials
 - 302: Energy
 - 303: Water
 - 304: Biodiversity
 - 305: Emissions
 - 306: Effluents and waste
 - 307: Environmental compliance
 - 308: Supplier environmental assessment
- 400: Social standards
 - 401: Employment
 - 402: Labor/management relations
 - 403: Occupational health and safety
 - 404: Training and education
 - 405: Diversity and equal opportunity
 - 406: Non-discrimination
 - 407: Freedom of association and collective bargaining
 - 408: Child labour
 - 409: Forced or compulsory labour
 - 410: Security practices
 - 411: Rights of indigenous peoples
 - 412: Human rights assessment
 - 413: Local communities
 - 414: Supplier social assessment
 - 415: Public policy
 - 416: Customer health and safety
 - 417: Marketing and labeling
 - 418: Customer privacy
 - 419: Socioeconomic compliance

Each of these topic-specific guidelines in turn consists of one or more disclosures. We assess that guidelines and disclosures correspond to indicators and subindicators respectively in CGB.

An interesting aspect of the GRI Guidelines is that while there is a comprehensive overview of requirements and recommendations, there is no strict format for a sustainability report that follows the GRI Guidelines. Similarly, no quantitative score is calculated based on the qualitative reportings.

9 Application of method

This section details the application of the comparison method, first describing the findings of the meta-modelling of both SEAMs before performing the comparison itself.

9.1 Meta-modelling

As described in Treatment Design, SEAMs are meta-modelled through PDD. The following subsections provide the findings for both CGB and GRI.

9.1.1 CGB

The meta-model in figure 9.1.1 on page 17 shows the creation of an CGB score through self-auditing. It is important to recognise that, no matter which of the three ways described in the previous section we analyse, the output will be the same: an CGB score. This always accounts for the same criteria, but the process differs, as well as the eventual credibility.

Associated activity- and concept-tables are provided in table 2 and table 3 respectively.

The method was modelled using information provided by the in-depth guidelines for creating an CGB. Below the most important aspects of the meta-model and elaborate on some of the challenges we encountered are outlined.

The meta-model consists of four artifacts: an initial self-assessment, the common good matrix, prospects defined by the organisation, and a description of the creation process. One starts the process of creating an Common Good Balance with the performance of a self-assessment, and ends with the evaluation of the creation process.

In the self-assessment one takes an initial look at the indicators and provides an estimation for one's score on these indicators. The same is done for the negative indicators included in the CGB. This gives a first estimation of an organisation's performance when using the method. In the next process all indicators are evaluated in-depth. It is worth mentioning that while modelling this second process, we discovered that the guidelines are inconsistent in their wording of indicators, for which "criteria" is used interchangeably. This project consistently refers to them as indicators.

The process of evaluating individual indicators is one that is repeated for every one of the 22 indicators, including the negative ones. During this process, one collects all information concerning the indicator and uses it to assess the indicators based on its subindicators. An overview of all individual indicators is provided in appendix A. For each subindicator a summary of the organisation's performance is written and a percentage score is given. The in-depth guidelines provide prompt questions for most of the subindicators, giving one a starting point in assessing the subindicator.

The combination of these assessments of subindicators make up the assessment of an indicator, the combination of which in turn make up the common

| Activity | Sub-activity | Description |
|--------------------------------|---|--|
| Perform SELF-ASSESSMENT | Assess individual INDICATORS | Estimate how well an organisation performs on the INDICATORS provided by the balance sheet. |
| | Assess negative INDICATORS | Estimate how many points should be deducted based on the negative INDICATORS. |
| | Calculate initial SCORE | Add up estimations for INDICATORS and calculate the expected score. |
| Evaluate individual INDICATORS | Gather information concerning indicator | Collect all information relevant to the INDICATOR that might be available within the ORGANISATION. |
| | Assess SUBINDICATORS | Comprehend SCOPE and TOPICS covered by each specific subindicator. |
| | Summarise PERFORMANCE | Provide a SUMMARY of the PERFORMANCE on each SUBINDICATOR, following the prompt questions. |
| | Assign SCORE (%) to INDICATOR | Based on the provided VALUE RANGE, assign a PERFORMANCE SCORE to the INDICATOR. |
| | Calculate total SCORE | Add up all scores for individual INDICATORS, calculating the total SCORE. |
| Define prospects | Set short-term GOALS | Define GOALS for improving the ORGANISATION'S SCORE over the next one to three years. |
| | Set long-term GOALS | Define GOALS for improving the ORGANISATION'S SCORE over the next three to ten years. |
| Describe creation | EVALUATE creation PROCESS | Identify what went well and where there were complications in the PROCESS. |
| | DESCRIBE creation PROCESS | Document the creation PROCESS, outlining difficulties for future reference. |

Table 2: ECGBS Creation activity table

| Concept | Description |
|---------------------------------|---|
| COMMON GOOD MATRIX | Matrix of values and stakeholders, the cells of which are indicators in the CGB SEAM. |
| DESCRIPTION OF CREATION PROCESS | Documentation of how the process was performed. |
| ECG BALANCE SHEET | Full report created in accordance with the CGB SEAM. |
| INDICATOR | A thing that when measured provides information on a certain concept. |
| LONG-TERM GOAL | The desired result for an action or series of actions that take place in two to five years. |
| PROSPECTS | Collection of goals to be achieved. |
| SELF-ASSESSMENT | Evaluation of oneself where a score is given. |
| SHORT-TERM GOAL | The desired result for an action or series of actions that take place in less than two years. |
| SUBINDICATOR | Part of an indicator that measures a more specific concept. |
| VALUE | Measurement that provides data for an indicator to be reported. |

Table 3: ECGBS Concept table

good matrix of an organisation, along with the total score. This total score is a sum of the scores on individual indicators. For example, if an indicator is worth 60 points and an organisation achieves a 70% score, 42 points are added to the total score.

Once all indicators have been evaluated, one defines the prospects of the organisation. The prospects are comprised of both short- and long-term (2+ years) goals that should aim to improve the organisation's performance on the Common Good Balance. This includes setting an objective, formulating a plan to achieve the objective, and providing a time frame including a deadline.

After this has been accomplished, one describes the process of creation of the Common Good Balance, for which one needs to evaluate the previous processes. This allows for documentation of challenges and hurdles, which should help improve future creations of balances.

9.1.2 Global Reporting Initiative

The meta-model in figure 9.1.2 on page 20 shows the creation of a sustainability report following the GRI guidelines by an organisation. Its associated activity- and concept-tables are provided in table 4 and table 5 respectively. This section elaborates on the various processes and artifacts yielded by those steps.

One's first step in creating a sustainability report in accordance with the GRI guidelines is to go through the 100-series of guidelines. The first guideline of this series is *101: Foundation*, which can be considered an introduction to the method. An aspect of this guideline that returns in every other guideline, is

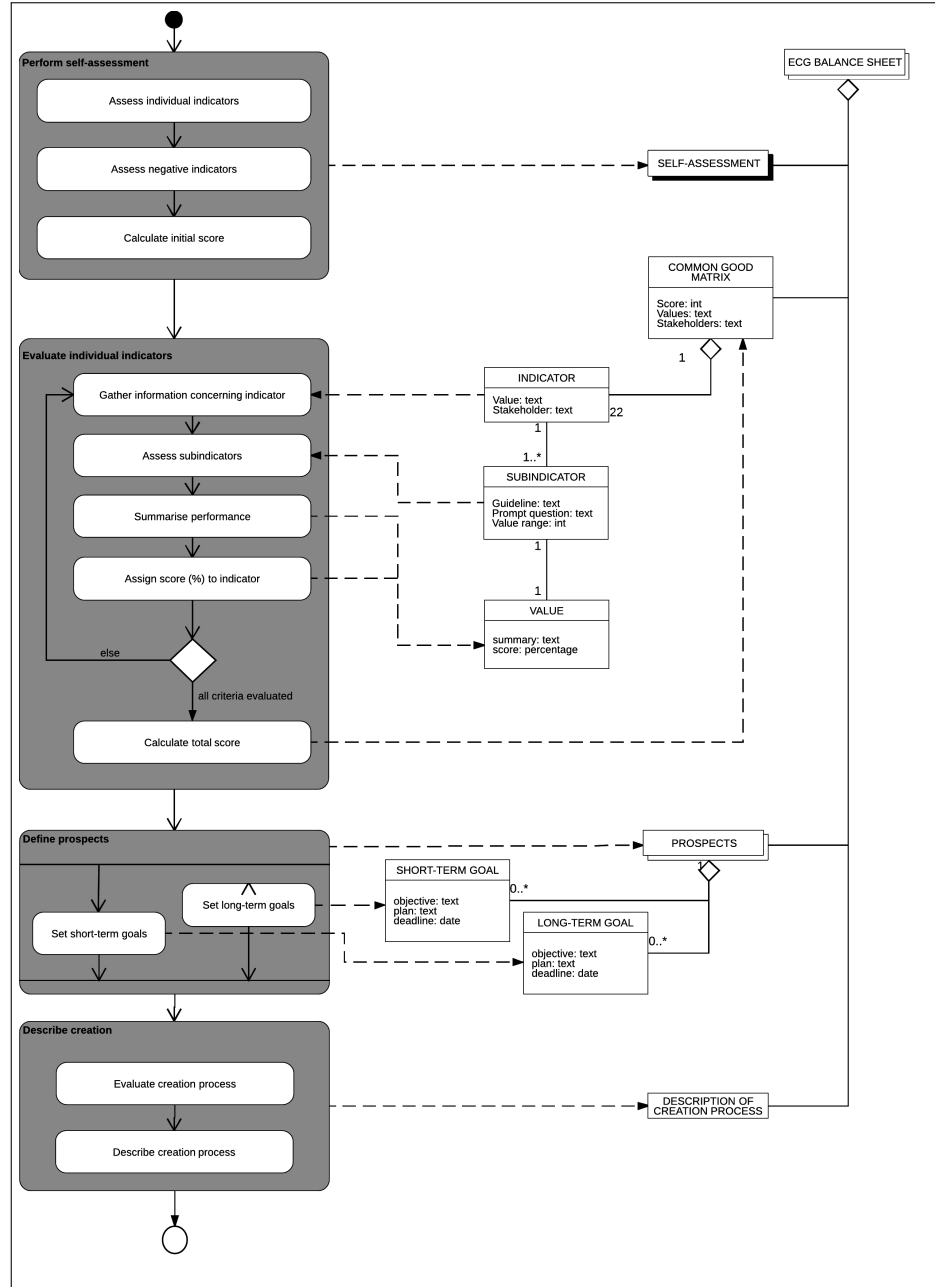


Figure 2: PDD: Creation of Common Good Balance.

| Activity | Sub-activity | Description |
|--|---|---|
| Assess universal standards | Comprehend GRI Guideline 101 | Read GRI 101 in order to attain COMPREHENSION of the METHOD. |
| | Provide general disclosures | Provide GENERAL INFORMATION such as the ORGANISATION'S name and the number of employees. |
| | Comprehend management approach | Attain COMPREHENSION of what is expected when REPORTING using GRI with regards to how INFORMATION is provided. |
| Determine relevant topic-specific guidelines | Select guideline | Iterate through the available GUIDELINES, taking all of them into consideration. |
| | Comprehend guideline scope | Attain COMPREHENSION of the SCOPE of the GUIDELINE: which topics are reported upon? |
| | Determine relevance of guideline | DETERMINE whether or not the GUIDELINE is applicable to one's ORGANISATION. |
| | Provide motivation for lack of relevance | If deemed irrelevant, support the DECISION for not including the GUIDELINE in the SUSTAINABILITY REPORT. |
| Assess guidelines | Provide management approach | Report on the management approach as prescribed in GRI GUIDELINE 101. |
| | Report on indicators | Provide the INFORMATION required by each guideline in order to fully disclose PERFORMANCE on INDICATORS. |
| Notify GRI of use of standards | Send a copy of the sustainability report to the GRI | The GRI should be provided with a full copy of an ORGANISATION'S report if the ORGANISATION wants to label itself as GRI compliant. |

Table 4: GRI certified report creation activity diagram

| Concept | Description |
|--|---|
| SUSTAINABILITY REPORT W/ GRI STANDARDS | Full report in accordance with the GRI SEAM. |
| GENERAL DISCLOSURES | Generic information concerning the organisation. |
| GUIDELINE | A thing that when measured provides information on a certain concept. |
| INDICATOR | Part of a guideline that measures a more specific concept. |
| LIST OF IRRELEVANT GUIDELINES | List of guidelines that are deemed of no relevance to the organisation and are as such not reported upon. |
| LIST OF RELEVANT GUIDELINES | List of guidelines that are deemed of relevance to the organisation and are as such reported upon. |
| MANAGEMENT APPROACH | Set of rules, scopes, and limits used to report on guidelines. |
| MOTIVATION | Description of choices made and reasons for doing so. |
| VALUE | Qualitative description of performance. |

Table 5: GRI Certified Report Concept table

its reporting principles. These principles cover both report content and report quality. These principles are:

- Reporting principles defining content
 - Stakeholder inclusiveness
 - Sustainability context
 - Materiality
 - Completeness
- Reporting principles defining report quality
 - Accuracy
 - Balance
 - Clarity
 - Comparability
 - Reliability
 - Timeliness

Going through guideline 101 does not yield any artifacts of itself, the main goal being comprehension of the guideline. *Guideline 102: General disclosures* does, however. The general disclosures include generic information such as the company name, number of employees, and main business areas. *Guideline 103: Management approaches* outlines how the management approach for each

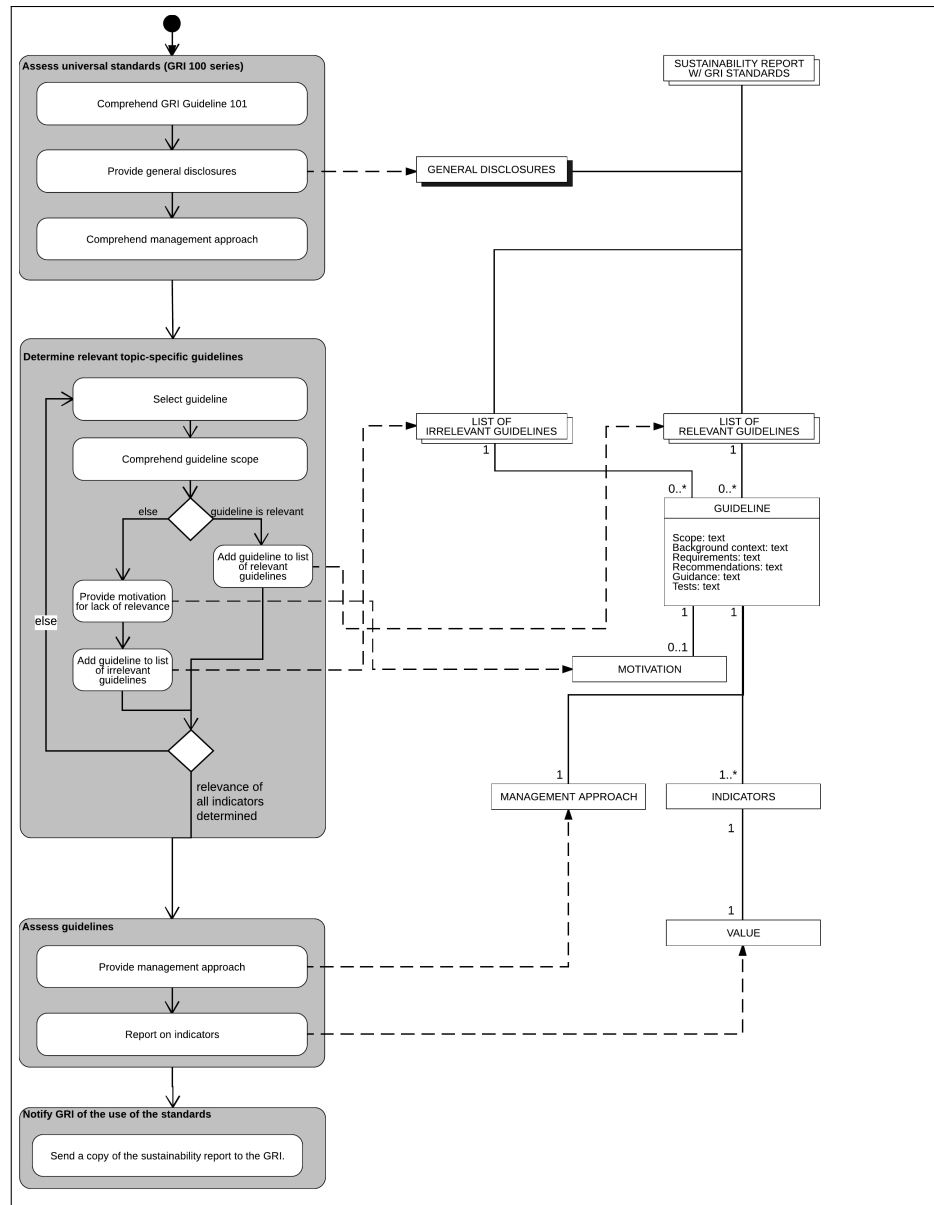


Figure 3: PDD: Creation of GRI certified sustainability report.

guideline should be provided. Similarly to guideline 101, this step does not yield any artifacts itself, but its contents return in the guidelines for specific guidelines.

In step two one selects all guidelines of relevance, providing motivation if one thinks a guideline is not relevant to the organisation creating the sustainability report. One then follows the respective guidances for each guideline that was selected, yielding a report that includes relevant information on its disclosures. The guideline has a background context provided by the guideline, as well as requirements, recommendations and guidances. The guideline adheres to the reporting principles outlined in guideline 101 and includes a management approach, as detailed in guideline 103.

Once an organisation has completed its sustainability report, it should be submitted to the Global Reporting Initiative. This is presumably done for verification, but is not elaborated upon by the GRI guidelines. It is a required step if an organisation wants to uphold that their sustainability report was created in accordance with the GRI guidelines.

9.2 Choice of reference method

Lautenschutz (2016) calls for a reference method against which the other methods can be compared. The underlying idea is that one identifies possible areas for extending the reference method: if one cannot match an indicator in a method that is compared to one in the reference method, it can be added to a list of possible extensions.

For our purposes this is not a requirement in and of itself. We do want to know if it is possible, however, since it could help resolve the issues identified in part I. We have no compelling reasons to use one method as a reference over the other, so we will perform the comparison twice: once with CGB as the reference method and once with GRI as its reference method. Comparing differences in the outputs of these two comparisons also highlights the effect(s) the choice for a certain reference method has.

After having performed the comparison twice, we will create a composite comparison of the two outcomes.

9.3 Comparison of CGB and GRI

This section outlines findings from the comparison process. A full overview of the comparison output can be found in appendix C. The process itself and encountered difficulties while performing the comparison will be described in section 11.

As expected the comparison process yielded multiple matches for indicators between SEAMs. Also as expected, many indicators could not be matched. It is outside of the scope of this project to thoroughly analyse the differences and similarities between CGB and GRI, but the comparison did leave us with a few initial impressions.

First of all, while both SEAMs cover economics, social aspects, and environmental aspects to some extent, GRI puts more focus on economics than CGB does. CGB, on the other hand, has more indicators revolving around social aspects. GRI, for example, takes into account how much economic value a company creates, while CGB completely disregards this. On the other hand, CGB values social aspects such as co-ownership of employees and workplace democratisation, while no attention is paid to this by GRI.

We believe these differences in focus can in large part be attributed to fundamental differences in philosophy. While CGB encourages organisations to contribute to a common good, GRI is meant to make organisations run themselves in a sustainable manner. This can be translated in either having the goal of generating value for everyone (CGB) or accomplishing more traditional organisational goals in a manner that is not detrimental to anything or anyone (GRI).

Nevertheless, neither SEAMs should be hard-pressed to find indicators in the other one that could be considered for inclusion, even if doing so would be done to another end. CGB could, for example, consider biodiversity to be part of the common good. GRI, on the other hand, could apply organisational transparency as an extension to existing indicators such as public policy.

10 Validation of output

In order to validate the output of the comparison process, an interview with an expert in the field of socio-environmental auditing is conducted.

10.1 Interview with expert

Our findings were relayed to an expert on the CGB who leads one of the regional working groups of the ECG in Spain. It should be noted that the observations below are not direct quotes.

The expert remarked that establishing correspondences between indicators of the CGB and those of other initiatives, such as GRI, is very important and one of the research challenges to be tackled by the ECG. When presented with the comparison output, she showed interest and said that, when revised by an expert in Common Good Matrix indicators, this mapping could augment the CGB documentation by including it. References to each GRI disclosure could, for example, be included in the corresponding cells of the ECG Matrix.

These observations show that the output yielded by the comparison method is of value to those working with SEAMs.

11 Validation of method

The method we applied consisted of two major steps: meta-modelling the SEAMs under review and comparing them. The section below details our exper-

iences with regards to these two steps, highlighting difficulties we encountered and proposing changes to the method.

11.1 Description of process

11.1.1 Meta-modelling

Our meta-modelling of the SEAMs was a useful exercise in the sense that it familiarised us with the SEAMs we were reviewing. PDD worked well for our purposes, and we would recommend using this method for meta-modelling SEAMs.

One difficulty we encountered while meta-modelling was the difference in names for certain equivalent artifacts in the two SEAMs. In CGB, for example, indicators are equivalent to GRI's guidelines. Sub-indicators in turn are equivalent to disclosures in GRI. Realising the equivalencies between SEAMs is necessary for comparing them in the next step of the method.

The outputs of this step themselves, specifically the meta-models of the two SEAMs, were not necessary for the comparison process. We do believe, however, that creating a meta-model helps comprehend the scope of SEAMs and identify shared concepts.

11.1.2 Comparison

We performed the comparison process twice: once with CGB as the reference SEAM and once with GRI as the reference SEAM.

As suggested by Lautenschutz (2016) we started out by trying to match keywords or synonyms thereof. This approach proved to be fruitless, however, since wordings turned out to be too different. Exactly 0 matches were found using this approach.

Despite us having attained in-depth knowledge regarding the SEAMs before application of the comparison method, we did not feel confident to proceed based on indicator names alone. Scopes of indicators differed between SEAMs and names were sometimes ambiguous. For example:

- CGB N3.1 (no massive environmental pollution) partly matched to indicators belonging to GRI 305, 306, and 307. — *Different scopes.*
- Based on name alone GRI 405.2 (ratio of basic salary and remuneration of women to men) appeared to match to both CGB C1.2 (fair employment and payment policy) and N4.1 (no unequal pay for women and men). Upon inspection of the CGB prompt questions, however, we found that indicator C1.2 had little to do with wage differences between men and women. — *Ambiguous indicator names*

Therefore, we switched our approach to actively looking at prompt questions and guidances for CGB and GRI respectively. This process was more knowledge-intensive, but these aspects of the methods provided the necessary details to fully comprehend the scope of each indicator in each method, thus allowing us to generate well thought-out matches.

As described by algorithm 1 this process turned the comparison into a true for-loop, iterating through the process for every indicator in a method. Using this approach, a full comparison using GRI as the reference framework took 1:45 hours, whereas the comparison using CGB as the reference framework took 1:15 hours, for a total of 3 hours. The decreased amount of time the comparison took with CGB as a reference method is likely at least in part due to increased knowledge on the SEAMs from the first comparison. Compilation of the results accounted for another hour of work. It should be noted, however, that the duration of a comparison is dependent on the extensiveness of the methods being compared: more indicators in a method means a lengthier process.

Results between sessions were comparable, as they are supposed to be, but we did encounter a few differences. We looked at these differences and found a few matches that, upon closer inspection, turned out to be false positives. In addition to this, we discovered true positives in both outputs that did not appear in the other one. After removing the false positives, we compiled the true positives into one all-encompassing comparison.

We believe both false positives and false negatives can largely be attributed to subjectivity from the researcher performing the comparison. We found that differences in interpretation occurred even five minutes apart, when we suddenly came to new realisations regarding possible matches. This reveals a flaw in the comparison process: differences in interpretation lead to different outcomes.

11.2 Proposed changes

Based on our experiences we propose a few changes to the method, which are provided in this section.

As described in the previous section, meta-modelling is a useful process in attaining knowledge regarding equivalencies in SEAMs, thus giving one a grasp on what should be compared. The output of this process, however, is not necessary in and of itself. We therefore propose omitting the meta-modelling process if one already has conceptual knowledge of the workings of each SEAM that is being compared.

For the comparison method we propose two changes:

1. In order to reduce the number of false positives and false negatives, the comparison should be performed as many times as the number of SEAMs being compared. I.e.: for every SEAM there should be a comparison with that SEAM as the reference method.
2. In order to reduce subjectivity, the comparison should be performed multiple times. This can either be done on separate occasions or, more ideally, by different actors. A review and compilation of both outputs can then be used to generate a definitive comparison. One method to achieve this could be ontology negotiation (Van Diggelen, Beun, Dignum, Van Eijk & Meyer, 2007).

These changes are not changes to the process of comparison itself, and they evidently increase the work required to perform a comparison. This is a major drawback, especially from the second change, since it requires yet another person to attain in-depth knowledge of all SEAMs under review. It does, however, improve the quality of the eventual output, thus increasing its reliability and usefulness.

12 Discussion

The following section summarises this project and provides conclusions based on the results. Additionally, assets and drawbacks are described, and suggestions for future research are provided.

12.1 Summary

The research goal of this project was: “provide a method to compare socio-environmental auditing methods to each other”. For this purpose, a design-science approach was followed as described by (Wieringa, 2014). The first three phases of this design cycle were undertaken, while the fourth one (treatment implementation) was deemed outside of the scope of this project.

Phase I, problem investigation, showed that two difficulties existed that could be solved by a comparison method for SEAMs: 1) determining which SEAM one should use, and 2) comparing organisations’ socio-environmental impact when they are not applying the same SEAM. Phase II proposed a comparison method that was adapted from Lautenschutz (2016). This method consists of meta-modelling the SEAMs under review (in our case through process-deliverable diagrams) and performing a qualitative content analysis. In part III of this project, the treatment validation, we applied the comparison method to two SEAMs: the Common Good Balance and the Global Reporting Initiative Guidelines. Both the result of this (i.e.: the comparison) and the method itself were validated.

The comparison output was validated through an interview with the chair of one of Spain’s regional Economy for the Common Good working groups. She expressed interest and validated that finding correspondences is of importance. Additionally, the expert mentioned that the output could be valuable when augmenting the CGB documentation.

The comparison method was validated through our experiences in applying it. This resulted in two proposed changes to the method: 1) the comparison should be performed as many times as the number of SEAMs under review, each time with an other SEAM as reference method, and 2) the comparison should be performed more than once, ideally by different actors. These changes would not affect the comparison method itself, but would serve to increase the quality of the eventual output.

12.2 Conclusions

Over the course of this project we were able to attain our research goal by providing a method for the comparison of socio-environmental auditing methods. Four research questions were formulated, which we can be answered as follows:

1. What problems are caused by the existing multitude of SEAMs?

Two major issues are caused by the multitude of existing SEAMs: 1) it is difficult to determine which SEAM is best suited for measuring an organisation's socio-environmental impact, and 2) it is difficult to compare organisations' socio-environmental impact when they are not applying the same SEAM.

2. What method can be used to compare SEAMs?

An adapted version of the method proposed by Lautenschutz (2016) can be applied to the field of socio-environmental auditing methods. An algorithm for this method is provided in algorithm 1.

3. What are the strengths and weaknesses in our method to compare SEAMs?

The output of the comparison method is a comprehensive overview of different SEAMs which can be used for various purposes, including determining which SEAM one should use and determining which fields are covered in audits using a certain SEAM. As such, the method helps solve two major difficulties in the field of socio-environmental auditing. Additionally, the comparison can be performed relatively quickly. A weakness of the method is that its application relies on in-depth knowledge of the SEAMs under review. Furthermore, it is sensitive to subjectivity of the performer of the method, thus requiring multiple iterations of the method in order to yield optimal result.

4. Is a comparison between SEAMs useful?

According to an expert in the field of socio-environmental auditing, finding correspondences is of importance to those working with SEAMs and the output of our comparison methods is a useful to that end. A comparison could, for example, be used to augment documentation of SEAMs.

12.3 Assets

This project has yielded an applicable method for the comparison of SEAMs, thus providing an extension to the general knowledge in the domain of socio-environmental auditing. In addition to this, our application of the method proposed by Lautenschutz (2016), serves to validate the workings of this method; even if it was applied in a slightly adapted form. Lastly, the output of the comparison, the correspondences between CGB and GRI, is of value as well.

12.4 Limitations

While the result of this project is a practical method that satisfies the research goal, it has only been validated through application of those designing it. As such, it remains unknown whether or not one would reach the same conclusions as those that designed the method. In addition to this, it has only been applied to two SEAMs. At this moment we cannot say how well the method works when comparing three or more SEAMs.

12.5 Future work

The outcomes of this project provide a lot of possibilities for future work in the area of socio-environmental auditing. Future work should aim to validate the proposed method, preferably by applying it in a practical context. This would serve to perform phase IV of Wieringa's design cycle, thus validating whether or not the difficulties as provided in the problem investigation are resolvable through application of our method.

In addition to this, widespread application of the comparison method could serve to identify common trends in the field of socio-environmental auditing, therefore contributing to the shared and common understandings of the field.

Building on the method we propose, one could develop a tool or application that can be used to record matches in the comparison. A drag and drop interface would, for example, make compilation of the comparison easier to perform.

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Appendices

A Version 4.1 of the Common Good Matrix

COMMON GOOD MATRIX 4.1

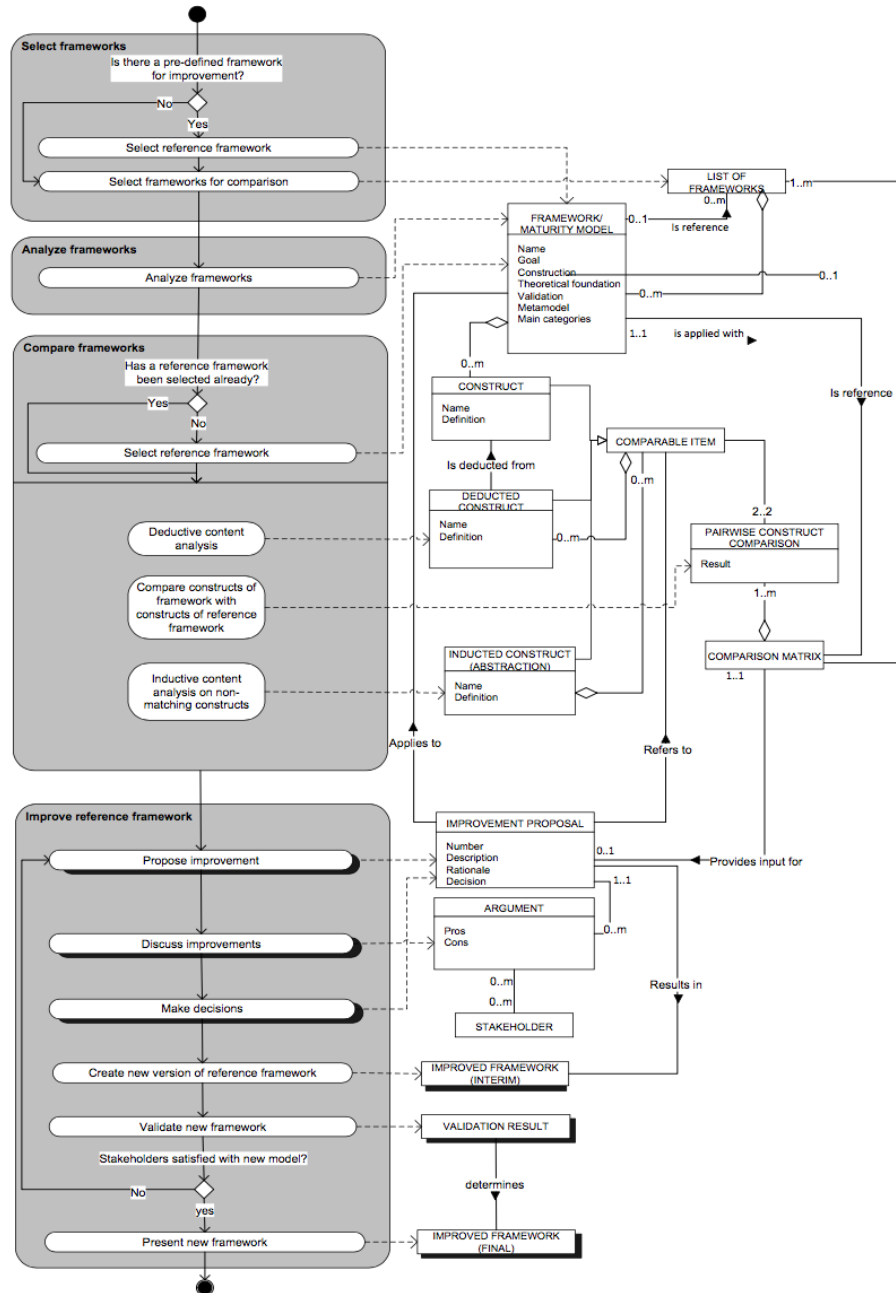
This version is valid for Common Good Balance Sheets generated in 2013

ECONOMY
FOR THE COMMON GOOD
An economic model for the future

| STAKEHOLDER | VALUE | Human dignity | Cooperation and Solidarity | Ecological Sustainability | Social Justice | Democratic Co-determination and Transparency |
|---|--|---------------|--|---------------------------|---|--|
| A) Suppliers | A1: Ethical Supply Management Active identification of the risks of purchased goods and services; consideration of the social and ecological aspects of suppliers and service partners | | | | | 90 |
| B) Investors | B1: Ethical Financial Management Consideration of social and ecological aspects when choosing financial services; common good-oriented investments and financing | | | | | 30 |
| C) Employees, including business owners | C1: Workplace quality and affirmative action Employee-oriented organizational culture and structure, fair employment and payment policies, workplace health and safety, work-life balance, flexible work hours, equal opportunity and diversity | 90 | C2: Just distribution of labor Reduction of overtime, eliminating unequal overtime, reduction of total work hours, contribution to the reduction of unemployment | 50 | C3: Promotion of environmentally friendly behavior of employees Active promotion of sustainable lifestyles of employees (mobility, nutrition), training and awareness-raising activities, sustainable organizational culture | 30 |
| D) Customers / Products / Services / Business Partners | D1: Ethical customer relations Ethical business relations with customers, customer orientation and co-determination, joint product development, high quality of service, high product transparency | 50 | D2: Cooperation with businesses in same field Transfer of know-how, personnel, contracts and interest-free loans to other business in the same field, participation in cooperative marketing activities and crisis management | 70 | D3: Ecological design of products and services Offering of ecologically superior products/services; awareness raising programmes, consideration of ecological aspects when choosing customer target groups | 90 |
| E) Social Environment: Region, electorate, future generations, civil society, fellow human beings, animals and plants | E1: Value and social impact of products and services Products and services fulfill basic human needs or serve humankind, society or the environment | 90 | E2: Contribution to the local community Mutual support and cooperation through financial resources, services, products, logistics, time, know-how, knowledge, contacts, influence | 40 | E3: Reduction of environmental impact Reduction of environmental effects towards a sustainable level, resources, energy, climate, emissions, waste etc. | 70 |
| Negative Criteria | Violation of ILO norms (international labor standards) / human rights | -200 | Hostile takeover | -200 | Massive environmental pollution | -200 |
| | Products detrimental to human dignity and human rights (e.g. landmines, nuclear power, GMO's) | -200 | Blocking patents | -100 | Gross violation of environmental standards | -200 |
| | Outsourcing to or cooperation with companies which violate human dignity | -150 | Dumping Prices | -200 | Planned obsolescence (short lifespan of products) | -100 |
| | | | | | Unequal pay for women and men | -200 |
| | | | | | Job cuts or moving jobs overseas despite having made a profit | -150 |
| | | | | | Subsidiaries in tax havens | -200 |
| | | | | | Equity yield rate >10 % | -200 |
| | | | | | Non-disclosure of subsidiaries | -100 |
| | | | | | Prohibition of a works council | -150 |
| | | | | | Non-disclosure of payments to lobbyists | -200 |
| | | | | | Excessive income inequality within a business | -150 |



B PDD comparison method proposed by Lautenschutz (2016)



C Output of comparison process GRI and CGB: correspondences and legend

| | | | |
|------|-----------------------------------|---|------|
| 2011 | ECONOMIC PERFORMANCE | Direct economic value generated and distributed | C1.2 |
| 2012 | ECONOMIC PERFORMANCE | Financial implications and other risks and opportunities due to climate change | |
| 2013 | ECONOMIC PERFORMANCE | Defined benefit plan obligations and other retirement plans | |
| 2014 | ECONOMIC PERFORMANCE | Financial assistance received from government | |
| 2021 | MARKET PRESENCE | Rates of standard entry level wage by gender compared to local minimum wage | C4.2 |
| 2022 | INDIRECT ECONOMIC IMPACTS | Proportion of senior management hired from the local community | |
| 2031 | INDIRECT ECONOMIC IMPACTS | Infrastructure investments and services supported | |
| 2032 | PROCUREMENT PRACTICES | Significant indirect economic impacts | A1.1 |
| 2041 | ANTI-CORRUPTION | Proportion of spending on local suppliers | |
| 2051 | ANTI-CORRUPTION | Operations assessed for risks related to corruption | |
| 2052 | ANTI-CORRUPTION | Communication and training about anti-corruption policies and procedures | |
| 2053 | ANTI-CORRUPTION | Confirmed incidents of corruption and actions taken | N2.2 |
| 2061 | ANTI-COMPETITIVE BEHAVIOR | Legal actions for anti-competitive behavior, anti-trust, and monopoly practices | N2.1 |
| 3012 | MATERIALS | Materials used by weight or volume | N3.1 |
| 3013 | MATERIALS | Recycled input materials used | E3.1 |
| 3021 | ENERGY | Reclaimed products and their packaging materials | E3.3 |
| 3022 | ENERGY | Energy consumption within the organization | E3.1 |
| 3023 | ENERGY | Energy consumption outside of the organization | E3.2 |
| 3024 | ENERGY | Energy intensity | |
| 3025 | ENERGY | Reduction of energy consumption | E3.3 |
| 3031 | WATER | Reductions in energy requirements of products and services | D3.1 |
| 3032 | WATER | Water withdrawal by source | E3.1 |
| 3033 | WATER | Water sources significantly affected by withdrawal of water | E3.2 |
| 3034 | WATER | Water recycled and reused | |
| 3041 | BIODIVERSITY | Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas | |
| 3042 | BIODIVERSITY | Significant impacts of activities, products, and services on biodiversity | |
| 3043 | BIODIVERSITY | Habitats protected or restored | |
| 3044 | BIODIVERSITY | IUCN Red List species and national conservation list species with habitats in areas affected by operations | |
| 3051 | EMISSIONS | Direct (Scope 1) GHG emissions | E3.1 |
| 3052 | EMISSIONS | Energy indirect (Scope 2) GHG emissions | E3.1 |
| 3053 | EMISSIONS | Other indirect (Scope 3) GHG emissions | E3.1 |
| 3054 | EMISSIONS | Non-emissions intensity | E3.3 |
| 3055 | EMISSIONS | GHG emissions | E3.1 |
| 3056 | EMISSIONS | Emissions of ozone-depleting substances (ODS) | E3.2 |
| 3057 | EMISSIONS | Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions | E3.1 |
| 3061 | EFFLUENTS AND WASTE | Water discharge by quality and destination | E3.1 |
| 3062 | EFFLUENTS AND WASTE | Waste by type and disposal method | E3.2 |
| 3063 | EFFLUENTS AND WASTE | Significant spills | N3.1 |
| 3064 | EFFLUENTS AND WASTE | Transport of hazardous waste | |
| 3065 | EFFLUENTS AND WASTE | Water bodies affected by water discharges and/or runo | |
| 3071 | ENVIRONMENTAL COMPLIANCE | Non-compliance with environmental laws and regulations | N3.1 |
| 3081 | SUPPLIER ENVIRONMENTAL ASSESSMENT | New suppliers that were screened using environmental criteria | N3.1 |
| 3082 | SUPPLIER ENVIRONMENTAL ASSESSMENT | Negative environmental impacts in the supply chain and actions taken | |
| 4011 | EMPLOYMENT | New employee hire and employee turnover | C2.2 |
| 4012 | EMPLOYMENT | Benefits provided to full-time employees that are not provided to temporary or part-time employees | C1.2 |
| 4013 | EMPLOYMENT | Parental leave | C1.4 |

| | | | | | |
|-----|--|-------|--|------|------|
| 402 | LABOR-MANAGEMENT RELATIONS | 402-1 | Minimum notice periods regarding operations changes | C1.1 | C5.3 |
| 403 | OCCUPATIONAL HEALTH AND SAFETY | 403-1 | Workers' participation in occupational health and safety committees | C1.3 | |
| 403 | OCCUPATIONAL HEALTH AND SAFETY | 403-2 | Types of injury and rates of injury, occupational diseases, lost days, and absence reason, and number of work-related fatalities | C1.3 | |
| 403 | OCCUPATIONAL HEALTH AND SAFETY | 403-3 | Workers with high incidence of occupational risk of diseases related to their occupation | C1.3 | |
| 404 | TRAINING AND EDUCATION | 404-1 | Health and safety topics covered in formal agreements with trade unions | | |
| 404 | TRAINING AND EDUCATION | 404-2 | Average hours of training per year per employee | | |
| 404 | TRAINING AND EDUCATION | 404-3 | Programs for upgrading employee skills and transition assistance programs | C1.1 | |
| 405 | DIVERSITY AND EQUAL OPPORTUNITY | 405-1 | Percentage of employees receiving regular performance and career development reviews | C1.1 | |
| 405 | DIVERSITY AND EQUAL OPPORTUNITY | 405-2 | Diversity of governance bodies and employees | C1.1 | C1.4 |
| 406 | NON-DISCRIMINATION | 406-1 | Ratio of basic salary and remuneration of women to men | C1.4 | N4.1 |
| 407 | FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING | 407-1 | Incidents of discrimination and corrective actions taken | N5.2 | |
| 408 | CHILD LABOR | 408-1 | Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk | N1.1 | |
| 409 | FORCED OR COMPULSORY LABOR | 409-1 | Operations and suppliers at significant risk for incidents of forced or compulsory labor | N1.1 | |
| 410 | SECURITY PRACTICES | 410-1 | Security personnel trained in human rights policies or procedures | N1.1 | |
| 411 | RIGHTS OF INDIGENOUS PEOPLES | 411-1 | Incidents of violations involving rights of indigenous peoples | N1.1 | |
| 412 | HUMAN RIGHTS ASSESSMENT | 412-1 | Operations that have been subject to human rights reviews or impact assessments | N1.1 | |
| 412 | HUMAN RIGHTS ASSESSMENT | 412-2 | Employee training on human rights policies or procedures | | |
| 413 | LOCAL COMMUNITIES | 413-1 | Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening | N1.1 | |
| 414 | SUPPLIER SOCIAL ASSESSMENT | 414-1 | Operations with local community engagement, impact assessments, and development programs | E2.1 | E2.2 |
| 414 | SUPPLIER SOCIAL ASSESSMENT | 414-2 | New suppliers that were screened using social criteria | E2.1 | E2.3 |
| 415 | PUBLIC POLICY | 415-1 | Negative social impacts in the supply chain and actions taken | B1.2 | N1.3 |
| 416 | CUSTOMER HEALTH AND SAFETY | 416-1 | Political contributions | C5.1 | N5.3 |
| 416 | CUSTOMER HEALTH AND SAFETY | 416-2 | Assessment of the health and safety impacts of product and service categories | | |
| 417 | MARKETING AND LABELING | 417-1 | Incidents of non-compliance concerning the health and safety impacts of products and services | D4.1 | |
| 417 | MARKETING AND LABELING | 417-2 | Requirements for product and service information and labeling | | |
| 418 | CUSTOMER PRIVACY | 418-1 | Incidents of non-compliance concerning product and service information and labeling | | |
| 419 | SOCIOECONOMIC COMPLIANCE | 419-1 | Substantiated complaints concerning breaches of customer privacy and losses of customer data | D1.1 | |
| | | | Non-compliance with laws and regulations in the social and economic area | | |

| | | | |
|----|--|------|---|
| A1 | ETHICAL SUPPLY MANAGEMENT | A1.1 | Consideration of regional, ecological and social aspects or superior alternatives |
| | | A1.2 | Active examination of the risks of purchased products / services and processes for achieving goal achievement |
| | | A1.3 | Basic structural conditions for fair pricing |
| B1 | ETHICAL FINANCIAL MANAGEMENT | B1.1 | Institutionalization |
| | | B1.2 | Ethical and sustainable quality of financial service providers |
| | | B1.3 | Investments oriented to the common good |
| | | B1.4 | Financing oriented to the common good |
| C1 | WORKPLACE QUALITY AND AFFIRMATIVE ACTION | C1.1 | Employee-oriented organizational culture and structures |
| | | C1.2 | Fair employment and payment policy |
| | | C1.3 | Occupational safety and workplace health promotion including work-life balance / flexible working hours |
| | | C1.4 | Affirmative action and diversity |
| C2 | JUST DISTRIBUTION OF LABOUR | C2.1 | Reduction of normal working time |
| | | C2.2 | Increase in proportion of part-time work models and use of temporary employment |
| | | C2.3 | Conscious approach towards (life-) working time |
| | | C3.1 | Nutrition during working time |
| C3 | PROMOTION OF ENVIRONMENTALLY FRIENDLY BEHAVIOUR OF EMPLOYEES | C3.2 | Mobility to workplace |
| | | C3.3 | Organizational culture, awareness raising and in-house processes |
| | | C4.1 | Income divergence in the company |
| C4 | JUST INCOME DISTRIBUTION | C4.2 | Minimum income |
| | | C4.3 | Transparency and institutionalization |
| | | C5.1 | Degree of transparency |
| C5 | CORPORATE DEMOCRACY AND TRANSPARENCY | C5.2 | Legitimization of executive personnel |
| | | C5.3 | Co-determination concerning fundamental decisions |
| | | C5.4 | Employee co-ownership |
| D1 | ETHICAL CUSTOMER RELATIONS | D1.1 | Total extent of ethical customer relations measures (ethical marketing + sales) |
| | | D1.2 | Product transparency, fair pricing and ethical selection of customers |
| | | D1.3 | Extent of customer co-determination / joint product development / market research |
| | | D1.4 | Service management |
| D2 | COOPERATION WITH BUSINESSES IN SAME FIELD | D2.1 | Disclosure of information + passing on of technology |
| | | D2.2 | Passing on of personnel, contracts and financial resources; cooperative market participation |
| | | D2.3 | Cooperative marketing |
| D3 | ECOLOGICAL DESIGN OF PRODUCTS AND SERVICES | D3.1 | In ecological comparison to P/S of competitors or alternatives, products / services have equal utility |
| | | D3.2 | Sufficiency (frugality): active design for ecological utilization and sufficient consumption |
| | | D3.3 | Communication: active communication of ecological aspects to customers |
| D4 | SOCIOALLY ORIENTED DESIGN OF PRODUCTS AND SERVICES | D4.1 | Facilitation of access to information / products / services for disadvantaged customer groups |
| | | D4.2 | Structures worthy of promotion are supported by sales policies |
| | | D5.1 | Cooperation with competitors and partners of the value chain |