

# The state of the art and practice on social and environmental accounting methods and tools

**Vijanti Ramautar**

First supervisor: Dr. Sergio España  
Second supervisor: Dr. Sietse Overbeek

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**Universiteit Utrecht**

Utrecht University  
3512 JE Utrecht  
The Netherlands  
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**Abstract** Social and environmental accounting (SEA) methods can be assessed using ICT tool support. The tools and methods are often tightly coupled and the tools are not extendable. When organisation are willing to apply more than one method they have to use multiple tools, due to the lack of extendability. When overlap occurs between the methods precious time is wasted. This research intends to investigate the possibilities for improving ICT tool support, used for the assessment of multiple social and environmental accounting methods. A possible solution is the development of an extendable tool. This results in an overview of the state of the art and practice on SEA methods and tools used to perform an account.

**Keywords:** social and environmental accounting method, sustainability reporting, SEA networks, method engineering

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## 1 Introduction

Modern day Corporate Social Responsibility (CSR) started to develop and gain awareness in the 1950's [11]. Currently, social and environmental awareness is growing and there has been a rising demand for environmental-friendly business practices [20]. In this research we define social and environmental aspects as elements of an organisation's activities that can interact with and/or affect the environment, groups within society and society as a whole.

A way for companies to improve their social and environmental impact on stakeholders is by applying the sustainability and business ethics continuous improvement cycle. The cycle consists of four phases and is shown in Figure 1. This section will provide a general explanation of each phase in the cycle with a focus on the social and environmental accounting phase. During the first phase, the materiality assessment, an organisation defines the social and environmental topics that are relevant and important to the organisation and/or the stakeholders (e.g. water conservation practices and job growth). Every topic has indicators which are assessed and reported on during the social and environmental accounting (SEA). An indicator for the job growth could be the job growth rate. The indicator "job growth rate" is then calculated by subtracting the number of jobs in a previous period from the current number of jobs, after which that number is divided by the jobs in a previous period. An indicator for "water conservation practices" can be the total water volume in litres used in one year. The topics and indicators can be grouped into broader categories, such as "environment", "workers", "community". The accounting is either performed by an internal or external team. The social and environmental accounting results in a sustainability report [25]. Based on the report an improvement plan is created in the strategic management phase. The changes or adjustments are implemented during the organisational re-engineering phase. This research lays focus on the SEA phase.



**Figure 1.** The cycle for improving social and environmental topics

In this research social and environmental accounting is defined as the process of assessing and reporting on the social and environmental effects caused by an organisation's economic actions to particular interest groups within society and to society itself [18]. There are multiple terms that mean the same as social and environmental accounting these are; non-financial reporting, social balance and social accounting [31]. In this research the term social and environmental accounting is used. There are several methods in order for organisations to perform social and environmental accounting.

Organisations applying a method can form a network of responsible organisations. These networks are often monitored by a monitoring organisation. In most cases the monitoring organisation has developed the method as well. Therefore we define a monitoring organisation as an organisation that develop and/or monitor initiatives, principles and/or standards related to corporate social and

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environmental performance [22]. When organisations apply a certain method, sometimes a certification can be obtained [42, 17]. We distinguish four variants of monitoring organisations:

- Monitoring organisations that developed the method and do not issue an official label or certification (e.g. the methods ISO26000<sup>1</sup>, United Nations Global Compact<sup>2</sup> and Global Reporting Initiative<sup>3</sup> (GRI) are developed by ISO, the United Nations and Global Reporting Initiative respectively)
- Monitoring organisations that developed the method and issue an official label or certification (e.g. the methods Common Good Balance Sheet<sup>4</sup> and STARS<sup>5</sup> are developed by the monitoring organisations Economy for the Common Good (ECG) and aashe)
- Monitoring organisations that developed the method, but certification is issued by a third party (e.g. the method ISO14000<sup>6</sup> by the monitoring organisation ISO)
- Monitoring organisations that monitor the method and issue an official label or certification (e.g. the method The B Impact Assessment<sup>7</sup> (BIA) is developed by B Lab and monitored by the monitoring networks B Corp)

Not all monitoring organisations aim to form a network of organisations applying their method (e.g. rootAbility does not aim to become a network [19]). In some cases organisations have to become a member of a specific network in order to successfully apply a specific method, as is the case for B Corporations. If an organisation meets the certification requirements for the B Impact Assessment, it becomes part of the B Corp network.

SEA methods are often supported by tools [17]. This research aims to discover the state of the art and practice on social and environmental accounting methods and tools.

Section 1.1 will clarify the problem, tackled by this research. The research questions are stated in Section 2. The research method can be found in Section 3. The results from the literature review are discussed in Section 4. Section 5 contains the analysis of the process and data part of the methods. In Section 6 the results from our state of the practice analysis are stated. The discussion can be found in Section 7. Section 8 discusses the limitations of the research. Lastly, the conclusions and further research opportunities can be found in Section 10.

## 1.1 Problem statement

In order to perform a social and environmental accounting, organisations often use information communication technology (ICT) tool support. These tools are often developed for one specific method and only support one method (such as the B Impact Assessment or the Data Center Green IT Assessment). We assume these tools cannot be extended with additional topics. Nor can an additional method be assessed using one tool. One of the reasons organisations might be willing to extend the tool with an additional topic is if the materiality assessment has indicated that a particular topic is important to the organisation but the topic is not included in the method applied (e.g. the CO<sub>2</sub> emission associated with import). A reason for an organisation to be willing to apply multiple methods can be that it wants to obtain multiple certifications for marketing purposes, for example.

We assume the current situation to be the following, when an organisation wants to be certified in multiple methods, it might have to become a member of multiple networks. These networks might have provided their own tool to support their method. This situation is shown in Figure 2. Figure 2 shows an organisation that applies three SEA methods, provided by three different networks. The networks and the corresponding methods are B Corp<sup>8</sup> with the B Impact Assessment; Economy for

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<sup>1</sup> <https://www.iso.org/iso-26000-social-responsibility.html>

<sup>2</sup> <https://www.unglobalcompact.org/>

<sup>3</sup> <https://www.globalreporting.org/standards>

<sup>4</sup> <https://www.ecogood.org/en/common-good-balance-sheet/>

<sup>5</sup> <https://stars.aashe.org/>

<sup>6</sup> <https://www.iso.org/iso-14001-environmental-management.html>

<sup>7</sup> <https://bimpactassessment.net/>

<sup>8</sup> <https://bcorporation.net/>










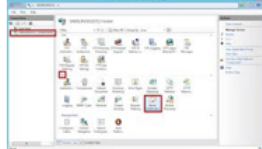
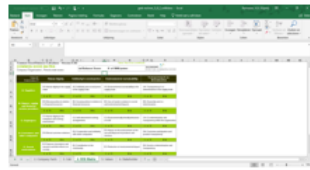
the Common Good<sup>9</sup> with the Common Good Balance Sheet and the Global Reporting Initiative with the GRI Standards<sup>10</sup>. The methods assess topics. From the three methods we have extracted an excerpt of three topics per method. In these excerpts there are already two overlapping topics, namely “job growth” and “gender equity”. The figure displays the tools that can be used to support each method. In this scenario the data for the overlapping topics has to be entered in three separate tools. The figure shows a real scenario.

The scenario as described above causes a waste of time and may result in a higher barrier for organisations to apply multiple methods. A solution to prevent waste of time, caused by overlap in data, can be to develop an extendable tool. This way the assessment data has to be filled in once and can be used for multiple methods. The expected benefit for using one tool is that redundancy and multiple iterations of the same activity can be avoided when methods overlap.

In order to find out whether this is a good solution we have to discover the limitations of current SEA ICT support, the current pain points of SEA methods in practice and the requirements for SEA ICT support.

Furthermore, the differences between SEA certifications make it difficult for a company to benchmark its results against others (i.e. the B Impact Assessment certification has a score range from 80 to 200, whereas the Common Good Balance Sheet has a range of –3600 to 1000).

In order to be able to benchmark we have to understand the similarities and differences between the methods. Aspects that will be compared in this research include, but are not limited to, the certification, the network fee and the reports produced.

Networks	Methods	Topics	Tools
    	    	<p>Job growth Gender equity Employee benefit ....</p> <p>Job growth Equal opportunity Customer privacy ....</p> <p>Labour distribution Affirmation action Corporate democracy ....</p>	    

**Figure 2.** The current situation of ICT support for SEA methods

This research lays all the groundwork for the development of an extendable SEA ICT tool. Relevant artefacts will be created, the benefits and pain point of SEA methods in practice are analysed and the limitations of current ICT support are discovered.

<sup>9</sup> <https://www.ecogood.org/nl/>

<sup>10</sup> <https://www.globalreporting.org/standards/>

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## 1.2 Current situation

A first version of the extendable tool has already been created during another master thesis at Utrecht University [8], along with a domain specific language (DSL). The DSL allows creating models of SEA methods, which can then be interpreted by the web-based tool [19]. During this research the groundwork for the extension of the already existing tool is laid. Furthermore, the analysis of SEA methods during this research might highlight other activities and concepts that can be included in the product backlog. Eventually the additional features will make it into one of the tool development sprints.

## 2 Research questions

In order to discover the state of the art and practice on social and environmental accounting methods and tools the following research questions have to be answered:

RQ1: What is the state of the art and practice of social and environmental accounting methods?

RQ1.1: Which social and environmental accounting methods exist?

RQ1.2: Do organisations apply multiple SEA methods?

RQ1.3: What are the current pain points of SEA methods in practice?

RQ2: What is the state of the art and practice of social and environmental accounting tools?

RQ2.1: Which SEA ICT support tools exist?

RQ2.2: What are the limitations of current SEA ICT support?

RQ3: Would the extension of tools with additional criteria be beneficial for organisations?

RQ3.1: What are the requirements for SEA ICT support?

RQ3.2: What is the expert opinion on the proposed solution?

## 3 Research method

In order to understand the research method thoroughly, a process deliverable diagram is created. The PDD is shown in Figure 3. The research method consists of two phases. During the first phase the *Literature study* phase, five activities are performed. First of all, the research questions and sub-research questions are determined. These are discussed in Section 2. Then the relevant work is identified. The method for identifying the relevant work is discussed in Section 4. Then concurrently, the data found in the literature is coded in NVIVO<sup>11</sup>, a conceptual model is created based on this data and the PDDs are created.

In the second phase, the *Practice analysis*, two types of interview protocols and surveys are created. When all artefacts are created and validated the interviews are conducted and the surveys are sent to the corresponding populations. The interview conduction consists of asking questions similar to the questions asked in the surveys, so the data can be aggregated, then the applied method(s) is/are discussed. When all data is gathered, the relevant data is transcribed and coded in NVIVO. Then the results are summarised and reported, by means of charts. These charts should answer our research and sub-research questions as defined in the first activity.

Sub-question 1.1 is answered by means of a literature study, following the scoping review framework [47]. For this grey literature is accepted as well, due to the lack of scientific literature. Sub-question 1.2 is answered by checking the directories of several methods to see whether organisations are included in multiple directories. Sub-question 1.3 is answered by analysing interview and survey responses. It should be noted that evidence of large organisations using more than one method is already provided in [41]. Nonetheless, we include the question in order to gain more insights on smaller organisations and on the number of SEA methods applied. For sub-research question 2.1 information provided by the

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<sup>11</sup> <https://www.qsrinternational.com/nvivo/nvivo-products>

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networks, stated in workbooks, assessment tools, manuals, FAQ documents, on official webpages and other documents containing guidelines on the assessment, certification and/or the reporting process. and other artefacts issued by the networks are looked into. Research question 2.2 is answered by analysing interview and survey data as well. Lastly, the answer to research question 3.1 is found by gathering expert opinions. It is important that the interview protocol is neutral in order to obtain a non-biased outcome. Networks of companies exist that can facilitate dissemination of surveys or appointments for interviews. Some of these networks are Social Enterprise NL<sup>12</sup>, Economy for the common good<sup>13</sup>, MVO Nederland<sup>14</sup> and Certified B corporation<sup>15</sup>.

In order to develop a versatile tool a meta-model has to be created. A first version of the versatile tool has already been developed. Therefore, a first version of a meta-model exists already. This meta-model can be found in Appendix H. During this research an updated version of the meta-model is created.

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<sup>12</sup> <https://www.social-enterprise.nl/>

<sup>13</sup> <https://www.ecogood.org/en/>

<sup>14</sup> <https://mvonederland.nl/>

<sup>15</sup> <https://bcorporation.net/>

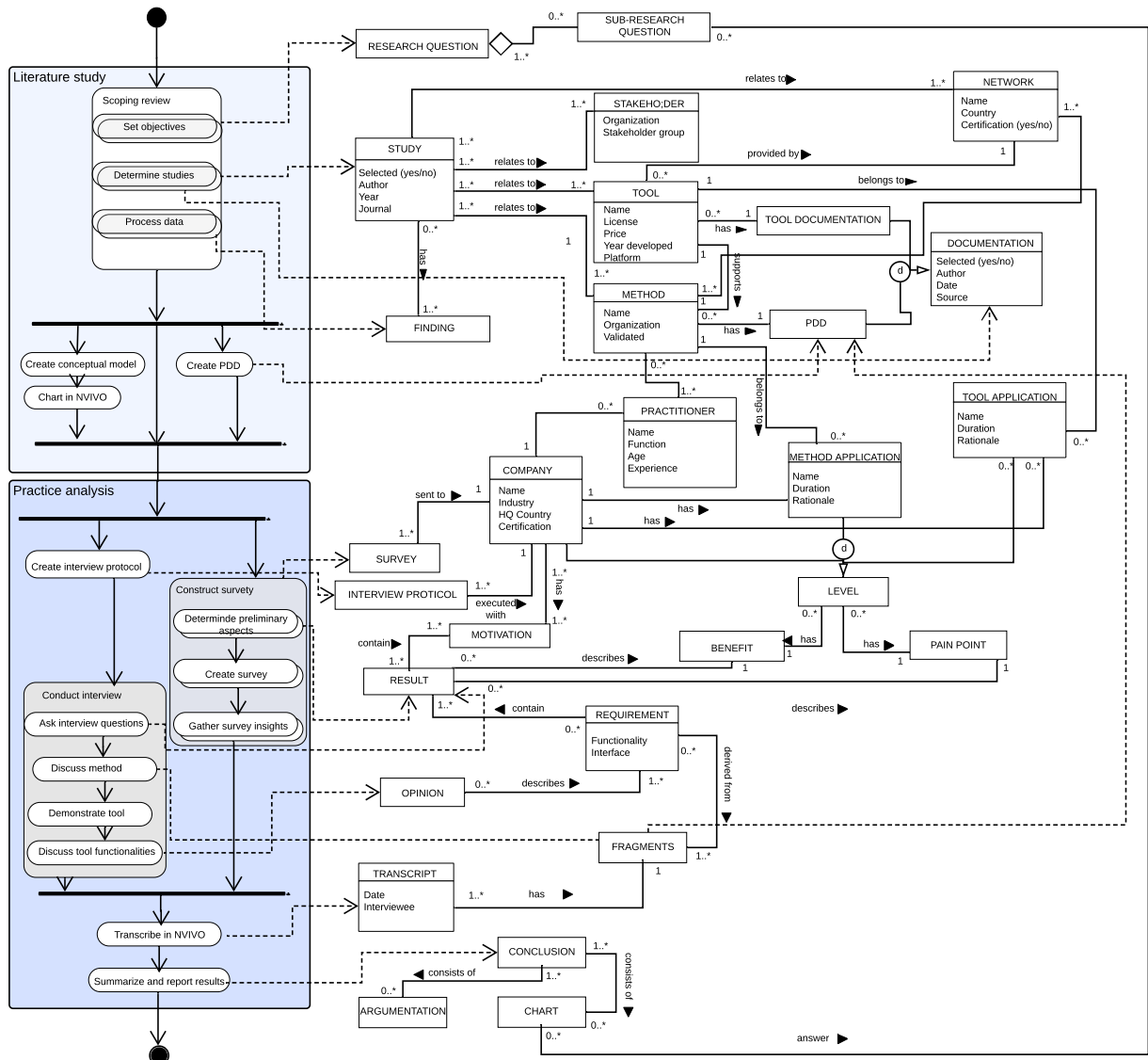


Figure 3. PDD of the research method

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### 3.1 Surveys

In order to gather data with regards to social and environmental accounting methods and tool support in practice we use online and offline surveys and conduct interviews.

We gathered data from three groups of people involved in the social and environmental accounting.

- Practitioner: Someone involved during the social and environmental accounting of their organisation
- Consultant: Someone who guides and supports the practitioner(s) during the social and environmental accounting
- External auditor: Someone who evaluates the accounting entries

A survey is sent to practitioners of social and environmental accounting and to third parties who perform the accounts. These two populations differ from each other, so two survey are designed.

The objective of the survey is to gather data regarding demographics, motivations, SEA teams, SEA methods, tool support, surveys and infographics. Especially important to know is whether there is overlap between the SEA method(s) and whether the practitioners feel the tool support lacks any features or functionalities. In order to specify the objectives more in detail a survey discourse is created.

The questions are formulated without opinions or aspects that may influence the response of the respondent, in order to prevent bias [37]. As a compensation for the time spent on taking the survey, the results of the research are shared with the respondents, if they leave their contact details. This can make filling in the survey cost-effective. All surveys are sent personally, so the response rate can be calculated, thus providing us with a means to check the validity. Most questions are clarified with examples and sometimes a link is added to the answer option, so the respondent can obtain more information about the subject. Also, respondents are asked for how long they have fulfilled a specific role within the organisation, in order to judge the credibility of the responses. For constructing the questions several tips and rules found in [38] are used. For example, we made sure that the Lethbridge's scales are well balanced and the end points mean the opposite of each other.

Since the aim of the survey is to assess several methods and tools, multiple question types as well as piping and micro tailoring, skip logic and assessment rules and values are necessary. These features are supported by LimeSurvey<sup>16</sup>, an open source survey software as a SaaS solution. Surveys are customizable by using JavaScripts.

Once the survey is designed we perform an instrument evaluation. The evaluation is executed by four researches, in order to gather multiple perspectives, opinions, feedback and critiques. In consultation the survey is adjusted and again evaluated. Lastly, the survey can be piloted with a real respondent. Since the target population is very specific the sampling method is non-probabilistic [36].

Once the survey is finished it is sent to networks and organisations that apply social and environmental accounting methods. A call for participation is spread on social media and placed in newsletters of networks.

### 3.2 Interview protocol

For conducting the interviews two interview protocols are created. One interview protocol for the practitioners and one interview protocol for the external auditor. The questions stated in the corresponding survey are included in the interview protocol as well. The question type is the same as well, in order to aggregate the interview and survey data. Since interviews provide us with more detailed, qualitative data it helps us better understand the participants' experiences [50]. For creating the interview protocol the interview protocol refinement framework is used [12]. The framework consists of four phases. In the first phase research questions are formulated. The research questions for the

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<sup>16</sup> <https://www.limesurvey.org/>

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interview protocol are in most cases more detailed than the research question related to the overall research in Section 2.

During the second phase we construct an inquiry-based conversation. We do this by following four tips stated in [12].

### 3.3 Method specification

We specify the social and environmental accounting methods by interpreting the information found in documentation and translating these to process deliverable diagrams. Often the method documentation contains a figure which explains the process of applying the method. We use the steps and phases from the figures to construct the process part of the PDD. When additional information can be found on activities within the method, this information is used to add additional process steps or change the order of certain activities. If certain sources contain contradicting information we check which scenario is stated more often in other sources. If this is not possible we create a process that seems most logical. Ideally we validate these uncertainties with the help of experts.

The concept part is often explained in less detail. Therefore we have to use more common sense. We investigate what the outcomes of each activity are and which concepts lay underneath a concept mentioned in the documentation. For example, the concept “Indicator” is often mentioned or implied in documentation. The distinction between indirect indicators and direct indicators, on the other hand, is not made in the method documentations. The concept part of the PDD is more difficult to validate with expert, since some concept are intangible. Nonetheless, we can validate it by asking expert about the tangible concept and reason whether these tangible concepts can be created using the concepts in the PDD.

To discover whether the PDDs reflect the correct interpretation of the SEA method they should be validated by experts. In this research we were only able to fully validate the Common Good Balance Sheet PDD. Some GRI processes are validated by an expert, but we were unable to validate the full process.

Appendix F contains the method diagrams and states the author of each diagram. The diagrams and documentation are manually analysed, which results in a list of generic activities. This list can be found in Section 5.2.

### 3.4 Conceptual model derived from literature

From the analysed literature a conceptual model is deduced. The conceptual model is created as an UML class diagram [28]. The conceptual model can be found in Appendix A. Concepts reappearing in the literature are assumed to be key concepts and are modelled as a class. If a concept associated with a key concept reappears in the literature this concept is modelled as a class as well. The relationships are not coded. Common knowledge is applied for generating these relationships. The conceptual model is then compared with another conceptual model on the same subject created by another master student to see whether the key concepts overlap. If this is not the case, we discuss which version is best.

In the conceptual model, assumptions or uncertainties are written in red. These classes are not found during the literature review and are validated by means of interview and survey responses. The conceptual model is constantly evolving and updated, due to the discovery of new insights and consultation with other researchers and students.

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## 4 Findings: Literature study

By means of a literature we can identify several motivations for organisations to apply SEA methods. We search public directories to see whether organisations apply multiple methods already and lastly we create a conceptual model resulting from the analysed literature. These findings will be discussed in this section.

### 4.1 Motivations for applying social and environmental accounting methods

We have reviewed the literature in which we discovered each of the potential motivations that drive organisations into conducting social and environmental accounting. We identified seven motivations (see list below motivations 1 to 7). In a later survey, we allowed respondents to include other motivations, resulting in an extension of the list with four additional ones (8 to 12).

1. Concerns of the public, such as suppliers, shareholders and the media about the ways companies fulfil their social and moral responsibilities can create pressure for participating in social and environmental accounting [31, 22, 23].
2. Organisations might participate in SEA to become part of a space that is reserved for organisations that apply the method. The space could be a social market, a farmer's market, sustainability products fair that requires applying a SEA method in order to participate [14].
3. If key export destinations apply SEA methods, the exporting organisation might feel pressured to apply these methods as well [14].
4. Organisations might want to use the results of their social and environmental account for marketing purposes. For example, for attracting more customers of a product or service they are selling or for attracting more donations [35, 43].
5. The result might also be used to attract more human capital, such as workers or volunteers [18].
6. The account can be performed to discover the points of improvement within an organisation [31, 17]. For example, that the CO<sub>2</sub> footprint can be reduced or that the employee satisfactory level can be increased.
7. The results of the account can be used to manage the organisation at the strategic level.
8. The account might be performed to discover the extent to which the organisation meets the aspired ethical and environmental values [31, 17].
9. An organisation can decide to perform social and environmental accounts to use the results to account for the impact of actions after receiving funding from public organisations or ethical investment funds [48].
10. Another reason for performing the account can be to obtain a certification or fulfil the requirements of a network of responsible organisations of which the organisation is (or wants to become) member [30].
11. Lastly, the organisation might have to participate in social and environmental accounting to comply with a law or governmental obligation and regulations, in order to avoid penalties and fines, legal costs, productivity loss due to additional inspections, potential closure of operations, the related effects on corporate reputation[31].

### 4.2 Organisations applying multiple methods

In order to check whether organisations already apply multiple SEA methods we check the public directories of SEDEX<sup>17</sup>, Economy for the Common Good<sup>18</sup>, B Corp<sup>19</sup>, Global Reporting Initiative<sup>20</sup>

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<sup>17</sup> <https://www.sedexglobal.com/about-us/our-members/>

<sup>18</sup> <https://www.ecogood.org/en/community/ecg-businesses-and-organisations/>

<sup>19</sup> <https://bcorporation.net/directory/>

<sup>20</sup> <https://database.globalreporting.org/search/>

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and United Nations Global Compact<sup>21</sup> (UNGC) to see whether an organisation appears in more than one directory. This search is merely to find out whether organisations apply multiple methods and is therefore not exhaustive. We choose these network directories since they can be found on the websites of the networks and are accessible to anyone. Based on this search we can conclude that there are small (10 to 49 employees), medium (50 to employees 249) and large ( $\geq 250$  employees) sized companies that apply more than one method. An example of a small organisation are Diabella B.V.<sup>22</sup> (ECG and UNGC) and Acefat<sup>23</sup>. Fairphone<sup>24</sup> (B Corp and UNGC) is an example of a medium sized organisation that applies more than one method. Examples of large organisations are Triodos<sup>25</sup> (B Corp and GRI), Tony Chocolonely<sup>26</sup> (B Corp and GRI), Heineken<sup>27</sup> (GRI and UNGC), Ferrero International<sup>28</sup> (GRI, UNGC and SEDEX) and Danone Group<sup>29</sup> (GRI, UNGC and SEDEX) and PepsiCo<sup>30</sup> (GRI, UNGC and SEDEX).

### 4.3 Other methods

Two other methodologies for measuring social and environmental impact are discovered during the literature study, the impact assessment and the life-cycle assessment (LCA). The difference between these methods and SEA is the entity that is assessed, as well as the fact that SEA is a very broad assessment, whereas LCA and the impact assessment have a more narrow focus. Social and environmental accounting assessed the impact of the entire organisation.

**4.3.1 Impact assessment:** There are many types of impact assessments, e.g. economic, fiscal and social assessments. However, in this study only the social and environmental impact assessment are taken into account, since these are most similar to SEA. The impact assessment aims to identify the future impact of a current action [7, 56]. The difference between SEA and the impact assessment is that, the impact assessment relates to projects, instead of organisations and the assessment is more narrow than SEA.

**4.3.2 Life-cycle assessment:** The Life-cycle assessment aims to reduce the impact of products, technologies, materials, processes, industrial systems, activities, and services on the environment [17]. The difference between LCA and SEA can be found in the entity that is assessed. In social and environmental accounting an organisation is assessed. In LCA the impact of the product is assessed.

## 5 State of the art in SEA methods

During this research we identified 29 social and environmental accounting methods. A list of these methods can be found in Appendix B, along with the monitoring organisations. Moreover, the industry sector in which the method can be applied is defined, as well as the organisation providing the assessment. The scope of this research includes 16 of these methods. These methods were chosen because some of the methods are already modelled by other students or researchers and the additional methods are chosen because there was enough documentation to create PDDs. The methods are modelled as process-deliverable diagrams (PDDs) [10]. The PDDs contain a process and a data part. This

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<sup>21</sup> <https://www.unglobalcompact.org/what-is-gc/participants/>

<sup>22</sup> <https://www.dibella.de/>

<sup>23</sup> <http://www.acefat.com/> (GRI and UNGC)

<sup>24</sup> <https://www.fairphone.com/>

<sup>25</sup> <https://www.triodos.nl/>

<sup>26</sup> <https://tonyscholonely.com/>

<sup>27</sup> <https://www.heineken.com>

<sup>28</sup> <https://www.ferrero.com/>

<sup>29</sup> <https://www.danone.com/>

<sup>30</sup> <https://www.pepsico.com/>



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allows us to analyse the activities and concepts of each method, thus allowing us to identify similarities and differences between the methods in the activities as well as in the concepts. All PDDs can be found in Appendix F. Furthermore, a method booklet was created to share with survey respondents, interviewees and other interested parties. The method booklet states some general information of each method followed by the process deliverable diagram of the method.

## 5.1 Network analysis

We define a network in the social and environmental accounting context as a group of responsible organisations applying the same SEA method. A network is monitored by a monitoring organisation. A network has members who apply the initiatives, principles and/or standards. Six methods have a network, the B Impact Assessment, the Common Good Balance Sheet, STARS, S-CORE, UN Global Compact and the SMETA Audit. In Appendix D more detailed information per network can be found, such as the size, membership procedures and what countries they are presented in.

## 5.2 Analysis of the SEA method activities

Figure 4 shows a list of generic activities. An activity is included in the list of activities if at least two methods either implicitly or explicitly mention the activity. The activities are then evaluated per method and are classified in five categories, these are:

- The activity is necessary and explicitly mentioned by the network, indicated with 
- The activity is necessary and not explicitly mentioned by the network, indicated with 
- The activity is optional and explicitly mentioned by the network, indicated with 
- The activity is optional and not explicitly mentioned by the network, indicated with 
- The activity is not included in the method, indicated with -

The detailed tables with the classification of each activity per method can be found in Appendix I. In Table 1 a small excerpt of the activity classification can be found. In the experts four activities are shown. Registering to the network is explicitly mentioned and necessary to successfully apply the B Impact Assessment and the Common Good Balance Sheet. For the AA1000 this activity is not part of the method. Entering organisational details explicitly mentioned by in the documentation of all three methods. However, it is necessary for the BIA and the CGBS and optional for AA1000, hence the difference in symbols in the table. It is explicitly mentioned and necessary that the relevant documentation is gathered for all three methods. The engagement of stakeholders is necessary for all three methods, but only AA1000 explicitly mentions this activity. In the tables in Appendix I more methods and activities are included.

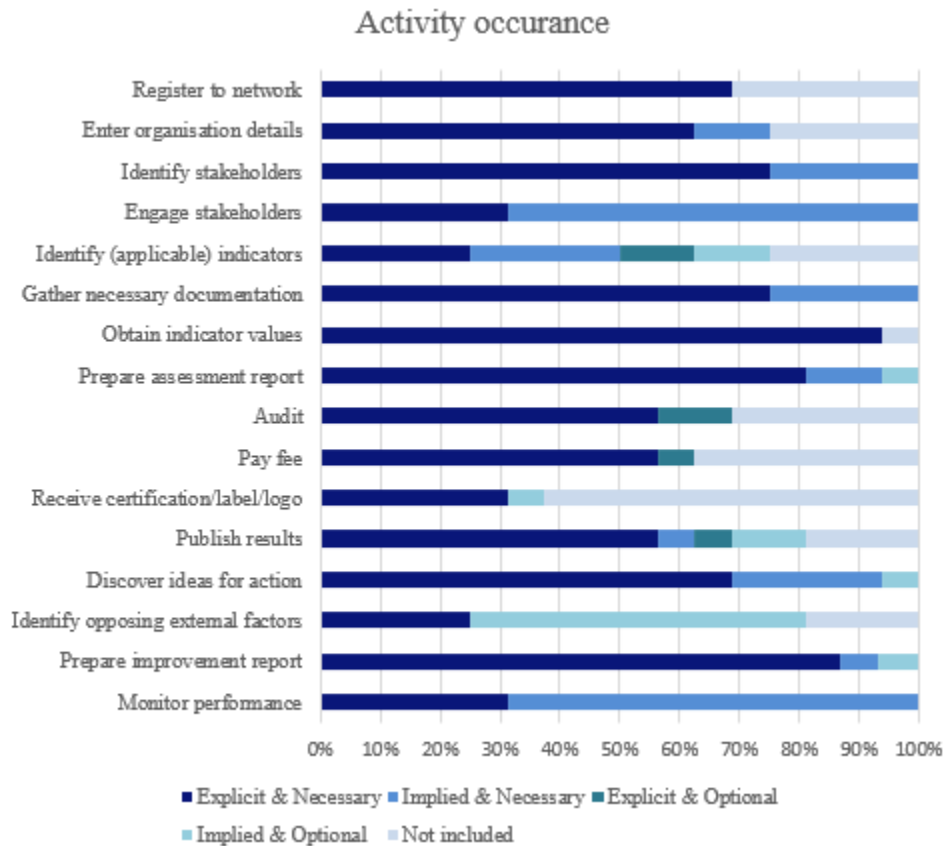
A different way for comparing methods is stated in [54]. In [54] a super method is created, after which the activities are mapped to the activities as stated in the super method. We decide to create a generic activity list instead of a super method due to the large varieties in the SEA methods. If we would want to extend this research we could adapt the classification stated in [54], which indicates whether a method specific activity completely encompasses a generic activity or whether a generic activity entails more than the method specific activity or vice versa. However, this would complicate the classification and therefore we chose to classify the activities according to the five categories as defined above,

In the classification tables in Appendix I some cells contain additional information, such as when an activity only occurs when specific circumstances are met. For example, the “Receive certification” activity only occurs in the B Impact Assessment method when a minimum score of 80 is achieved. The data from these tables is visualised in Figure 4. The figure displays the percentage of an activity categorisation. The generic activities and their explanations can be found in Table 2. Some activities in the generic process are classified in another phase of the sustainability and business ethics continuous improvement cycle because the distinction between the phases is not as clear in practice. Therefore

Activity	SEA method		
	AA1000	B Impact Assessment	Common Good Balance Sheet
Register to network	-	●	●
Enter organisation details	○	●	●
Gather necessary documentation	●	●	●
Engage stakeholders	●	●	●

**Table 1.** An excerpt of the activity tables found in Appendix I

every activity is tagged, indicating to which phase the activity might belong. Nonetheless, the phases apart from the social and environmental accounting phase contain many more activities and are not limited to the ones stated in the table.



**Figure 4.** Percentage of activity categorisation occurrences in 16 SEA methods

Activity	Explanation
Register to network $\ominus$	The organisation enters the directory of the network.
Enter organisation details $\ominus$	The organisation submits information about the entity, such as organisation size, sector and location.
Identify stakeholder groups $\ominus, \odot$	Determine the relevant group of individuals or organisations whose decisions or actions can affect the actions of an organisation. The stakeholder groups can be used to determine the relevant topics during the materiality assessment or the stakeholder groups can be determined in the social and environmental accounting phase. For example when the SEA method comes with predefined topics and the organisation does not perform a materiality assessment before the SEA phase.
Engage stakeholders $\ominus, \odot, \oplus$	In the materiality, social and environmental accounting and strategic management phase stakeholders can be involved. Either to decide on relevant topics, to provide input for indicators or to develop improvement plans.
Identify (applicable) indicators $\ominus$	The organisation's impact can be measured using indicators. Some methods have a predefined non-extendable set of indicators or do not use indicators at all. For these methods this activity is not relevant.
Gather necessary documentation $\ominus$	When the indicators are decided on, the organisation has to gather documentation which states information about the indicators.
Obtain indicator values $\ominus$	The indicators values have to be determined, either by stating the information with regards to the indicator or by selecting an answer to the question about the indicator or by scoring the organisation's performance on the indicator.
Prepare assessment report $\ominus$	The indicator values are then reported. The report can have multiple formats, such as an infographic; an interactive website or a presentation.
Audit $\ominus$	The audit entails the process of evaluating the accounting entries present in the assessment report. There are multiple possibilities to perform an audit. These can be found in Figure 7.
Pay fee $\ominus$	Often a fee has to be paid in order to receive certification and/or to be part of a network.
Receive certification/label/logo $\ominus$	When an organisation has met all requirements set by the network it can receive a certificate, official label or logo. Not all methods offer certification.
Discover ideas for action $\oplus$	Explore possibilities for improving the organisation's impact based on the accounting results.
Identify opposing factors $\oplus$	Discover what could prevent the ideas for action to improve the assessed topics in a next iteration of the continuous development cycle.
Prepare improvement report $\oplus$	The improvement report states how an organisation can improve their results during a next accounting. The report is typically created in the strategic management phase.
Monitor performance $\oplus$	Monitor the performance of implemented improvements.

**Table 2.** Generic process activity explanation

[ $\odot$  = materiality assessment,  $\ominus$  = social and environmental accounting,  $\oplus$  = strategic management]

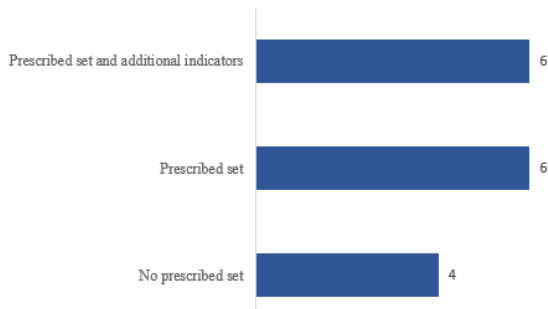
According to the analysis three activities always have to be executed for all methods to be successful. These activities are:

- Gather necessary documentation
- Identify stakeholder groups
- Monitor performance

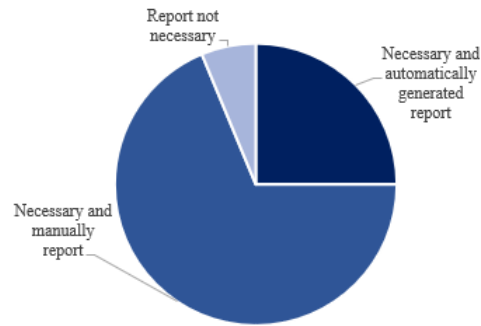
In order to perform the accounting the organisations have to gather the necessary documentation in order to assess the impact of the organisation. Then stakeholder groups have to be identified in order to discover the scope of the accounting. Lastly, the performance of the improvement actions have to

be monitored. This way organisations can observe the results of the sustainability and business ethics continuous improvement cycle.

Furthermore, we discovered that 12 methods have a predefined set of indicators (AA1000, BIA, CGBS (compact and full), Green IT Assessment, GDRC, GRI Standards, EFQM, S-CORE, SMETA, STARS, UniSAF). Six of these methods allow for additional indicators to be added to the method (CGBS (compact and full), SMETA, STARS, SDGs, UniSAF). In the case of three methods the set of indicators has to be compiled by the user (ISO14001, ISO26000, UNGC). This can be observed in Figure 5. The detailed analysis is stated in Appendix I.



**Figure 5.** Number of methods that have a predefined set of indicators



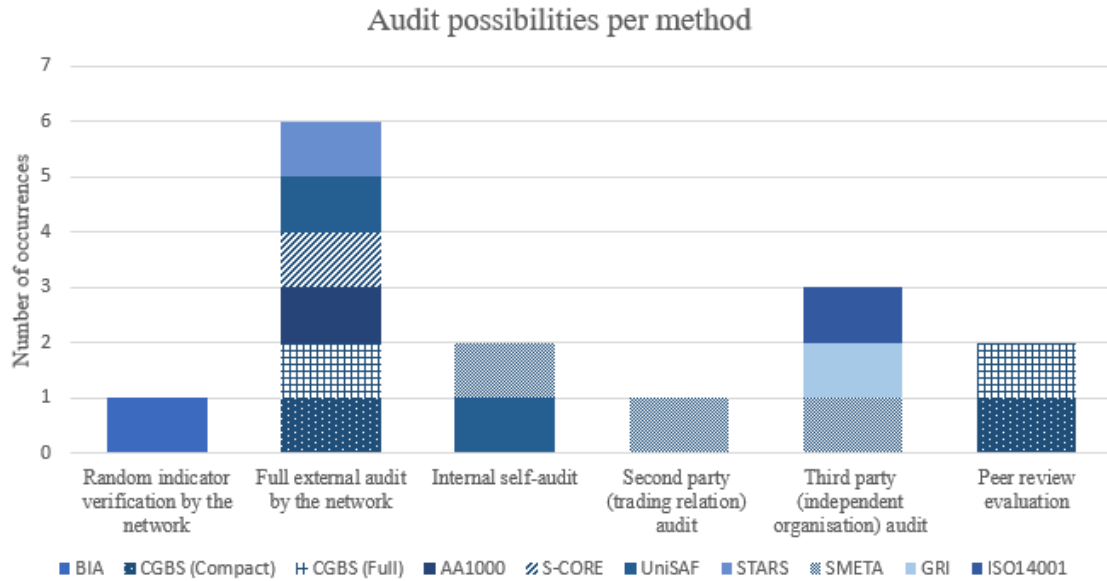
**Figure 6.** Number of methods that require an assessment report, manually or automatically generated

### 5.2.1 Auditing methods

The activity “audit” can be split up in multiple auditing variants. These are:

- Random indicator verification by the network, meaning the the network randomly selects a number (5 to 16) of indicators for which the organisation has to provide supporting documentation. The verification of the documentation and indicators may result in a score change.
- A full external audit executed by the network means that the network will assess all supporting documentation and indicators, which may result in a score change or in different values of the report items.
- An organisation can execute an internal self-audit where an employee or a group of employees verifies the indicators.
- A second party full audit entails an audit undertaken by an entity with a trading relationship with the organisation (e.g. a supplier).
- Another option is a third party full audit undertaken by an independent party.
- Lastly organisations can choose to perform a peer review evaluation. Meaning a small group of organisations applying the method work together in a session to produce the assessment report.

Figure 7 shows the distribution of the audit possibilities per SEA method. The total number of audit possibilities is higher than the number of methods that contain an audit activity. This is due to the fact that some methods offer multiple auditing possibilities.



**Figure 7.** Possible audits per network

### 5.2.2 Certification

Another difference in the methods can be observed in the different types of certification. There is a difference in certification requirements, score range and the method of allocating scores to the indicators. For example, the B Impact Assessment requires a minimum score of 80 in order for an organisation to receive a B Corp certification. For the Common Good Balance there is no minimum score required. The range in scores of both methods differs as well, which makes it difficult to compare the scores. Lastly, the B Impact Assessment only allocates positive scores to indicators, whereas the Common Good Balance aspects can receive positive or negative scores.

Method	Score range	Certification requirement	Additional information
BIA	0 to 200	- Score $\geq 80$ - Legal requirements	Points are received for every positive answer to a question and points are never lost [16]. The exact score range can be found in Appendix G.
CGBS (full & compact)	-1000 to 3600	-	Negative and positive points are allocated [53].
ISO14001	-	Minor or no deficiencies in the EMAS <sup>31</sup> requirements	Certification is issued by an external organisation [34].
STARS	0 to 85	- No inconsistencies in the reported data - Upload cover letter - Score $\geq 25$	The exact score range can be found in Appendix G.

**Table 3.** The similarities and differences in certification per method

### 5.2.3 ICT tool support

In Table 4 the type of tool support per method is shown. Of the 16 methods 7 are supported by ICT tools provided by the network. Two of these ICT tools are Excel sheets.

In Figure 6 we can see that four methods are supported by a software tool that can generate an assessment report automatically, these methods are B Impact Assessment, Green IT assessment, SMETA and STARS. The SMETA audit tool is the only tool that can be used offline. However, we are unable to check the functionalities of the S-CORE software tool. It could be possible that the S-CORE tool generates an assessment report automatically as well.

Table 5 displays the activities supported by the tools. We cannot check all functionalities of the S-CORE, SMETA and STARS tools, since we are unable to gain access to these tools. The B Impact Assessment and SMETA audit tool support the highest number of relevant activities. We are unsure as to whether the B Corp certification is received in the B Impact Assessment tool or through another channel, since we do not have access to a certified account. The Excel sheets supporting the Common Good Balance Sheet and UniSAF supports the lowest number of relevant activities. There is no tool that supports all necessary activities.

SEA method	Tool support
AccountAbility 1000 (AA1000)	
B Impact Assessment (BIA)	B Impact Assessment (BIA, online)
Common Good Balance Sheet (CGBS (Compact and full))	Balance Sheet Calculator Version 5.02 (Excel sheet)
Green IT Assessment	Data Center Green IT Maturity Assessment (GIT MA, online)
ISO14001	-
ISO26000	-
Global Development Research Centre (GDRC)	-
Global reporting initiative (GRI)	-
European Foundation for Quality Management (EFQM)	-
Sustainability – Competency, Opportunity, Reporting & Evaluation (S-CORE)	S-CORE (online)
Sedex Members Ethical Trade Audit (SMETA)	SMETA Audit tool (offline)
Sustainable Development Goals (SDGs)	-
Sustainability Tracking, Assessment & Rating System (STARS)	STARS reporting tool (online)
University Sustainability Assessment Framework (UniSAF)	Database template UniSAF (Excel sheet)
United Nations Global Compact (UNGC)	-

**Table 4.** SEA methods and the corresponding tool support

	BIA	CGBS Excel	GIT MA	S-CORE	SMETA	STARS	UniSAF Excel
Register to network	x	x	-	*	x	x	-
Enter organisation details	✓	✓	✓	✓	✓	✓	✓
Identify stakeholders	x	x	x	✓		x	✓
Engage stakeholders	x	x	x	x	x	✓	x
Gather necessary documentation	x	x	x	x	x	x	x
Obtain indicator value	✓	✓	✓	✓	✓	✓	✓
Prepare assessment report	✓	x	✓	*	✓	✓	x
Audit	✓	x	-	*	✓	*	x
Pay fee	x	x	-	*	*	*	-
Receive certification	*	x	-	-	-	✓	-
Discover ideas for action	✓	x	✓	✓	✓	x	x
Identify opposing factors	x	x	x	*	*	*	x
Prepare improvement report	✓	x	x	*	✓	*	x
Monitor performance	x	x	x	*	*	*	x

**Table 5.** [ ✓ = supported, x = not supported, - = not necessary, \* = unknown ]

#### 5.2.4 Stakeholder surveys

Method specific documentation analysis learns us that some methods prescribe the practitioners to distribute stakeholder surveys. These surveys measure for example the stakeholder satisfaction. The methods that prescribe to use stakeholder surveys are AA1000 [1] (stated as one of the possible methods of engagement) ; B Impact Assessment [39]; Common Good Balance Sheet (stated by a consultant during an interview); SMETA [51] (recommended); UniSAF [49] (recommended). We are unsure about S-CORE.

#### 5.2.5 Payment

Finally, some networks require practitioners to pay a fee. An organisation can pay the fee to become part of the network, to have the network audit the accounting and/or to use the tool provided by the network. The methods that require a fee and the explanation of the fee can be found in Table 6. The fee for the B Impact Assessment includes B Corp certification, the audit of the accounting and membership of the B Corp network. The prices are dependent on the sales and range from \$500 to over \$50,000 <sup>32</sup>. The exact pricing details can be found in Appendix C. The Common Good Balance Sheet fee includes an audit or peer review and membership of the Economy for the Common Good membership. We were unable to obtain the height of the fee. Since ISO14001 is audited and certified by third parties the offering (service and price) can differ. S-CORE has a set price per assessment which is \$95 <sup>33</sup>. The price includes the services of an official assessor and membership of the S-CORE network. For SEDEX-members the SMETA audit costs £50. For non members the SMETA-audit costs £150 <sup>34</sup>. The STARS fee includes usage of the STARS reporting tool, an audit by STARS and official STARS certification. The fees depend on the country and on whether the organisation is an aashe member already. Prices range from \$225 to \$1400 <sup>35</sup>. The exact pricing details can be found in Appendix C.

<sup>32</sup> <https://bcorporation.net/certification>

<sup>33</sup> [www.training.sustainabilityprofessionals.org/.../s-core-sustainability-assessment](http://www.training.sustainabilityprofessionals.org/.../s-core-sustainability-assessment)

<sup>34</sup> <https://www.sedexglobal.com/smeta-audit/>

<sup>35</sup> <https://stars.aashe.org/participate/register-subscribe/>

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SEA method	Fee explanation
B Impact Assessment	- Annual certification fee (height depends on the sales) - Tool usage is free
Common Good Balance Sheet	- Annual membership fee - ECG audit costs (differ per organisation) - Tool usage is free
ISO14001	- External audit costs (depends on the organisation and the auditor) - Certification costs (depends on the organisation and the auditor)
S-CORE	- Set price per assessment - Tool usage is included in the price
SMETA	- Set fee for SMETA assessments by SEDEX members - Set fee for SMETA assessment by non-SEDEX members
STARS	- Set fee per assessment for aashe members (differs per country) - Set fee per assessment for non-aashe members (differs per country) - Tool usage is included in the price
UN Global Compact	- Large organisations should make an annual contribution for their membership

**Table 6.** The fee explanation per SEA method

Assurance providers have to pay a fee to AccountAbility to provide assurance for AA1000 [3].

### 5.3 Analysis of the SEA method products

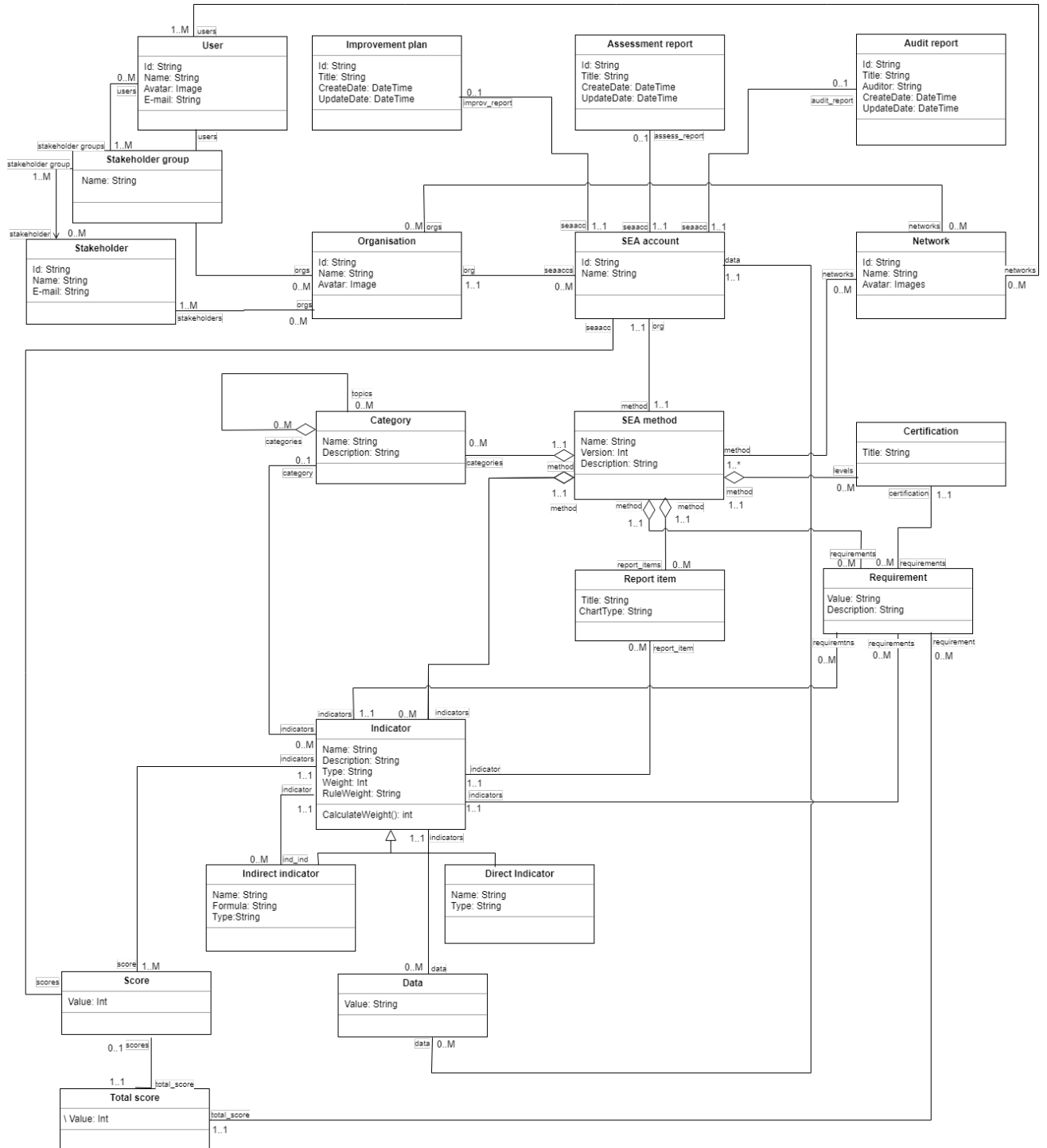
This research aims to clarify the vision for the tool and possible additional features. Therefore an updated version of the meta-model is created, meta-model 2.0. This model can be found in Figure 8.

The PDD concepts are mapped to the classes in the meta-model 2.0. The mapping can be found in Appendix J. In [54] a similar mapping is used. In Table 7 the explanation of each class in the new meta-model is stated. Classes that belong to the method and are not dependent on the time period in which an accounting is performed are tagged with the symbol “ $\Delta$ ”. For example, the categories contained in a method remain unchanged no matter the organisation and the time period. The data on the other hand is dependent on the organisation and the period, since data can change. The openSEA 2.0 meta-model contains 12 concepts that are either not included in the openSEA 1.0 meta-model or have a different meaning from the class with the same classname as in openSEA 1.0. These concepts are tagged with the symbol “ $\succ$ ”. Underneath we explain for each of these classes why they are added to the new meta-model.

**5.3.1 Topic:** The class “Topic” is included due to the fact that categories are in many cases divided up in subcategories, referred to as “topic” or a similar name. The topics are more specific than the categories and their relevance may depend on organisational details, such as sector, company size and geographics. There may be multiple levels of topics. For example, the STARS method consists of categories, subcategories, credits and reporting fields. The reporting fields correspond to the class “indicator” and subcategory and credit are modelled in the meta-model as recursive aggregation of “Category”

**5.3.2 Indicator:** The class “Indicator” is mentioned in the previous meta-model as well, however the meaning from the class in the new meta-model differs. The indicator in meta-model 2.0 refers to the class “metric” in the previous meta-model. The choice is made to rename the class to “indicator”, since it is the most used term in social and environmental accounting documentation.





**Figure 8.** The updated version of the meta-model found in [19]

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**5.3.3 Direct indicator:** We split the indicator up in direct and indirect indicators, since we discovered that the indicator value can either be calculated using a formula or it can be directly used without any mathematical operations.

**5.3.4 Indirect indicator:** The indirect indicator uses 1 or multiple indicators.

**5.3.5 Stakeholder group:** The stakeholder group class can be used to categorise stakeholders (e.g. workers, suppliers and consumers).

**5.3.6 Stakeholder:** The class “stakeholder” can be used to store information about individuals. This can be used to engage stakeholders, distribute surveys and share social and environmental accounting results.

**5.3.7 Assessment report:** Most networks in the scope of this research require the organisation to produce an assessment report. Therefore we have included this class in the meta-model.

**5.3.8 Audit report:** Just like the assessment report, the audit report is part of some methods. Providing the option for performing a self-audit or a third party audit can be a future expansion of the tool. Therefore, this class is already included in the meta-model.

**5.3.9 Improvement plan:** A future expansion of the software tool can be to automatically generate an improvement plan, based on the accounting results.

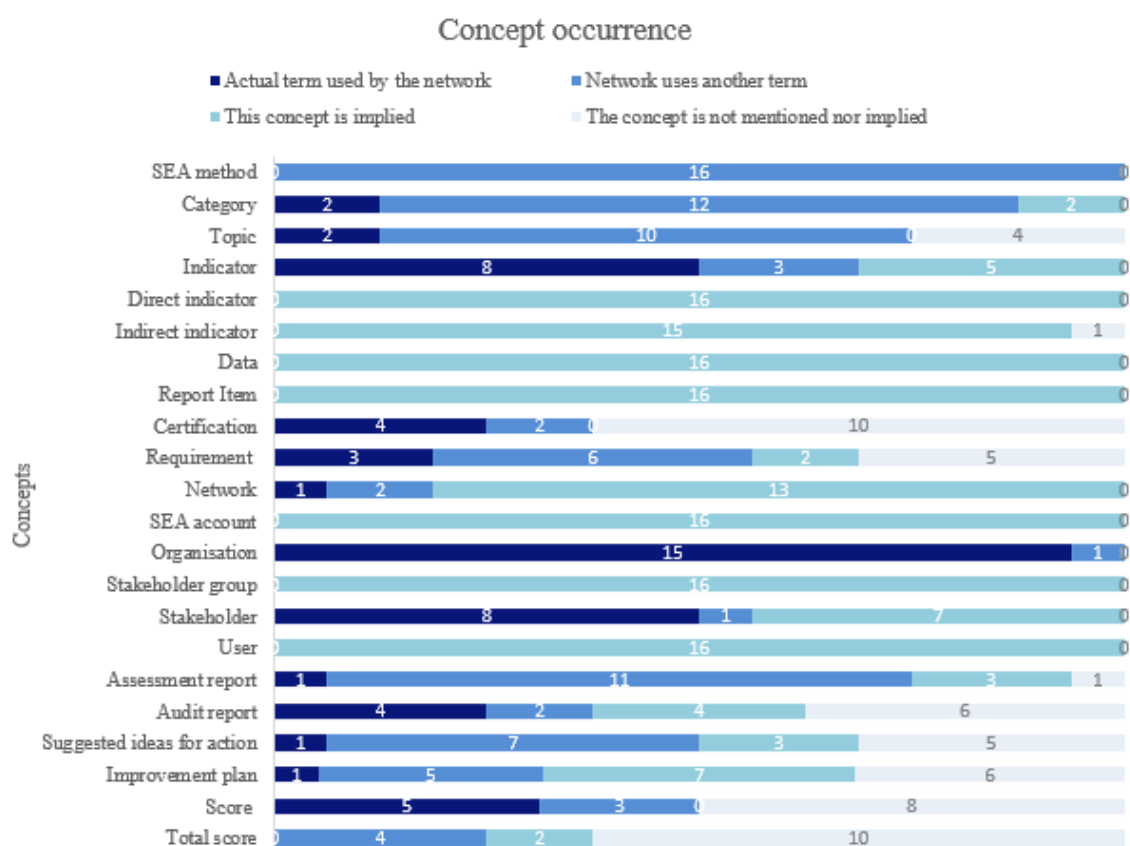
**5.3.10 Score:** Some methods assign scores to individual indicators, therefore a class containing the score is included.

**5.3.11 Total score:** Some methods provide the organisation with a total score, reflecting the social and environmental impact of the organisation. In order to facilitate this option we add an extra class.

**5.3.12 Suggested ideas for action:** Some methods have an action log which contains ideas for action that an organisation can apply to improve their impact. We extend the meta-model with this additional class.

The concept occurrences are visualised in Figure 9. We distinguish four categories:

- The network refers to the concept with the same term as the classname that we decided on
- The network uses another name for the concept than the classname
- The network does not refer to the concept explicitly, but implies that it exists
- The concept is not mentioned by the network



**Figure 9.** The concept occurrences of 16 methods

Classname	Explanation
SEA method $\Delta$	The social and environmental accounting method
Category $\Delta$	A division of “Indicators” that have particular shared characteristics
Topic $\Delta \asymp$	A secondary or subordinate “Category”
Indicator $\Delta \asymp$	The indicator is what is reported on. Normally an indicator is represented in a scale and unit, and can be either a “Direct indicator” or “Indirect indicator”
Direct indicator $\Delta \asymp$	A direct indicator is an indicator that does not depend on other measures and its values
Indirect indicator $\Delta \asymp$	An indirect indicator is derived from values or attributes of other indirect indicators using a calculus or mathematical formulas
Data	The input value of the “Indicator” is contained in “Data”. The data is account specific.
Report item	The “Indicator” is communicated to the stakeholder by means of a report item
Certification $\Delta$	The certification is the official artefact that is issued by the “Network” once the applicable “Requirements” are met
Requirement $\Delta$	A principle or standard by which an “Indicator” and/or a “SEA account” is judged.
Network $\Delta$	A group of responsible organisations, monitored by an organisation that develops initiatives, principles and/or standards related to corporate social and environmental performance
SEA account	One entry of a social and environmental accounting specific for a period of time
Organisation	The entity for which the SEA accounting is executed
Stakeholder group $\asymp$	A group of individuals or organisations whose decisions or actions can affect the actions of an “Organisation”
Stakeholder $\asymp$	An individual that has interest or concern in an “Organisation”
User	The individual who operates the software tool
Assessment report $\asymp$	The artefact resulting from the SEA accounting. Multiple reporting formats are within the scope (e.g. infographics, reports and interactive webpages)
Audit report $\asymp$	The artefact resulting from the audit, either internal or external
Suggested ideas for action $\Delta \asymp$	The predefined set of actions that an organisation can take to improve their social and environmental impact on stakeholders
Improvement plan $\asymp$	The artefact that contains a plan which leads to improvements within the organisation with regards to social and environmental accounting
Score $\asymp$	The value of an assessed indicator
Total score $\asymp$	The total derived from the individual scores

**Table 7.** Classname explanations [ $\Delta$  = SEA method specific class,  $\asymp$  = New class]

## 6 State of the practice

Since the target audience for the survey is very specific we are unable to receive a large number of responses. We aggregate all data, but in some cases we find there are missing values. Nevertheless, we can use the data that we were able to obtain in order to draw some conclusions and answer research questions. In this section we will perform a practice analysis by visualising the data.

### 6.1 Practitioners

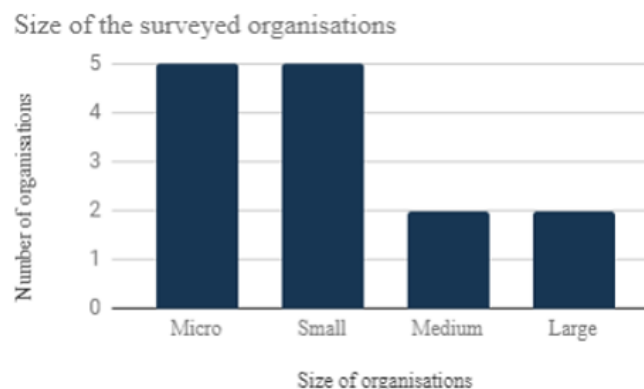
In total we received 16 survey responses from practitioners of social and environmental accounting. Of these responses 14 are unique. One of these responses is from an external consultant. However, we decided to include these results because we value the insights of the consultant with regards to motivation and overlap. All surveyed organisations identified as social enterprises, for example because they are non-profit organisations that promote a social economy based on solidarity, they

actively collaborate with social organisations such as cooperatives, NGOs and foundations or because they are NGOs.

In Figure 10 the size of the surveyed organisations can be observed and in Figure 11 the number of organisations applying one, two or three methods is visualised. In Section 4 we provided evidence that supported that small, medium and large organisations apply more than one SEA method. The data gathered from the survey responses provides us evidence that micro sized organisations also apply more than one SEA method, since one of the micro sized organisations applies two methods. Moreover it proofs the need for a versatile tool. On top of that 78% of the 14 surveyed organisations extends the method with additional topics of indicators.

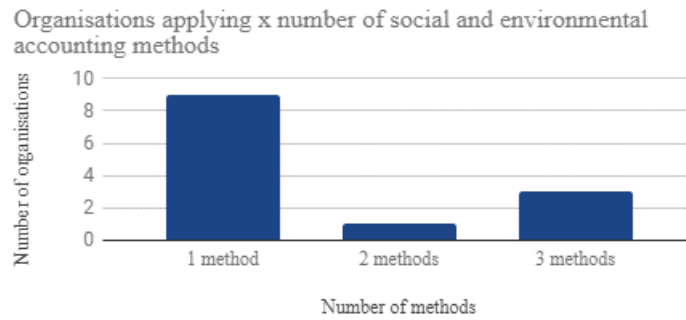
In order to place the results into context the applied SEA methods are shown in Figure 13. As can be observed most organisations apply Social Balance method by XES.

Furthermore we asked the survey respondents to rate the motivation discovered during the literature review from one to five. “One” meaning it was no motivation for starting the accounting and “five” meaning it was the main motivation. The results can be found in Figure 14. The first eight motivations are rated by 14 organisations. The last two motivations are rated by 10 organisation only. This is due to the fact that we used two different surveys and one of the surveys does not include the last two motivations. The most important motivations for organisations to apply a SEA method is for them to discover the extent to what the organisation meets ethical and environmental values; identify improvement areas and for using the results to manage the organisation at strategic level. We can conclude that the motivations of the organisations are centred around improvement of their impact on stakeholders and less around pressure, either by stakeholders or by the government, and marketing. We can hypothesise that the outcome might differ if the survey population is more diverse (e.g. more large organisations and less social enterprises).

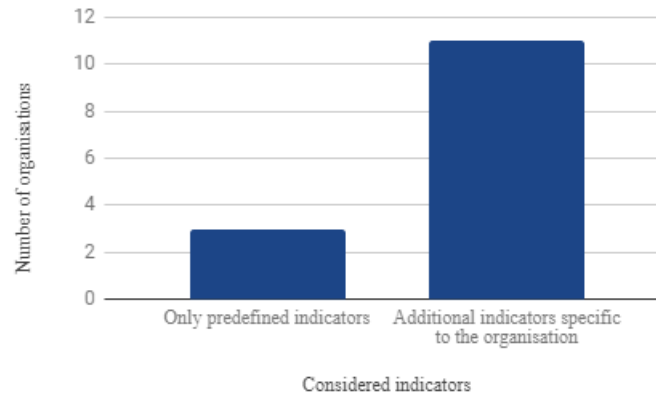


**Figure 10.** The size of the surveyed organisations, n=13

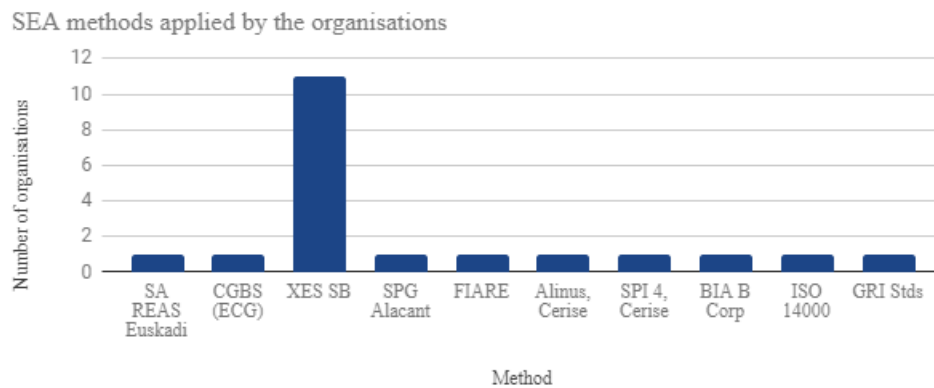
Three practitioners of different organisations who applied more than one method were asked to indicate the extent to which the methods contained overlapping topics and activities on a scale from one to five. One meaning that there is no overlap and five meaning everything overlaps. For the activities two practitioners scored the overlap a “two” and the other practitioner scored a “three”. One practitioner stated that the activities relating to data collection are very similar for each of the applied methods. When asked to rate the overlapping topics two practitioners scored the overlap a “three” and the other scored the overlap a “two”. One practitioner mentioned that indicators related to investments were often asked in multiple applied methods. The other practitioner responded by saying that almost all of the quantitative data in general overlaps between the methods. Examples of



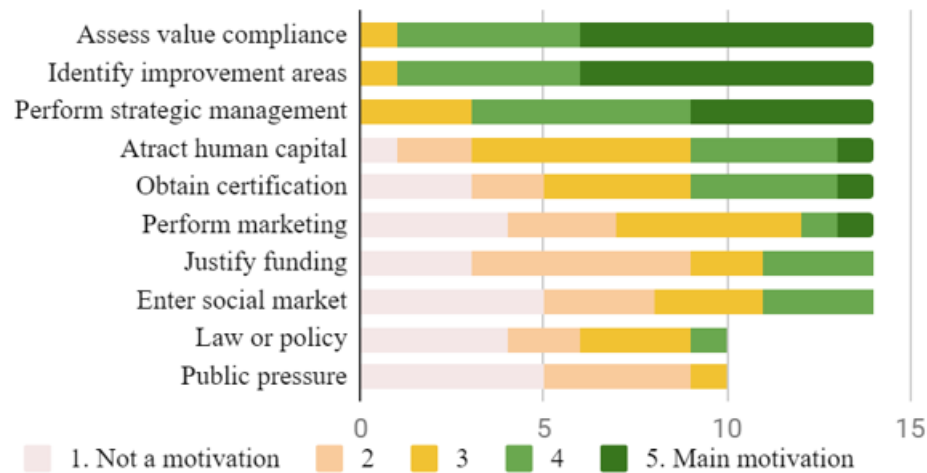
**Figure 11.** The number of organisations applying x number of SEA methods, n=13



**Figure 12.** The indicators considered per organisation, n=14



**Figure 13.** The SEA methods applied



**Figure 14.** The rated motivations for practising social and environmental accounting

these data are: energy consumption; number of people involved in the decision making process and women in a management position.

## 6.2 Consultant

In order to gain insights from another perspective we interviewed an ECG consultant. The role of the consultant is to support and guide the organisation during the accounting by gathering data, explaining topics and indicators and defining current practices and goals. The consultant indicated that enthusiasm for assessing the organisations values is a motivation for clients, as well as marketing. The consultant stated that the instructions for the accounting are quite clear, nonetheless a lot of questions arise during the process. Especially about the rationale behind a specific indicator, such as democracy, employee participation and number of promoted females who can still have children. At times the clients disagree with the rationale, however they accept it anyway.

We also asked the consultant about her opinion about the The Common Good Balance Calculator which is a tailored Excel sheet. The biggest advantage of this is that it is easy to use and it visualises the data automatically. A potential extension of the tool support in the generation of an improvement plan. The consultant indicated that currently not much is done with regards to the improvement plan.

## 6.3 External auditors

Lastly, we interviewed two external auditors of big consulting firms. Both auditors perform assurances and audits for reports produced according to the Global Reporting Initiative. The clients of both auditors are very large companies. The auditors indicated that the main motivations to perform social reporting are: marketing and boosting their reputation; satisfying investors demand and obliging to the personal motivations of (higher) management. The following quote from an auditor clarifies marketing motivation:

“Sustainability reporting and transparency has become increasingly more important, so investors often request companies to participate in sustainability practices. Big corporates also want to score on this aspect, especially because consumers expect this from them. Reputation is very important and social responsibility is an important part of that reputation.”

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One auditor indicated that clients are interested in applying multiple SEA methods, whereas the other indicated that the clients were not interested in other methods. Both auditors said that it is common practice for them to extend the method with additional topics and indicators and that GRI allows for this to be done. An example of an additional indicator that one auditor came across was “the number of overweight employees”.

One auditor was uncertain of the overlap between other methods, whereas the other stated that overlap in indicators frequently occurred. Lastly, both auditors are advocates of one framework or a limited number of standards. One of them saw the added value of a versatile tool, while the other was content with the current tool support, which mostly consists of Excel sheets.

#### **6.4 Insights with regard to SEA methods**

We found that experts value a method when it is comprehensive, systematic and in-depth. Moreover, some experts preferred a method because it is widely adopted. However, some experts find the existence of many methods a big disadvantage. They also stated that the overlap between the methods is a pity. Moreover, some methods are unclear and contain poor explanations. This can especially be a problem when certain aspects have to be measured (e.g. the  $CO_2$  footprint) and practitioners do not know how, due to the lack of guidelines. Another insight is that calculating a very exact score can promote greenwashing. However, the expert stating this disadvantage admitted that there is no alternative.

#### **6.5 Insights with regards to SEA ICT tool support**

Features the experts liked about current tool support are:

- Performing the assessment online
- Indicator division into categories
- Pausing the assessment
- Resuming the assessment (by another person)
- Consulting explanation and guidelines tabs

Furthermore, the experts would like the tool support to provide concrete improvement actions and they would like the tool to allow sending surveys to non-predefined stakeholder groups.

In order to improve the tool support, according to the experts, the integration between different tools should be improved, so that not all data has to be entered manually. Furthermore the tool should offer concrete improvement actions and these actions should be simulated, so the organisation can observe the results of a certain action. An assessment report should be created automatically, in order to save time.

Lastly, there experts mentioned some less urgent improvements, such as a mobile applications or adding a feature that allows stakeholders to put pressure on organisations. A detailed list of expert opinions can be found in Appendix K.



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## 7 Discussion

### 7.1 On the results

From the results stated in the previous section we can derive that there is a need for a versatile tool. Although the external auditors have a preference for one social and environmental accounting method this does not appear to be a viable solution. A better solution would be to automatically merge the methods, since the respondents have indicated that there is overlap between the methods and that the methods are often extended with additional topics. This prevents entering the same data multiple times.

The external auditors and the ECG consultant stated that the usage of the Excel sheets, used for the CGBS and GRI accounting, are very easy to operate and perform well. Therefore the versatile tool would ideally have an easy and intuitive interface, just like the Excel sheets.

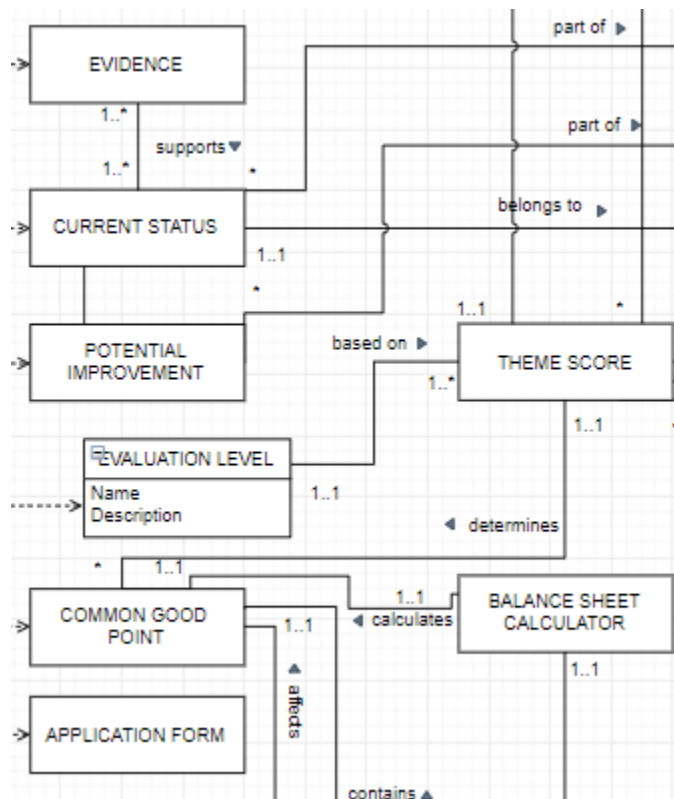
Some additional features that could be implemented to the tool are indicator explanation pages; indicator measuring guidelines and automatically tailored suggested ideas for action. Especially for the last feature a lot of research still has to be performed, in order to discover what the strategic management phase entails, how an improvement plan is created and when an idea for action should be suggested automatically by the tool. Moreover, an improvement simulation could be implemented, so the user can observe the result of a certain plan.

Moreover, the respondents suggest automating processes within the tool. Unfortunately they have not elaborated on what processes should be automated, but a better integration between different tools could be a point of improvement (e.g. the tool automatically extracts data from Enterprise Resource Planning (ERP) systems or stakeholder survey data is automatically entered in the tool).

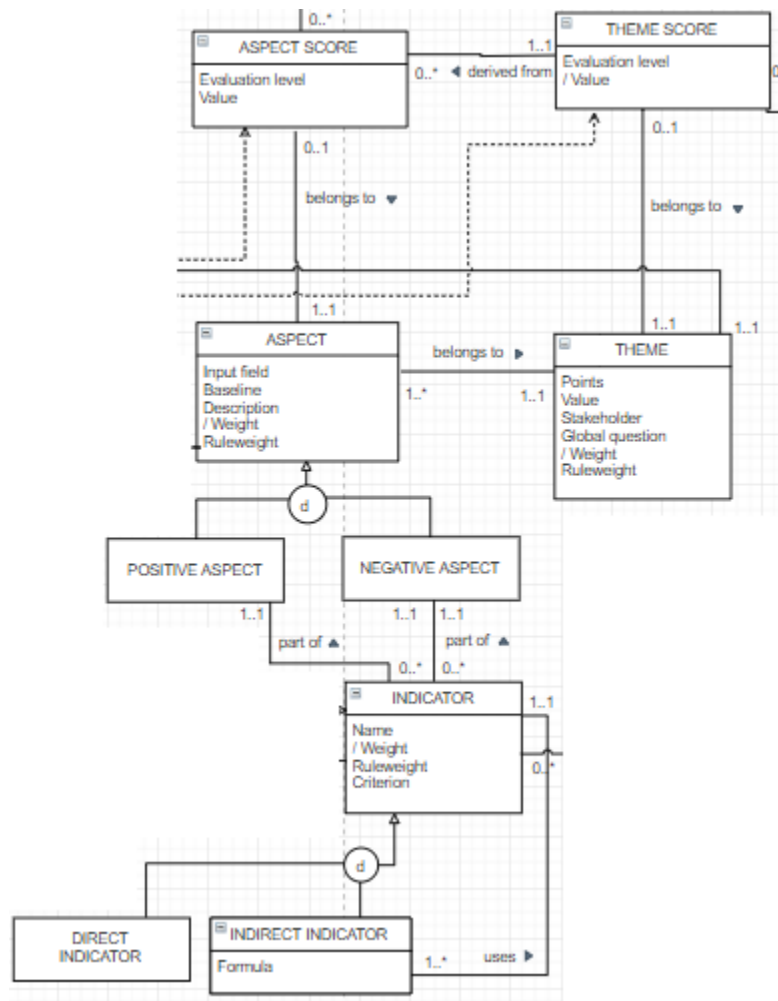
Lastly, we discovered a contradiction in the data obtained. In the survey responses we found that intrinsic motivations play a bigger role in applying social and environmental accounting methods, but during the interviews with the external auditors both of them mentioned that extrinsic motivations play a bigger role for their clients. We could hypothesise that extrinsic motivations are more important for big corporations, since both auditors mentioned that their clients were big corporations. For a definitive answer more research has to be conducted.

## 7.2 From the perspective of information science

This research contributes to the information science domain as well as to the social sciences domain. We used information science techniques, such as method engineering to analyse social and environmental accounting methods. Applying these techniques to a different domain made us aware of the fact that the product part of process deliverable diagrams can be interpreted in two ways. Either as a set of interrelated user-observable products or as the underlying information structure that an information systems analyst would be able to identify. An example of this can be observed in Figures 15 and 16. In the first version of the CGBS PDD user-observable products are modelled. Products such as “Current status”, “Balance sheet calculator” and “Application form”. This facilitates communication with SEA practitioners but lacks important details to truly compare methods and can incorporate redundancy. In the latest version of the CGBS PDD (Figure 16) the current status is contained in the concept “Indicator”, other tangible concepts such as the application form and balance sheet calculator are not included in the latest version at all. Although these concepts provide more details, they are not a crucial part of the SEA method. An alternative design could indicate the functionalities of the balance sheet calculator by highlighting which concepts are supported by the balance sheet calculator. Concepts such as the theme score, since it is calculated using the balance sheet calculator. However, for the comparison of the SEA methods this detail is unnecessary. Modelling the underlying information structure produces a class diagram that resembles a data model. This allows us to compare the product part of the PDDs with the meta-model. The downside of this design decision is that it produces a more complex model which may be difficult to grasp for SEA practitioners.



**Figure 15.** An excerpt of the first version of the CGBS PDD



**Figure 16.** An excerpt of the latest version of the CGBS PDD

## 8 Limitations

The biggest limitation of this research is the lack of data. Ideally we had gathered a large number of survey respondents in order to generalise the results. For many SEA method we only have one survey respondent from one organisation. Therefore we are unable to draw conclusion related to correlation between the method application and the industry sector for example. The lack of data causes an external threat to validity. Also, some survey data was gathered during an earlier research, this data might have changed over time. However, we presume the motivation of an organisation to practice SEA has not changed drastically. The number of SEA methods an organisation applied may have changed, but that does not cause the historic data to be invalid. Another threat to the validity is due to the selection of subjects. The selection was not random. We have tried to obtain data from a sample that represents the population accurately. Unfortunately we were unable to do this in the given time span and therefore we relied on our network to obtain the data.

In hindsight a long and extensive survey might not have been the best method for gathering data. A better method could be to contact networks directly and attend meetings so an interview can be arranged or a survey can be deployed on site. This method worked well when contacting the Economy

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for the Common Good for example. Another option to gather more data could be to prune the existing survey. The targeted population will probably be more likely to respond to a shorter survey. Also, it could be beneficial to indicate the relevance of the research to the community, so practitioners will be more motivated to participate.

Lastly, only one process deliverable diagram is validated by an expert on the method. In order to discover whether the PDDs represent the SEA methods as applied in practice all PDDs should be validated, since the accounting might be slightly different in reality. Also, the generic method activities are modelled and variants in the methods are not. This might be a good opportunity for future work.

## 9 Future work

For future work it would be interesting to tailor the surveys to specific methods, so more detailed information can be gathered. This asks for more specific information about the targeted population (e.g. which methods are applied by the organisation and what tool support is used to perform the accounting). In order to facilitate this future research we updated the online survey to a shorter and more specific version. We have already tried out a tailored version of the survey, by sending it to a practitioner at a Dutch bank. For tailoring the survey we first try to find out which SEA methods are applied by the organisation. Then we create specific questions about these methods and the tool support, so the practitioner understands the questions better and can provide us with more detailed information.

This research can be extended by performing a more thorough activity analysis. This can be done by adapting the comparison method stated in [54].

Other interesting future research could be a more thorough tool support investigation and a larger SEA methods analysis. Furthermore, we hypothesised the difference in motivations between certain types of organisations. It would be a good idea to test this hypothesis.

## 10 Conclusion

We discovered 29 social and environmental accounting methods. By examining public SEA network directories and analysing survey data we found that organisations of all sizes apply more than one method in one period of time. One of the biggest disadvantages of the large number of SEA methods is the fact that overlap exists between these methods. Furthermore, some indicators are difficult to measure and calculating a very exact accounting score can create an idea of misplaced precision. The alternative is not to score the social and environmental impact, but this makes the accounting less tangible.

The state of the art analysis results in a generic social and environmental accounting process, followed by a meta-model for an updated version of the extendable tool. Half of the methods taken into account during this research are supported by an ICT tool provided by the network. Some of these tools include Excel sheets. The biggest disadvantage of this is that it does not support the strategic management phase well. We can conclude that for the SEA phase only Excel works fine, but the aim of the suggested versatile tool is to support the strategic management phase as well. The data analysis shows that concrete improvement actions are desired, but the tools often lack in providing this feature.

In order to discover all requirements for social and environmental accounting ICT support more expert opinions have to be gathered, since the suggested improvements by expert show a wide variety. Nonetheless, all insights have proven to be very interesting and hopefully this invites many others to contribute to the field of social and environmental accounting.

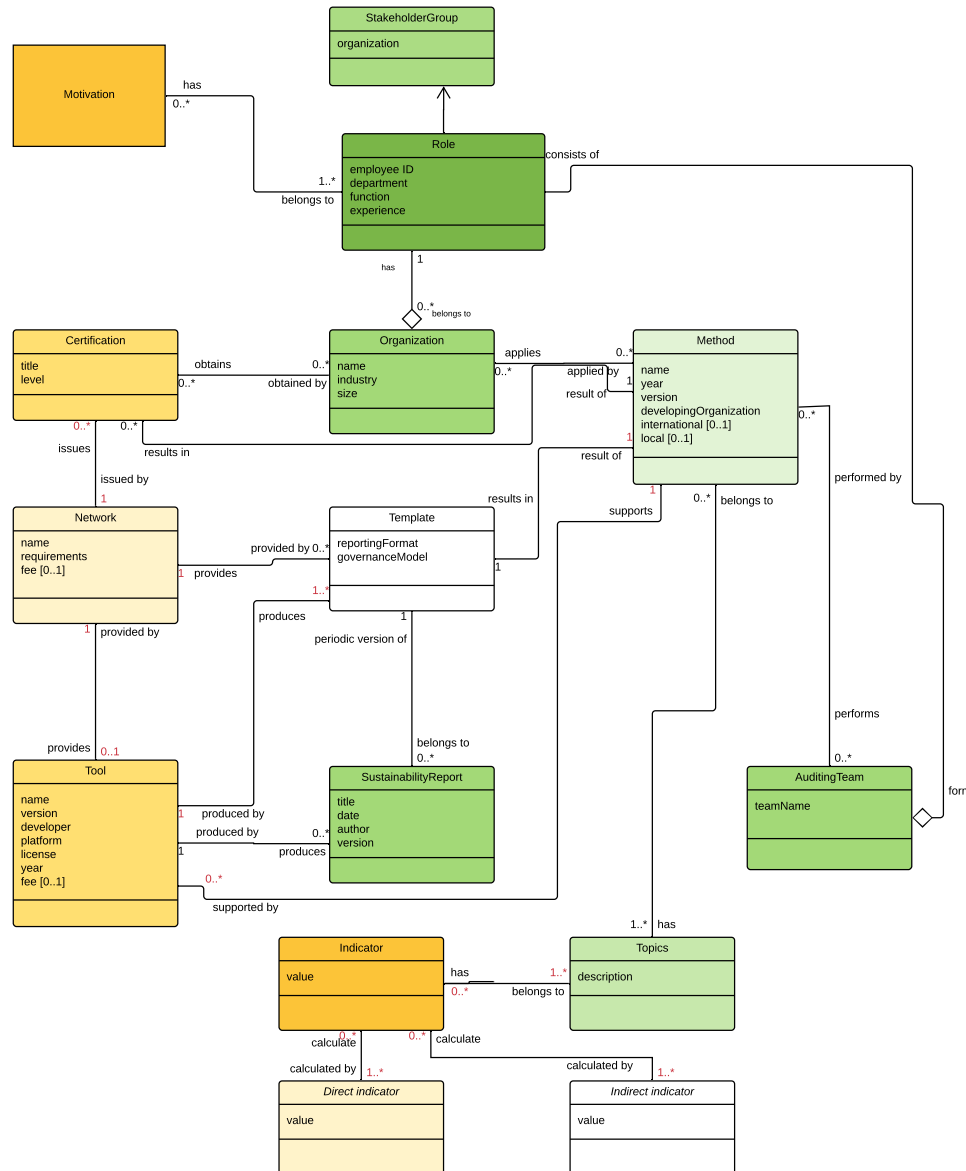
## Bibliography

- [1] AA1000. AA1000 stakeholder engagement standard 2015, November 2015. Accessed on: 2019-07-09.
- [2] aashe. STARS technical manual version 2.1. <https://www.aashe.org/wp-content/uploads/2017/07/STARS-2.1-Technical-Manual-Administrative-Update-Three.pdf>, April 2017. Accessed on: 2019-07-02.
- [3] AccountAbility. AA1000AP & AA1000AS FAQs, May 2018. Accessed on: 2019-07-09.
- [4] Carol A Adams, Wan-Ying Hill, and Clare B Roberts. Corporate social reporting practices in western europe: legitimating corporate behaviour? *The British accounting review*, 30(1):1–21, 1998.
- [5] Association for the Advancement of Sustainability in Higher Education. *Stars technical manual*.
- [6] B Lab. *The Complete Guide to B Corp Certification for Small to Medium-Sized Enterprises*.
- [7] Henk A Becker. Social impact assessment. *European Journal of Operational Research*, 128(2):311–321, 2001.
- [8] Nils Bik. Developing a model-driven socio-environmental auditing tool, July 2018.
- [9] Manfred Blachfellner, Angela Drosig-Plöckinger, Susanna Fieber, Gerd Hofielen, Lutz Knakrügge, Manfred Kofranek, Sigrid Koloo, Christian Loy, Christian Rüter, Dominik Sennes, Regina Sörgel, and Moritz Teriete. *Workbook Compact Balance Sheet 5.0*.
- [10] Sjaak Brinkkemper, Motoshi Saeki, and Frank Harmsen. A method engineering language for the description of systems development methods. In *International Conference on Advanced Information Systems Engineering*, pages 473–476. Springer, 2001.
- [11] Archie B Carroll. Corporate social responsibility: Evolution of a definitional construct. *Business & society*, 38(3):268–295, 1999.
- [12] Milagros Castillo-Montoya. Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report*, 21(5):811–831, 2016.
- [13] Pavel Castka and Michaela A Balzarova. A critical look on quality through csr lenses: Key challenges stemming from the development of iso 26000. *International Journal of Quality & Reliability Management*, 24(7):738–752, 2007.
- [14] Pavel Castka and Michaela A Balzarova. Iso 26000 and supply chains—on the diffusion of the social responsibility standard. *International journal of production economics*, 111(2):274–286, 2008.
- [15] UN Global Compact. Overview of the un global compact. *Recuperado de [https://www.unglobalcompact.org/ParticipantsAndStakeholders/business\\_associations.html](https://www.unglobalcompact.org/ParticipantsAndStakeholders/business_associations.html)*, 2014.
- [16] B Corp. Frequently asked questions. <https://bimpactassessment.net/how-it-works/frequently-asked-questions/the-b-impact-score>. Accessed on: 2019-07-02.
- [17] Marc J Epstein and Adriana R Buhovac. *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge, 2018.
- [18] Sergio Espana Cubillo and Sjaak Brinkkemper. Responsible software: A research agenda to help enterprises become more sustainable. *Proceedings of ICT for Sustainability 2016*, 46:141–150, 2016.
- [19] Sergio España, Nils Bik, and Sietse Overbeek. Model-driven engineering support for social and environmental accounting. 2019.
- [20] David L Gadenne, Jessica Kennedy, and Catherine McKeiver. An empirical study of environmental awareness and practices in smes. *Journal of Business Ethics*, 84(1):45–63, 2009.
- [21] Graham Gal, Orhan Akisik, and William Wooldridge. *Sustainability and social responsibility: regulation and reporting*. Springer, 2018.
- [22] Simon S Gao and Jane J Zhang. Stakeholder engagement, social auditing and corporate sustainability. *Business process management journal*, 12(6):722–740, 2006.

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- [23] Antonio K Gaspar. Possible role of the multilateral investment fund (mif) in the area of corporate social responsibility (csr). Technical report, Inter-American Development Bank, 2003.
- [24] Global Sustainability Standards Board. *Consolidated Set of GRI Sustainability Reporting Standards 2018*.
- [25] Rob Gray. Social, environmental and sustainability reporting and organisational value creation? Whose value? Whose creation? *Accounting, Auditing & Accountability Journal*, 19(6):793–819, 2006.
- [26] Rob Gray, Dave Owen, and Carol Adams. *Accounting & accountability: changes and challenges in corporate social and environmental reporting*. Prentice Hall, 1996.
- [27] Rob Gray, Dave Owen, and Keith Maunders. Corporate social reporting: emerging trends in accountability and the social contract. *Accounting, Auditing & Accountability Journal*, 1(1):6–20, 1988.
- [28] Giancarlo Guizzardi. Ontological foundations for structural conceptual models. 2005.
- [29] James Guthrie and Indra Abeysekera. Content analysis of social, environmental reporting: what is new? *Journal of Human Resource Costing & Accounting*, 10(2):114–126, 2006.
- [30] Shirley-Ann Hazlett, Rodney McAdam, Amrik Sohal, Pavel Castka, and Michaela A Balzarova. A critical look on quality through csr lenses. *International Journal of Quality & Reliability Management*, 2007.
- [31] Samuel O Idowu, Nicholas Capaldi, Liangrong Zu, and Ananda Das Gupta. *Encyclopedia of corporate social responsibility*, volume 21. Springer New York, 2013.
- [32] International Organization for Standardization. *Discovering ISO 26000*.
- [33] Dragu Ioana-Maria. *AA 1000*, pages 1–5. Springer Berlin Heidelberg, Berlin, Heidelberg, 2013.
- [34] ISO. ISO 14001:2015(en) Environmental management systems — Requirements with guidance for use. <https://www.iso.org/obp/ui/iso:std:iso:14001:ed-3:v1:en>. Accessed on: 2019-07-02.
- [35] Khosro S Jahdi and Gaye Acikdilli. Marketing communications and corporate social responsibility (csr): marriage of convenience or shotgun wedding? *Journal of business ethics*, 88(1):103–113, 2009.
- [36] Barbara Kitchenham and Shari Lawrence Pfleeger. Principles of survey research: part 5: populations and samples. *ACM SIGSOFT Software Engineering Notes*, 27(5):17–20, 2002.
- [37] Barbara A Kitchenham and Shari Lawrence Pfleeger. Principles of survey research part 2: designing a survey. *ACM SIGSOFT Software Engineering Notes*, 27(1):18–20, 2002.
- [38] Barbara A Kitchenham and Shari Lawrence Pfleeger. Principles of survey research: part 3: constructing a survey instrument. *ACM SIGSOFT Software Engineering Notes*, 27(2):20–24, 2002.
- [39] B Lab. B impact assessment tool. <https://app.bimpactassessment.net/>, January 2019. Accessed on: 2019-07-09.
- [40] Glen Lehman. Disclosing new worlds: a role for social and environmental accounting and auditing. *Accounting, Organizations and society*, 24(3):217–241, 1999.
- [41] Ernst Ligteringen and Simon Zadek. The future of corporate responsibility codes, standards and frameworks, 2005.
- [42] Mark Line, Hope Hawley, and Riva Krut. The development of global environmental and social reporting. *Corporate Environmental Strategy*, 9(1):69–78, 2002.
- [43] Morgan P Miles and Linda S Munilla. The potential impact of social accountability certification on marketing: A short note. *Journal of Business Ethics*, 50(1):1–11, 2004.
- [44] J Emil Morhardt. Corporate social responsibility and sustainability reporting on the internet. *Business strategy and the environment*, 19(7):436–452, 2010.
- [45] Andre Nijhof, Stephan Cludts, Olaf Fisscher, and Albertus Laan. Measuring the implementation of codes of conduct. an assessment method based on a process approach of the responsible organisation. *Journal of Business Ethics*, 45(1-2):65–78, 2003.
- [46] Francesco Perrini. Building a european portrait of corporate social responsibility reporting. *European management journal*, 23(6):611–627, 2005.

- 
- [47] Micah Peters, Christina Godfrey, Patricia McInerney, Cassia Soares, Hanan Khalil, and Deborah Parker. The joanna briggs institute reviewers' manual 2015: Methodology for JBI scoping reviews. 2015.
- [48] Giselle Rieschick. Corporate social responsibility and corporate financial performance in the food and beverage industry. 2017.
- [49] rootAbility. Indicator list UniSAF, howpublished = Excel sheet, year = 2017, month = January, note = Accessed on: 2019-07-09.
- [50] Herbert J Rubin and Irene S Rubin. *Qualitative interviewing: The art of hearing data*. Sage, 2011.
- [51] SEDEX. SEDEX member ethical trade audit report version 6.1. <https://cdn.sedexglobal.com/wp-content/uploads/2019/05/Guide-to-completing-a-SMETA-Report-6.1.pdf>, Februari 2019. Accessed on: 2019-07-09.
- [52] SMETA. *Sedex Members Ethical Trade Audit (SMETA) Best Practice Guidance*.
- [53] The Matrix Development Team. Workbook FULL balance sheet 5.0. <https://www.ecogood.org/en/common-good-balance-sheet/common-good-matrix/>, April 2017. Accessed on: 2019-06-30.
- [54] Inge van de Weerd, Stefan de Weerd, and Sjaak Brinkkemper. Developing a reference method for game production by method comparison. In *Working Conference on Method Engineering*, pages 313–327. Springer, 2007.
- [55] William B Werther Jr and David Chandler. *Strategic corporate social responsibility: Stakeholders in a global environment*. Sage, 2010.
- [56] Christopher Wood. *Environmental impact assessment: a comparative review*. Pearson Education, 2003.
- [57] Liangrong Zu. *Social Auditing*, pages 2179–2188. Springer Berlin Heidelberg, Berlin, Heidelberg, 2013.

## A The conceptual model



Not frequently mentioned

Frequently mentioned

Based on [4, 5, 6, 7, 9, 13, 14, 15, 17, 21, 22, 24, 25, 26, 27, 29, 31, 32, 33, 40, 42, 44, 46, 52, 55, 57, 23, 48, 30, 43],<sup>36</sup>

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<sup>36</sup> Webpages are not included in this list



## B List of methods

We have identified 29 social and environmental accounting methods. This list can be found in Table 8. The list is not exhaustive since many methods exist. Whenever we discover a new SEA method we add it to the method repository.

**Table 8.** Social and environmental accounting methods

Method/tool name	Organisation
B Impact Assessment	B Labs of the B Corporation movement
Green IT assessment	Swiss Informatics Society
STARS - Sustainability Tracking, Assessment & Rating System	aashe
XES Social Balance (Balanz Social de la XES)	XES is a regional network of REAS, based in Catalonia
REAS Social Audit (Auditoria Social de REAS)	REAS Euskadi
Common Good Balance Sheet	Economy for the Common Good
S-CORE - Sustainability – Competency, Opportunity, Reporting & Evaluation	International Society of Sustainability Professionals
SoFi Software	thinkstep
Carbon Disclosure Project	CDP
Fair Trade Software Foundation certification method	Fair Trade Software Foundation certification method
Social and Human Capital Protocol	Social and Human Capital Protocol
ISO 26000 Social responsibility	ISO
ISO 14000 family - Environmental management	ISO
UN Global Compact	United Nations
GDRC	Global Development Research Centre
AccountAbility 1000	The Institute of Social and Ethical AccountAbility
EFQM adaptation by Nijhof et al. [45]	European Foundation for Quality Management
Sedex Members Ethical Trade Audit	Supplier Ethical Data Exchange (SEDEX)
Global Reporting Initiative	Global Reporting Initiative
Social Accounting and Audit	Social Audit Network (SAN)
Environmental Information Auditing	NA (generic method)
Sustainable Development Goals Compass	Global Reporting
Initiative, United Nations Global Compact,	World Business Council for Sustainable Development
University Sustainability Assessment Framework	rootAbility
Gallup's Exceptional Workplaces	Gallup
Measurabl	Measurabl
World Fair Trade Organization certification	World Fair Trade Organization certification
The Social & Human Capital Protocol	World Business Council For Sustainable Development
Social Value (ValorSocial.coop)	Catalan Federation of Workers Cooperatives (Federació de Cooperatives de Treball de Catalunya)
ESG Corporate Rating	ISS-oekom

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## C Network prices

### C.1 B Impact Assessment

To gain and maintain B Corp certification organisations have to pay an annual fee. The fee depends on the annual sales of an organisation. In Figure 17 the prices can be observed.

Annual Sales	Annual Certification Fee
\$0 - \$149,000	\$500
\$150,000 - \$1.9MM	\$1,000
\$2 MM - \$4.9MM	\$1,500
\$5 MM - \$9.9MM	\$2,500
\$10 MM - \$19.9MM	\$5,000
\$20 MM - \$49.9MM	\$10,000
\$50 MM - \$74.9MM	\$15,000
\$75 MM - \$99.9MM	\$20,000
\$100 MM - \$249.9MM	\$25,000
\$250 MM - \$499.9MM	\$30,000
\$500 MM - \$749.9MM	\$37,500
\$750 MM - \$999.9MM	\$45,000
\$1 B+	Starting at \$50,000, based on the revenue and structure of the company**

\*Fees for companies outside the USA and Canada may vary and are paid in their local currency. Contact B Lab with specific questions.

**Figure 17.** Prices for B Corp certification

### C.2 STARS

To use the STARS reporting tool, have a STARS audit and gain STARS certification an annual membership fee has to be paid. In Figure 18 the prices can be observed.

Institution Location	AASHE Member	Non-member
OECD Country	\$900 USD	\$1400 USD
Non-OECD Country*	\$450 USD	\$700 USD
Least Developed Country (LDC)*	\$225 USD	\$350 USD

**Figure 18.** Prices for STARS certification

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## D Network details

Some monitoring organisations create a network of organisations applying a specific SEA method. We identified six networks in this research. Table 9 shows the network names, the SEA method that belongs to the network, the monitoring organisation, the number of organisations that are part of the network and the number of countries in which the network is active. The Sedex Member Ethical Trade Audit network has the most members.

**Table 9.** Network details

SEA method	Network	Monitoring organisation	Size (# organisations)	# Countries active
B Impact Assessment	B Corp	B Corp	2933	64
CGBS	Economy for the Common Good	Economy for the Common Good	677	44
STARS	aashe	aashe	332	34
S-CORE	ISSP	International Society of Sustainability Professionals	unknown	41
UNGC	UN Global Compact	United Nations	9913	161
Smeta Audit	Sedex Members Ethical Trade Audit	Sedex	50000	155

## E PDDs

For this research we created and analysed process deliverable diagrams. Some PDDs were created during earlier researches. If the PDD was created during an earlier research the caption states the creator. The PDDs can be found on the next page.

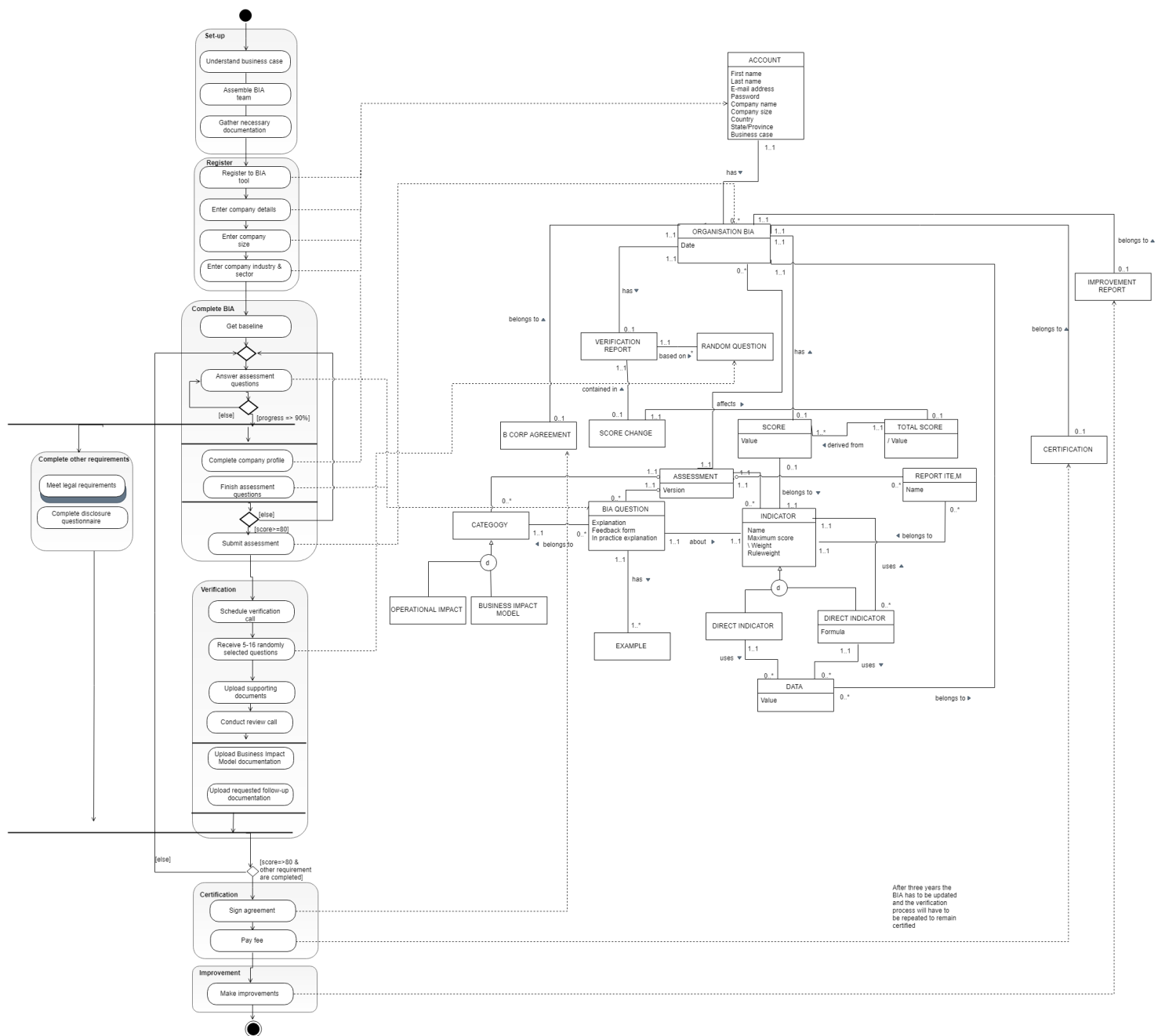
## F Practitioners survey export

In this research we used four different survey types in total.

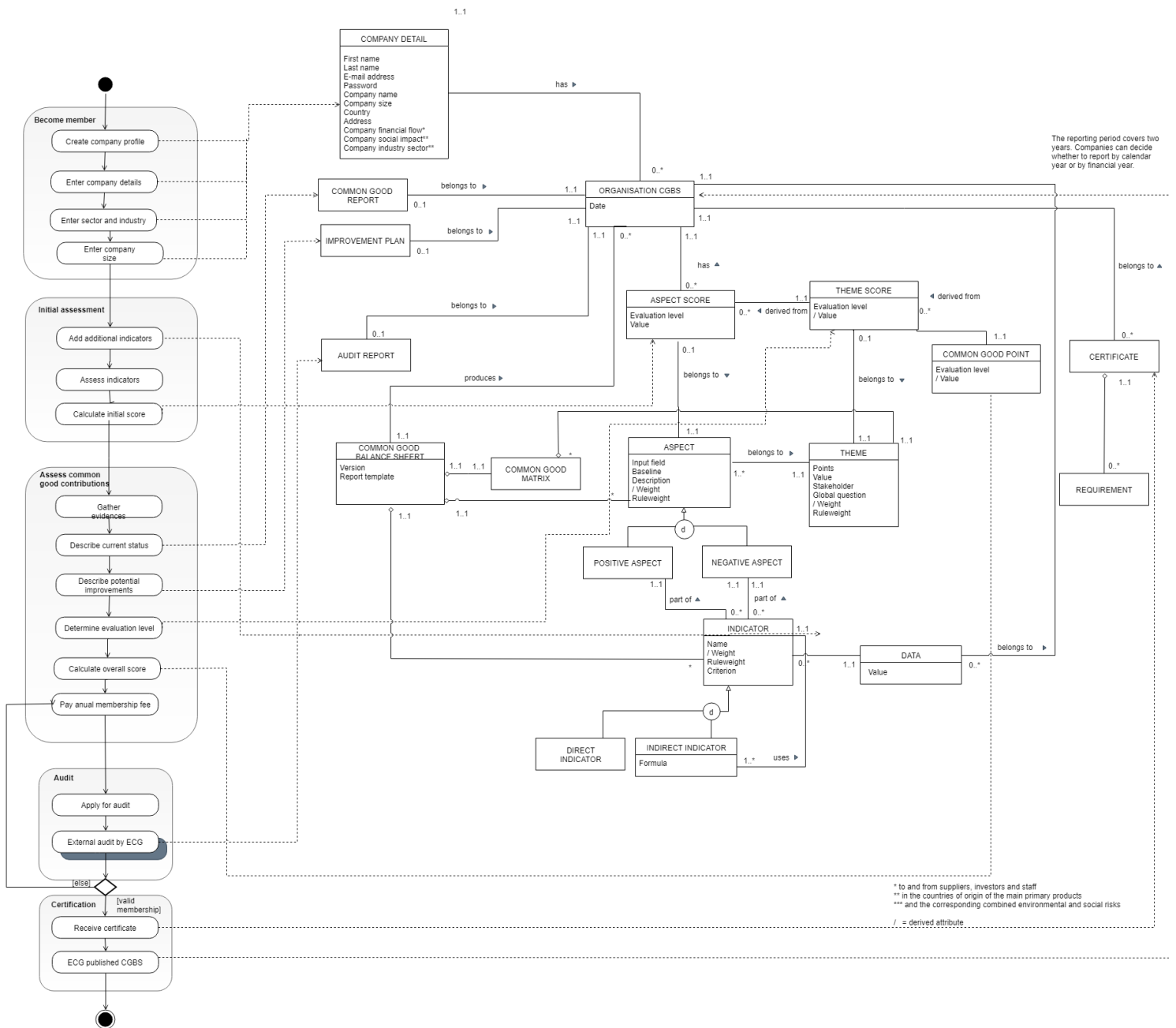
- An online survey for practitioners created in Limesurvey
- An online survey for external auditors created in Limesurvey
- An offline survey for practitioners
- An online survey for practitioners using the new data gathering strategy, created in Limesurvey

In order to sketch an image of what the surveys looked like the survey export is shown on page 70 of this appendix.

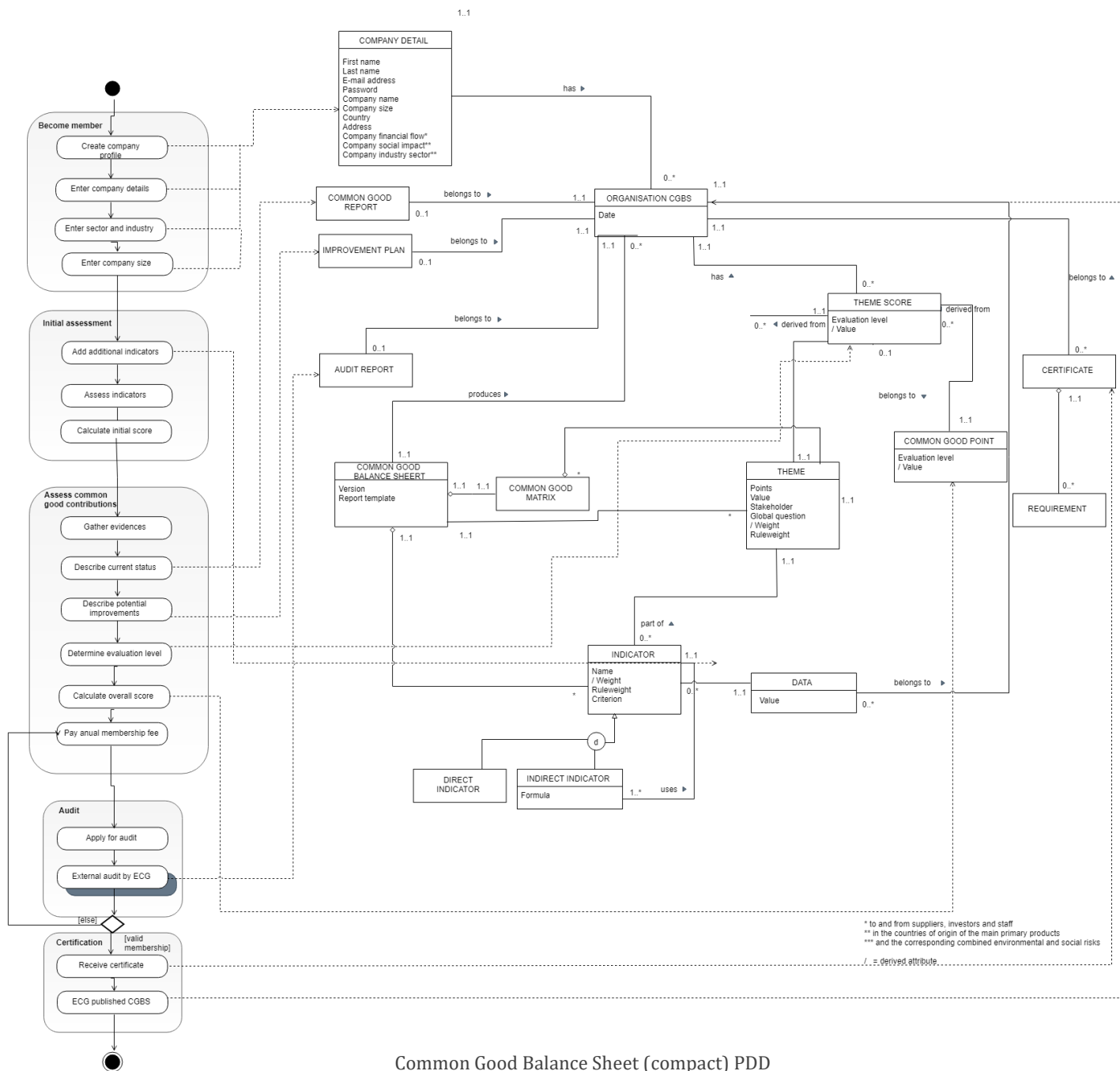




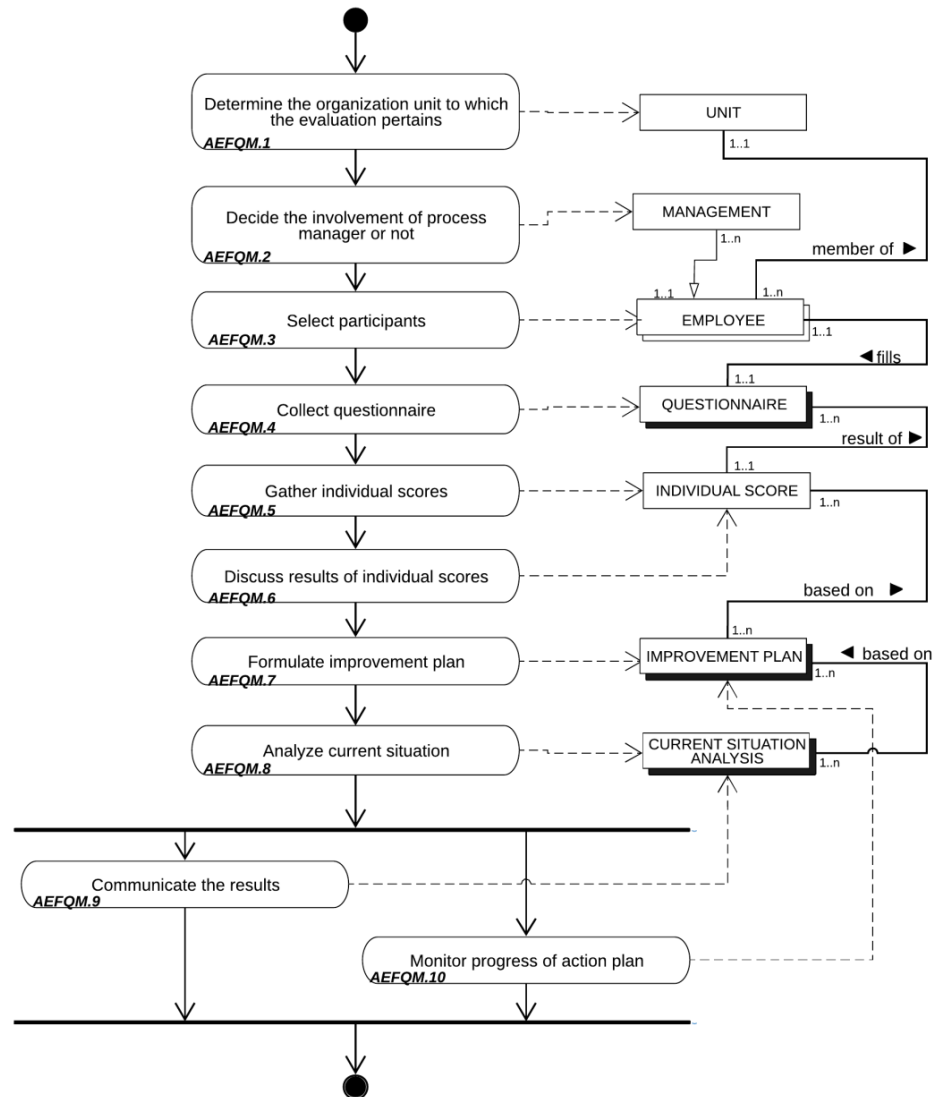
B Impact Assessment PDD



Common Good Balance Sheet (full) PDD

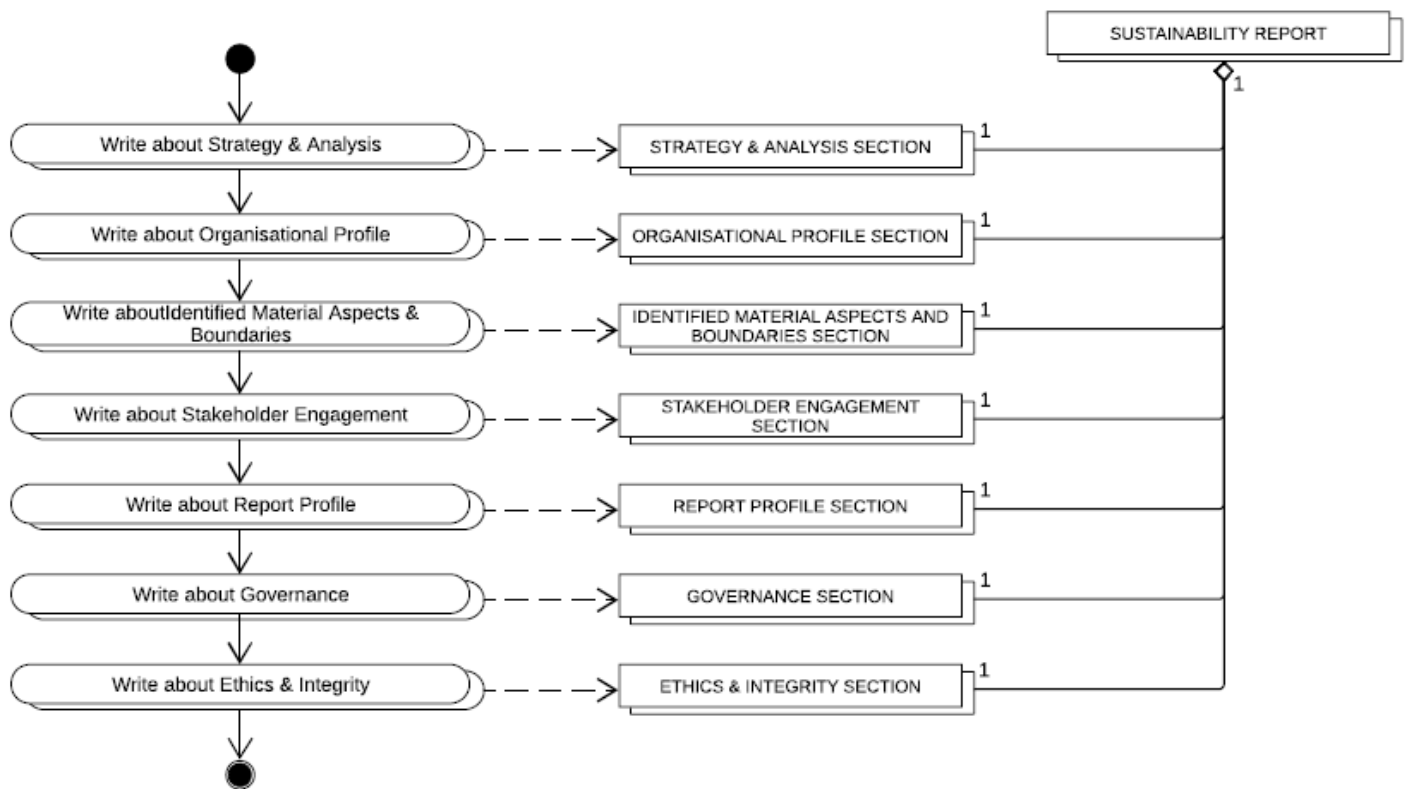


Common Good Balance Sheet (compact) PDD

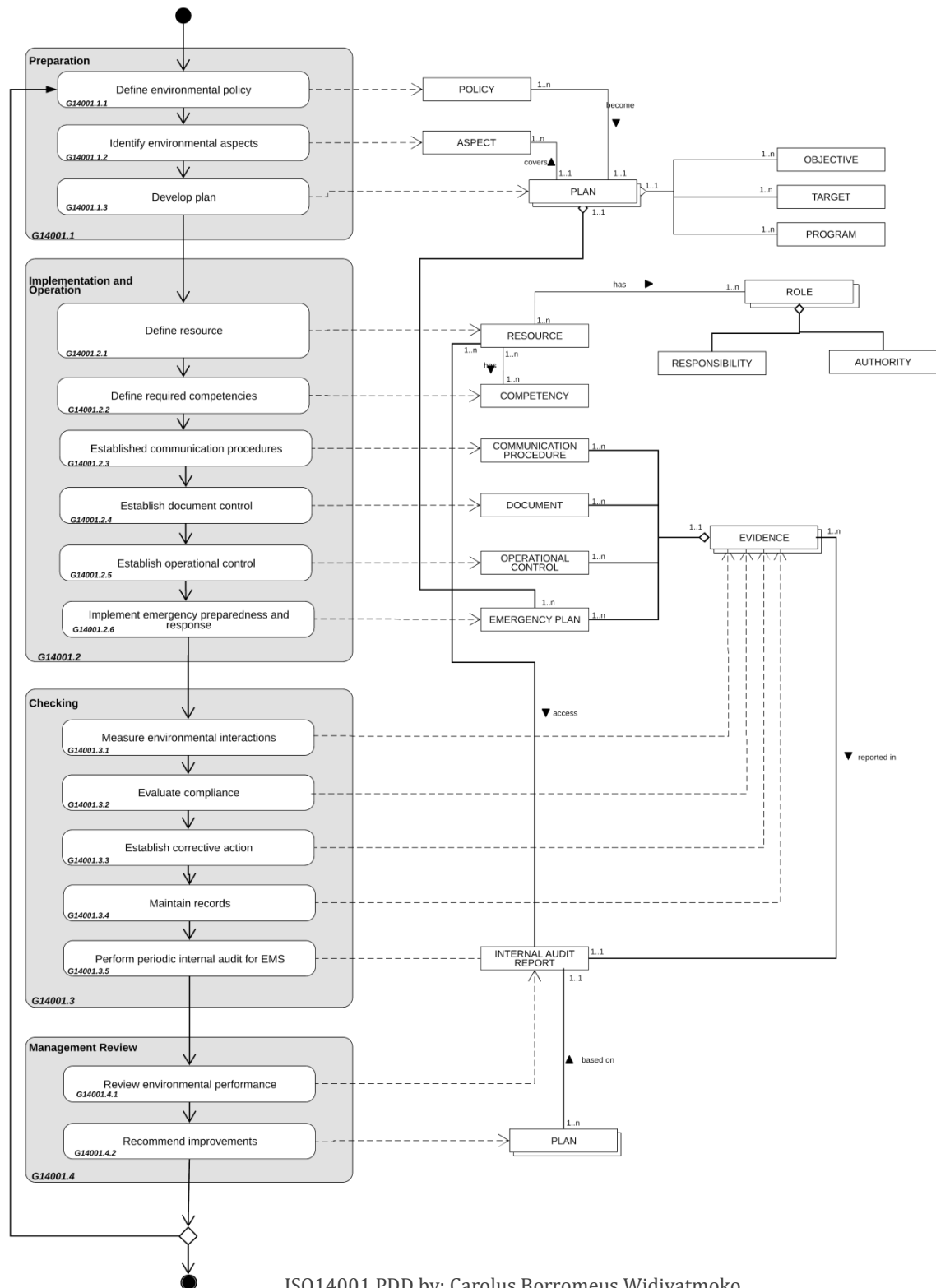


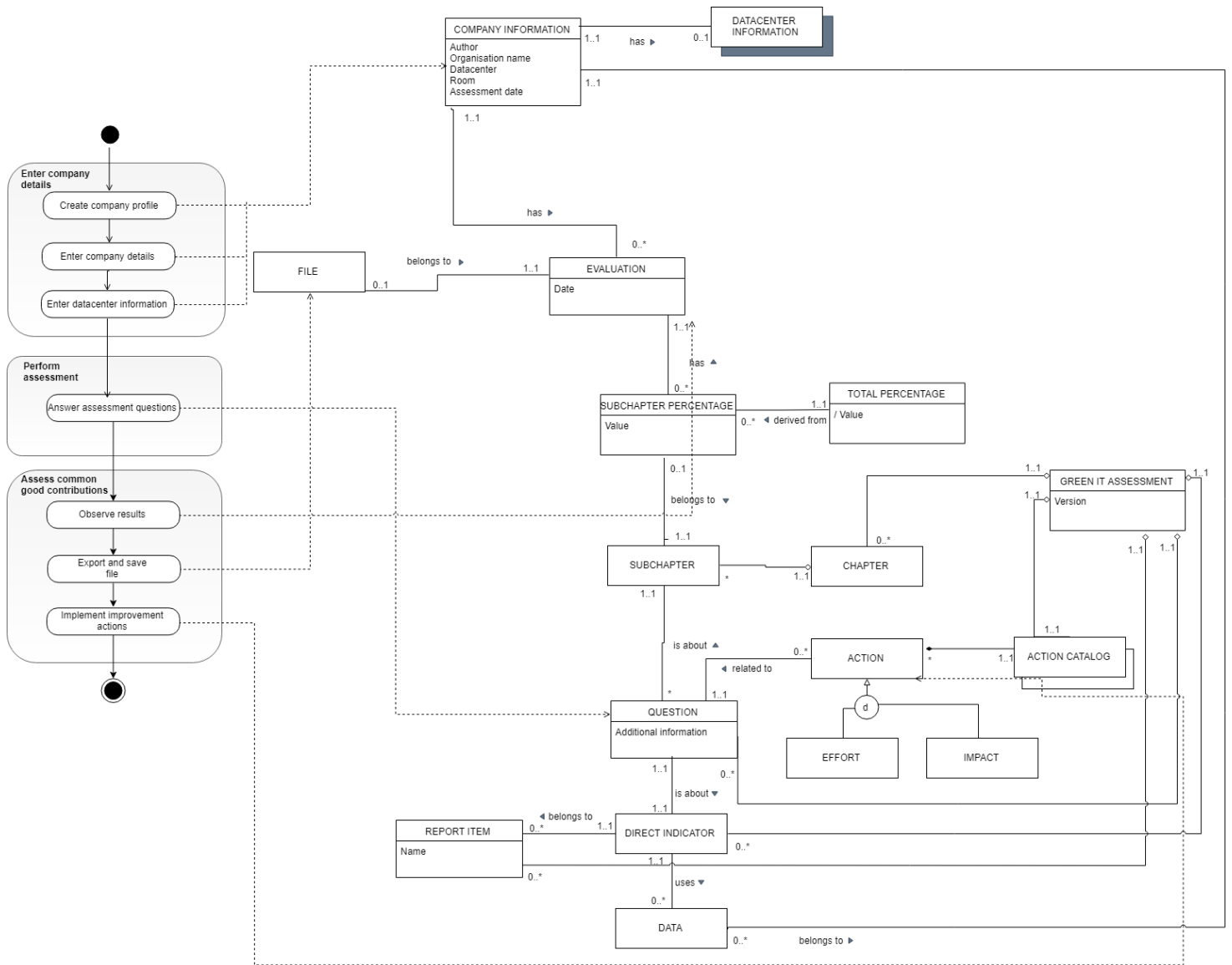
European Foundation for Quality Management PDD by: Carolus Borromeus Widiyatmoko



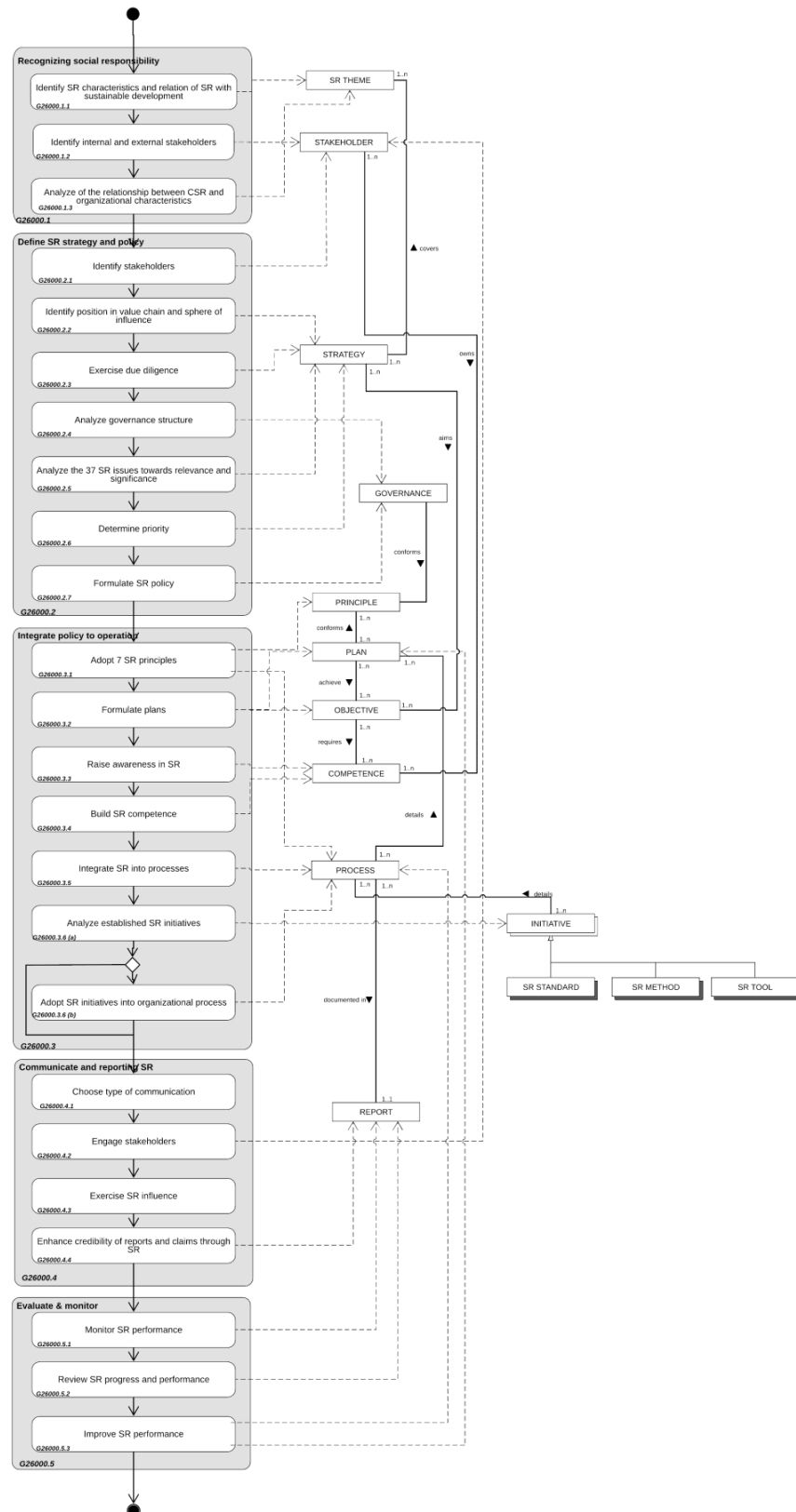


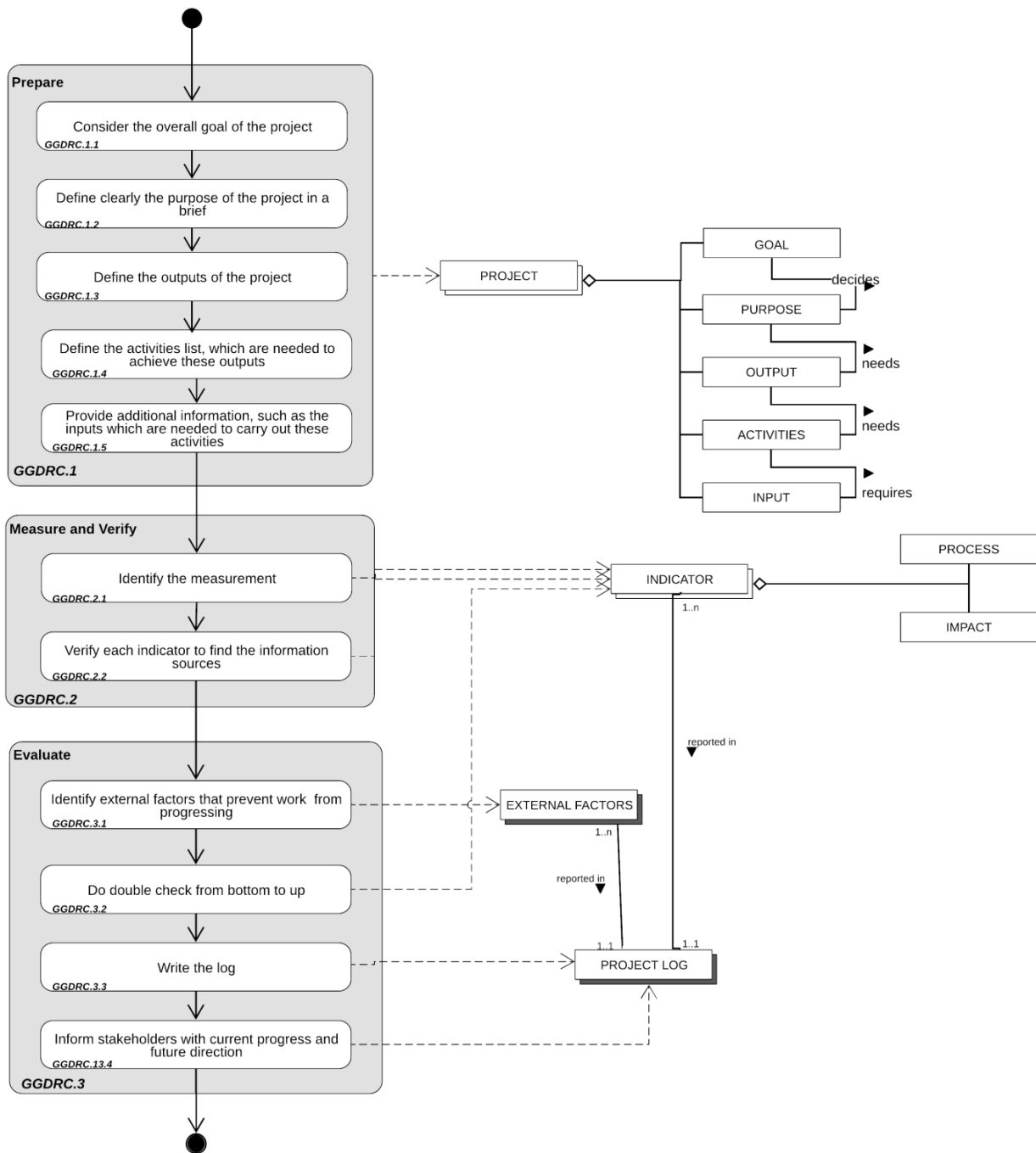
Global Reporting Initiative Standards PDD by: Maarten Smulders

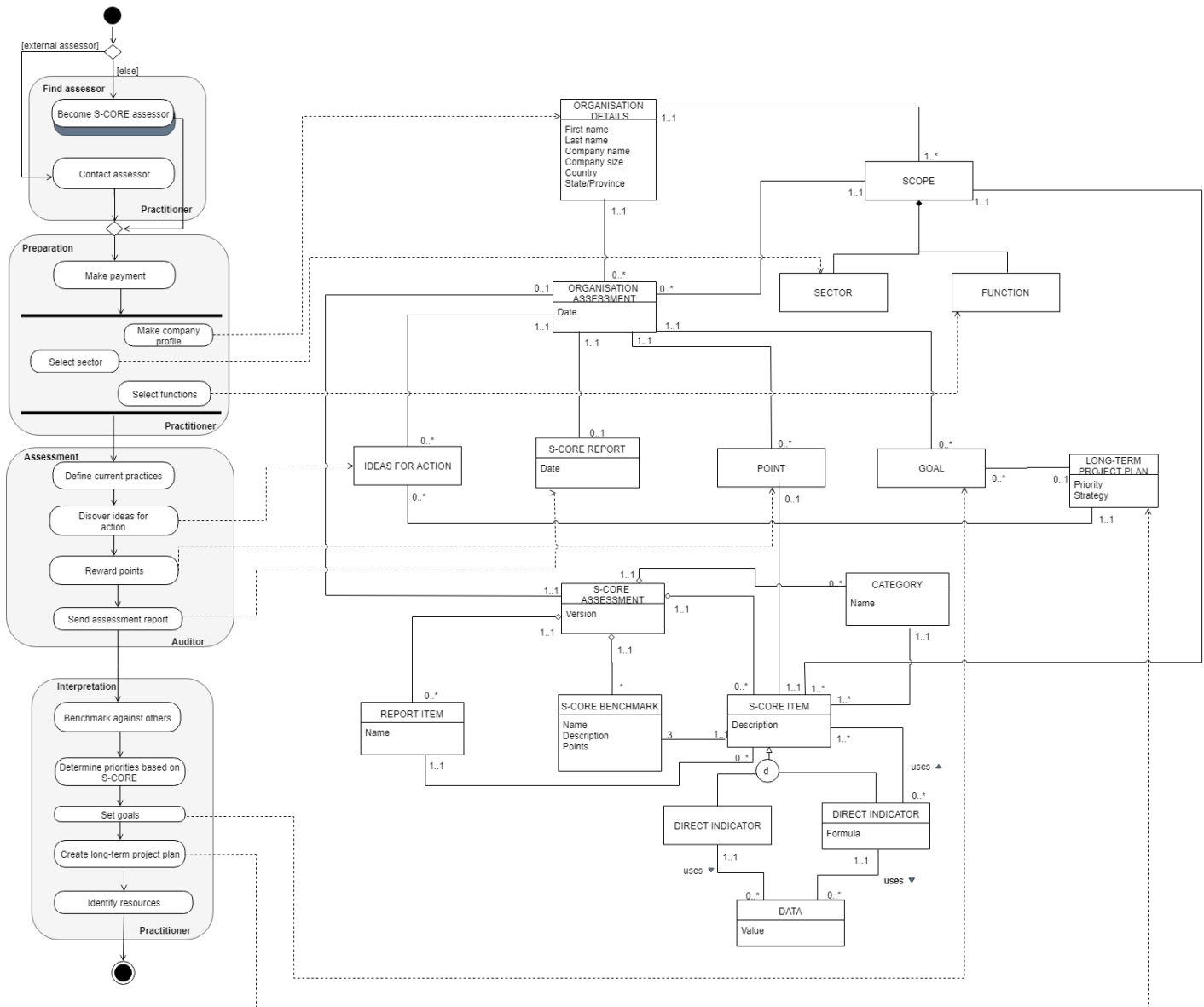




Green IT Assessment PDD

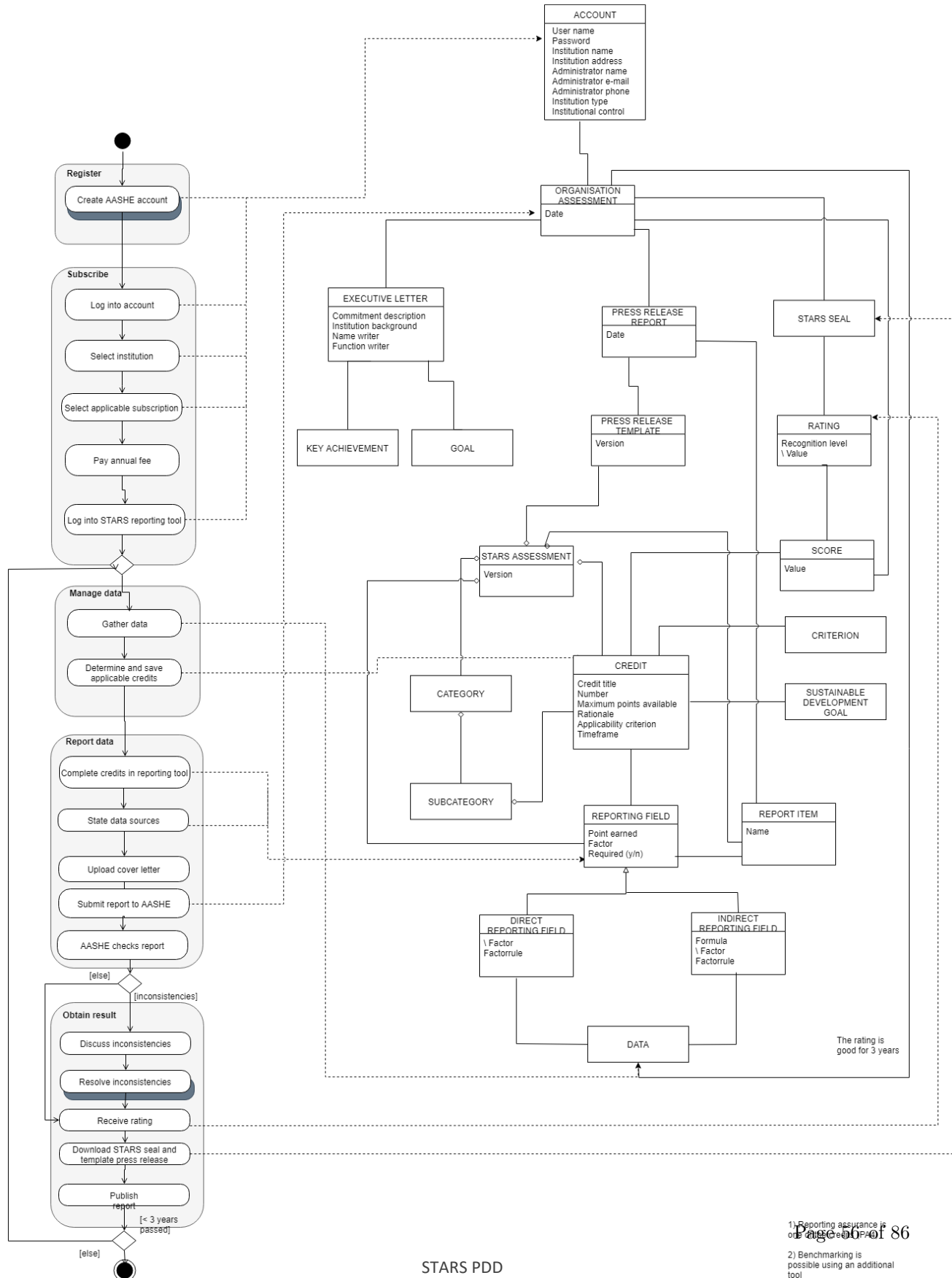




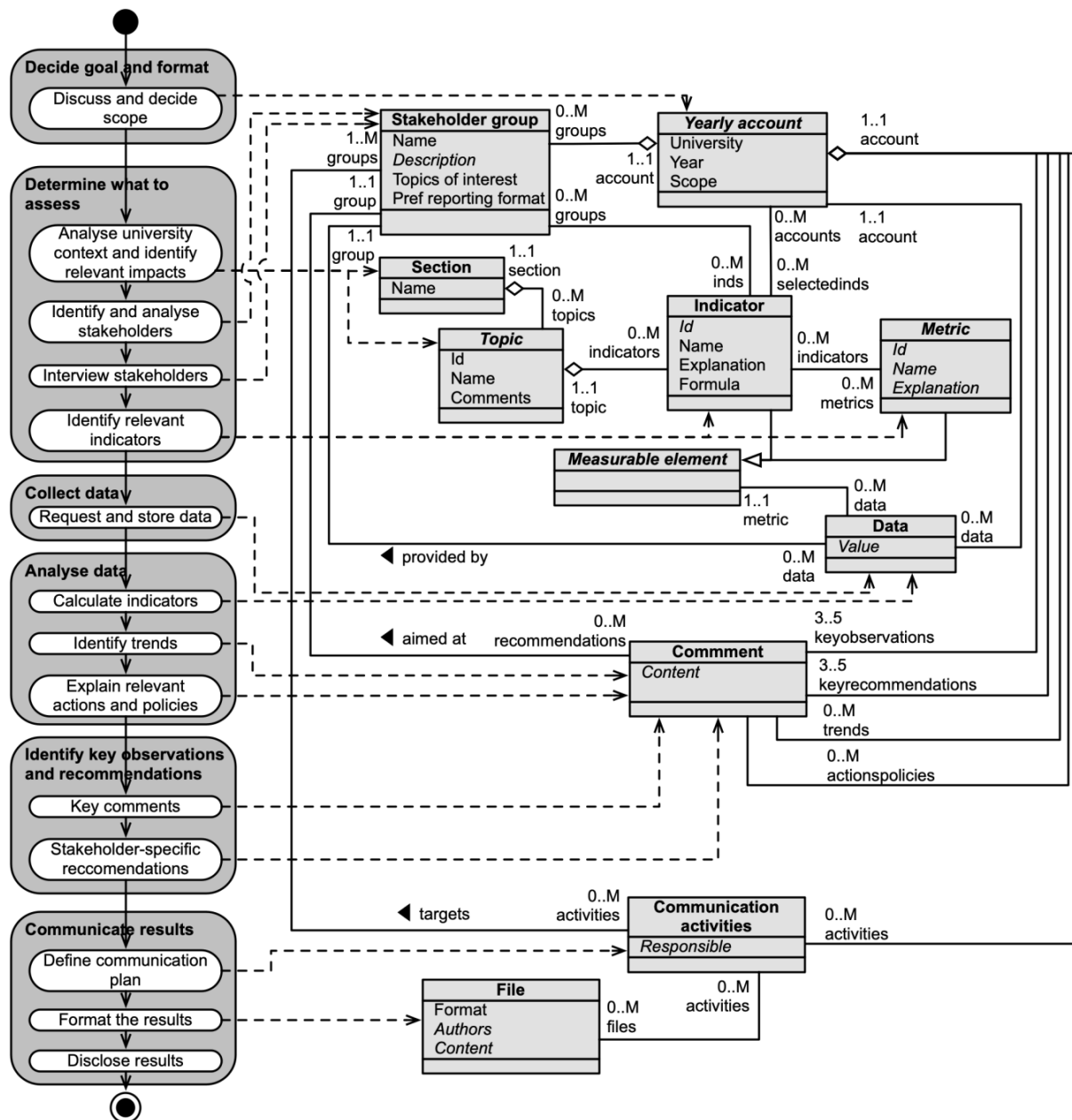


S-CORE PDD

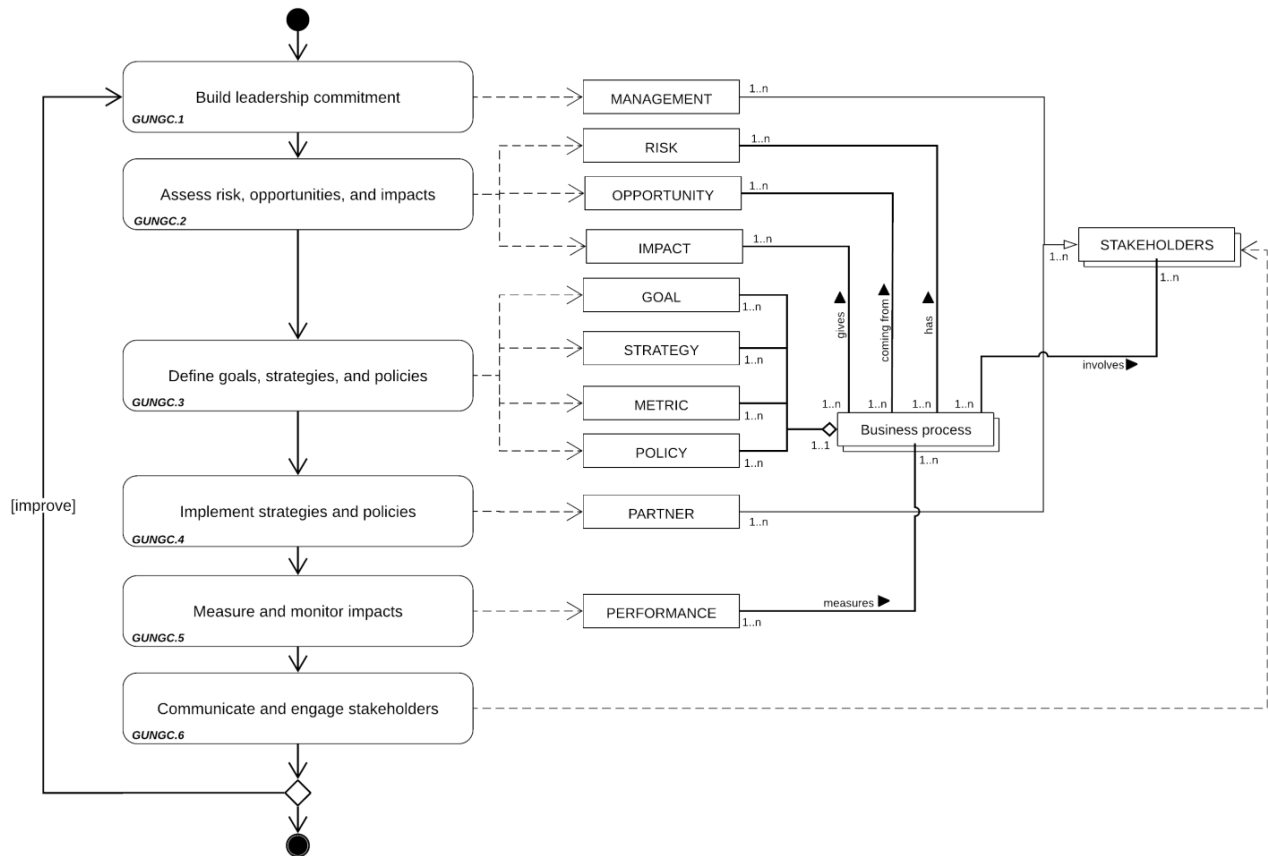








UniSAF PDD by: Dr. Sergio Espña



UNGC PDD by: Carolus Borromeus Widiyatmoko

## G Score range BIA and STARS

For the B Impact Assessment and STARS we were able to find the minimum required scores per certification level. These scores can be observed in Figure 19 and 20



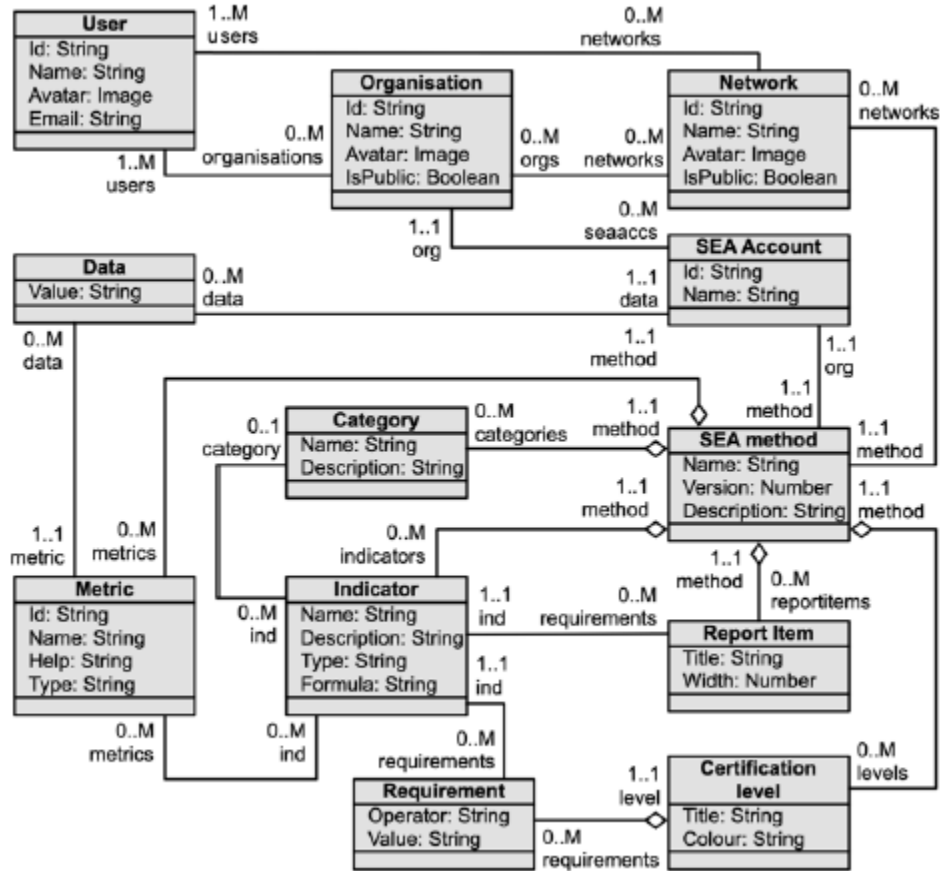
**Figure 19.** Scores for the B Impact Assessment [16]

STARS Rating	Minimum score required
Bronze	25
Silver	45
Gold	65
Platinum	85

**Figure 20.** Scores for STARS [2]

## H Meta-model 1.0

For the first version of the extendable tool a meta-model was created. This meta-model forms the basis for the extended meta-model found in this research. The meta-model can be found in Figure 21



**Figure 21.** Meta-model OpenSEA 1.0 as found in [19]

---

## I Activity tables

The analysis of the SEA methods resulted in a list of generic activities. The generic activities can be explicitly mentioned in the method documentation, implied in the method documentation or not included in the method. Moreover, the activities can be necessary for successfully applying the method or they can be optional. This distinction results in five classifications. These classifications can be found in Table 10. Every generic activity is classified per method. Tables 11, 12, 13 and 14 show the classifications of each activity. For example, the “register to network” activity is not included in AA1000 because AA1000 does not have a network of responsible organisations. On the other hand, registering to the B Impact Assessment network is necessary and it is explicitly mentioned in the documentation, hence the classification shown in Table 11.

**Table 10.** Legend of the activity classification





Symbol	Meaning	Explanation
	Explicitly mentioned & Necessary	The activity is explicitly stated in one of the method artefacts and the execution of the activity is necessary for a successful application of the method
	Implied & Necessary	The activity is <b>not</b> explicitly stated in one of the method artefacts, however it is implied that the activity exists and the execution of the activity is necessary for a successful application of the method
	Explicitly mentioned & Optional	The activity is explicitly stated in one of the method artefacts and the execution of the activity is optional for a successful application of the method
	Implied & Optional	The activity is <b>not</b> explicitly stated in one of the method artefacts, however it is implied that the activity exists and the execution of the activity is optional for a successful application of the method
-	Not included	The activity is not included in the method

Table 11. Method activities (1/4)

Activity	Method							
	AA1000	B Impact Assessment	Common Good Balance Sheet (Full)	Common Good Balance Sheet(Compact)	Green IT Assessment	ISO14001	ISO26000	GDCR
Register to network	-	●	●	●	-	●	-	-
Enter organisation details	○	●	●	●	●	●	-	-
Gather necessary documentation	●	●	●	●	●	●	●	●
Identify stakeholder groups	●	●	●	●	●	●	●	●
Engage stakeholders	●	●	●	●	-	●	●	●
Identify (applicable) indicators	●	- Predefined	● Predefined and additional	● Predefined and additional	- Predefined	●	○ Analyse SRIs	●
Score indicators	● Review principles	● Answer assessment questions	● Score aspects	● Score themes	● Answer assessment questions	● Meet requirements for EMAS	-	● Report on indicators
Prepare assessment report	●	● Automatically generated	●	●	● Automatically generated	●	○	○
Audit	●	● Random question verification	● Peer review or full external audit	● Peer review or full external audit	-	●	-	-

**Table 12.** Method activities (2/4)

Activity <sup>37</sup>	Method							
	AA1000	B Impact Assessment	Common Good Balance Sheet(Full)	Common Good Balance Sheet(Compact)	Green IT Assessment	ISO14001	ISO26000	GDRC
Discover ideas for action	●	●	●	●	●	●	●	●
Identify opposing factors	○	-	○	○	-	○	○	●
Prepare improvement report	●	Automatically generated	●	●	○	●	●	-
Pay fee	●	●	●	●	-	●	-	-
Receive certification	-	● If score $\geq 80$	●	●	-	● If minor or no deficiencies	-	-
Publish results	●	●	●	●	-	●	-	-
Monitor performance	-	●	●	●	●	●	●	●

**Table 13.** Method activities (3/4)

Activity <sup>38</sup>	Method							
	GRI standards	EFQM	S-CORE	SMETA	SDGs	STARS	UniSAF	UNGC
Register to network	●	●	●	●	-	●	● Contact to apply UniSAF in collaboration with rootAbility	●
Enter organisation details	●	●	●	●	-	●	●	●
Gather necessary documentation	●	●	●	●	●	●	●	●
Identify stakeholder groups	●	● Select participants	●	●	●	●	●	●
Engage stakeholders	●	●	●	●	●	●	●	●
Identify (applicable) indicators	● List materiality aspects	● Predefined	- Predefined	● Predefined and additional	● Predefined and additional	○ Predefined and additional	○ Predefined and additional	●
Score indicators	● Report on indicators	● Participants answer questionnaire	● Score S-CORE items	● Report on indicators	● Report on indicators	● Report on credits	● Report on indicators	● Report on principles
Prepare assessment report	●	● Describe current situation	●	● Automatically generated	●	● Automatically generated	● Multiple formats	●
Audit	○	● Internal audit	●	● First, second and third party allowed	-	●	○	-

**Table 14.** Method activities (4/4)

Activity <sup>39</sup>	Method							
	GRI standards	EFQM	S-CORE	SMETA	SDGs	STARS	UniSAF	UNGC
Discover ideas for action								
Identify opposing factors		-						
Prepare improvement report				Automatically generated				
Pay fee	-	-			-		-	 Large companies only
Receive certification	-	-	-	-	-	 If no inconsistencies	-	 Official UNGC can be used on request
Publish results								
Monitor performance								



---

## J Concept mapping to the openSEA2.0 meta-model

In the extended meta-model in Figure 8 we defined classes. We map these classes to the concepts as stated in the method documentation and in the process deliverable diagrams. We do this in order to discover whether the meta-model and the concept part of the PDDs corresponds. Moreover, this provides us with additional information with regards to the terminology used in the domain. The mapping of the classes and concepts can be found in Tables 16, 17 and 18. When a method concept has the same name as the meta-model class we state the concept name in the cell on the intersect of the SEA method and the meta-model class. If the concept has a different name we state the concept name in between brackets. When the concept is not included in the method a dash is shown. This notation is explained in Table 15.

**Table 15.** Concept notation

Notation	Explanation
“CONCEPT”	The concept name is explicitly stated in the method documentation
(“CONCEPT”)	The concept is called not explicitly given a name in the method documentation and therefore a name is made up
-	The concept is not included in the method documentation

**Table 16.** Method concepts (1/3)

Meta-model classname	Method PDD concept					
	AA1000	B Impact Assessment	Common Good Balance Sheet(Full)	Common Good Balance Sheet(Compact)	Green IT Assessment	ISO 14001
SEA method	AA1000AP	B Impact Assessment	Common Good Balance Sheet	Common Good Balance Sheet	Green IT Assessment	ISO14001
Category	Principle	(Category)	Theme	Theme	Chapter	Environmental aspect
Topic	Topic	(Topic)	-	Aspect	Subchapter	-
Indicator	(Indicator)	(Indicator)	Indicator <i>compulsory and additional</i>	Indicator <i>compulsory and additional</i>	(Indicator)	Indicator <i>no prescribed set</i>
Direct indicator	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)
Indirect Indicator	(Indirect indicator)	(Indirect indicator)	(Indirect indicator)	(Indirect indicator)	-	(Indirect indicator)
Data	(Data)	(Data)	(Data)	(Data)	(Data)	(Data)
Report item	(Report item)	(Report item)	(Report item)	(Report item)	(Report item)	(Report item)
Certification	-	B Corp certification	Certification	Certification	-	Certification
Requirement	Criterion	(Requirement)	Criterion	Criterion	(Requirement)	Requirement
Network	Global consulting and standards firm	(Network)	(Network)	(Network)	(Network)	(Network)
SEA account	(SEA account)	(SEA account)	(SEA account)	(SEA account)	(SEA account)	(SEA account)
Organisation	Organisation	Organisation	Organisation	Organisation	Data centre	Organisation
Stakeholder group	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)
Stakeholder	Stakeholder	(Stakeholder)	Stakeholder	Stakeholder	(Stakeholder)	(Stakeholder)
User	(User)	(User)	(User)	(User)	(User)	(User)
Assessment report	Report	(Assessment report)	Common good report	Common good report	Detailed report	(Document) Multiple formats allowed
Audit report	Assurance statement	(Audit report)	Audit report	Audit report	-	Audit report
Suggested ideas for action	-	In practice	(Idea for action)	(Idea for action)	Action	-
Improvement plan	Action plan	Improvement report	(Improvement plan)	(Improvement plan)	(Improvement plan)	(Improvement plan)
Score	-	Score	Score	Score	(Score)	-
Total score	-	B Impact score	Common Good Points	Common Good Points	(Total score)	-

**Table 17.** Method concepts (2/3)

Meta-model classname	Method PDD concept					
	ISO26000	GDRC	GRI standards	EFQM	S-CORE	SMETA
<b>SEA method</b>	ISO26000	GDRC	GRI Standards	EFQM-management model	S-CORE	4-Pilar SMETA audit
<b>Category</b>	Principle	Strategic Sphere	Topic	<ul style="list-style-type: none"> <li>– Organisational area</li> <li>– Performance area</li> </ul>	(Category)	Pillar
<b>Topic</b>	Social responsibility theme	Research programme	Material topic	-	Subchapter	Issue
<b>Indicator</b>	Indicator <i>no prescribed set</i>	(Indicator)	Reporting requirement	Indicator <i>compulsory and additional</i>	S-CORE item	Indicator
<b>Direct indicator</b>	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)	(Direct indicator)
<b>Indirect Indicator</b>	(Indirect indicator)	(Indirect indicator)	(Indirect indicator)	(Indirect indicator)	-	(Indirect indicator)
<b>Data</b>	(Data)	(Data)	(Data)	(Data)	(Data)	(Data)
<b>Report item</b>	(Report item)	(Report item)	(Report item)	(Report item)	(Report item)	(Report item)
<b>Certification</b>	-	-	-	-	-	-
<b>Requirement</b>	-	-	Requirement	-	Benchmark	Criterion
<b>Network</b>	(Network)	Independent non-profit think tank	Network	(Network)	(Network)	(Network)
<b>SEA account</b>	(SEA account)	(SEA account)	(SEA account)	(SEA account)	(SEA account)	(SEA account)
<b>Organisation</b>	Organisation	(Organisation)	Organisation	Organisation	Organisation	Organisation
<b>Stakeholder group</b>	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)
<b>Stakeholder</b>	Stakeholder	(Stakeholder)	Stakeholder	Participant	(Stakeholder)	(Stakeholder)
<b>User</b>	(User)	(User)	(User)	(User)	(User)	(User)
<b>Assessment report</b>	Social responsibility report	-	Sustainability report	(Assessment report)	Assessment report	Audit report
<b>Audit report</b>	-	-	Assurance statement	-	(Audit report)	Audit report
<b>Suggested ideas for action</b>	Action	Initiative	-	Action	Ideas for action	Recommended corrective action
<b>Improvement plan</b>	(Plan)	-	-	Action plan	Long-term project plan	Corrective action plan report
<b>Score</b>	-	-	-	Individual score	Point	Number of NC's
<b>Total score</b>	-	-	-	(Total score)	-	-

**Table 18.** Method concepts (3/3)

Meta-model classname Method PDD concept				
	<b>SDGs</b>	<b>STARS</b>	<b>UniSAF</b>	<b>UNGC</b>
<b>SEA method</b>	Sustainable development goals	STARS	UniSAF	UNGC
<b>Category</b>	Sustainable development goal	Category	Category	Responsibility area
<b>Topic</b>	-	Criterion	Section	Principle
<b>Indicator</b>	Indicator <i>compulsory and additional</i>	Reporting field <i>compulsory and additional</i>	Indicator	(Indicator) <i>no prescribed set</i>
<b>Direct indicator</b>	(Direct indicator)	(Direct reporting field)	(Direct indicator)	(Direct indicator)
<b>Indirect Indicator</b>	(Indirect indicator)	(Indirect reporting field)	(Indirect indicator)	(Indirect indicator)
<b>Data</b>	(Data)	(Data)	(Data)	(Data)
<b>Report item</b>	(Report item)	(Report item)	(Report item)	(Report item)
<b>Certification</b>	-	STARS seal	-	Official logo
<b>Requirement</b>	-	Criterion	-	Requirement
<b>Network</b>	(Network)	(Network)	(Network)	(Network)
<b>SEA account</b>	(SEA account)	(SEA account)	(SEA account)	(SEA account)
<b>Organisation</b>	Organisation	Institution	University	Organisation
<b>Stakeholder group</b>	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)	(Stakeholder group)
<b>Stakeholder</b>	Stakeholder	(Stakeholder)	Stakeholder	Stakeholder
<b>User</b>	(User)	(User)	(User)	(User)
<b>Assessment report</b>	(Report)	Press release report	(Document) Multiple formats	Sustainability report
<b>Audit report</b>	-	(Audit report)	(Audit) Multiple formats	-
<b>Suggested ideas for action</b>	-	(Idea for action)	-	Follow-up action
<b>Improvement plan</b>	(Improvement Plan)	-	(Improvement plan)	(Improvement plan)
<b>Score</b>	-	Score	-	-
<b>Total score</b>	-	Rating	-	-

---

## K Expert insights

This appendix shows a raw list of the expert insights gained from survey responses and interviews. Some insights are method specific whereas other are more general remarks.

### K.1 Advantages of SEA methods

- GRI: It is very comprehensive.
- CGBS: It is very in-depth, broad and very systematic.
- XES Social Balance: A core set of indicators exists in all methods provided by the network, this allows for benchmarking.

### K.2 Disadvantages of SEA methods

- Many SEA methods exist (mentioned three times).
- There is overlap between SEA methods (mentioned three times).
- Some methods are very unclear and contain errors and poor explanations.
- There are no guidelines on how to measure difficult aspects. Especially environmental aspects are hard to measure.
- CGBS: Being able to calculate a score so accurately creates a false idea of precision. It is very hard to explain a difference of one point for example.
- CGBS: Often organisations receive a low score ( $\leq 500$  out of 1000), which results in them being disappointed. A solution could be better expectation management.

### K.3 Advantages of SEA ICT tool support

- The tool is online.
- The tool divides the indicators up in categories.
- The assessment can be paused and resumed at another time or by someone else.
- There is a tab that explains all indicators and the correct way to report the data.
- Excel sheets: Easy to operate and users are familiar with it.

### K.4 Disadvantages of SEA ICT tool support

- Calculating a score can promote greenwashing.
- No concrete improvement actions are provided by the tool (mentioned twice)
- The tool support only allows surveys to be sent to predefined stakeholder groups.

### K.5 Improvements of SEA ICT tool support

- Automated processes (e.g. by improving integration between different tools (mentioned two times)).
- Appealing interface
- Offer a concrete result to help define improvement commitments.
- Simulate an improvement and observe how it affects other topics and indicators.
- Pressure mechanism (e.g. x number of people fill in the Common Good Balance Sheet with public data after which it is sent to the organisation in question. Then the organisation can reply whether they agree or not).
- A mobile application.



**This survey is part of an ongoing investigation at the University of Utrecht (Netherlands). We seek better understanding of social and environmental accounting practices in organisations (either for-profit companies or non-profit entities). We favour to publish the results in scientific journals and develop methods and tools, to be distributed through free and opensource licenses.**

**Responsible for this research are Vijanti Ramautar and Sergio España. You can contact us at [v.d.ramautar@students.uu.nl](mailto:v.d.ramautar@students.uu.nl) and [s.espana@uu.nl](mailto:s.espana@uu.nl), respectively. .**

**to ask any questions concerning this investigation, request to dismiss the information you've given us previously delivered, find out how you can participate more actively in this investigation, or request a copy of the results of this research when available.**

**In the results we publish, we will maintain the anonymity of individuals, companies or entities whose data we collect through this survey. Meaning, we only offer generic profiles that can explain the results, but the results will not be traceable to any person, company or entity in particular.**

**Respondents will be thanked with a generic appreciation in the resulting scientific publications.**

**We would also like to clarify that, with this research, we do not intend to make any judgments on companies and organizations practicing social auditing, but to learn about the current state of these practices and possibilities for improvement of existing methods and tools.**

**You can, at any moment, decide not to submit your responses to this survey (in which case, we will not collect any data from you). If you have already submitted the responses, then you can request that we delete your data by writing an e-mail to [v.d.ramautar@students.uu.nl](mailto:v.d.ramautar@students.uu.nl) (you do not need to provide us any reasons for this request). In case of the latter, please state the date and approximate time of submitting the survey in your e-mail.**

**If you ever took part in the social account of your organization please continue with this survey. If you are part of an external consulting team, performing the social and environmental accounting for other organizations please navigate to this survey <https://bit.ly/2v8niJY> instead.**

**By proceeding with this survey you indicate that you have read this information and agree to participate in the research. Thanks for your participation!**



## Section A: Demographics

In order to effectively classify and analyse the data gathered from the survey responses we would like to ask you some question regarding you, your role within the organization and the organization itself.

**A1. What is the name of the organization/enterprise you work for?**

**A2. What is the size of the organization?**

Micro: less than 10 people ☐

Small: 10 - 49 people ☐

Medium: 50 - 249 people ☐

Large: 250 or more people ☐

**A3. What is/are your role(s) within the organization (e.g. president, director of human resources, department secretary)?**

**A4. For how many years have you fulfilled this/these role(s) within the organization?**

**A5. Is your company considered a social organization or social enterprise?**

Yes ☐

No ☐

**A6. Why is the company considered a social organization or social enterprise?**



**A7. Why is the company not considered a social organization or social enterprise?**

## Section B: Motivation

This section aims to discover the motivation of your organization for applying socio-environmental auditing practices. By social and environmental accounting (SEA), we refer to the process that an organization (e.g. company or entity) performs in order to assess and (sometimes) publish a report on their social responsibility, the ethical governance and behavior of the organization and / or their performance on environmental and social sustainability. We are aware that, in your organization, this practice might receive a different name. There are numerous methods and supporting tools.

If your organization still does not apply SEA, please answer the following questions having in mind your motivations and plans to start carrying it out

**B1. Which of the following reasons were motivations for participating in SEA practices? If you would like more information about a reason, use your mouse to hover over the reason.**

	1 Not a reason at all	2	3	4	5 Main reason
Pressure from the public (e.g. consumers and shareholders)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To become part of a space that is reserved for organizations who apply the method	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure through trade linkage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the result for marketing purposes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the result to attract human capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify areas in which the organization can improve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the results to manage the organization at the strategic level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowing the extent to which the organization meets the ethical and environmental values persecuted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using the results to account for the impact of actions after receiving funding from public organizations or ethical investment funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To obtain a certification or fulfill the requirements of a network of responsible organizations of which the organization is (or wants to become) member	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To comply with a law or governmental obligation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





**B2. Are there any other reasons? Please discuss them briefly.**

**B3. Who initiated the idea to start a social and environmental accounting (e.g. CEO, clerk, an external stakeholder)?**

## Section C: SEA team

The following question will be about the social and environmental accounting team and the roles involved.

**C1. Is the social and environmental accounting performed by an internal (in house) or external team (e.g. hired consultancy)?**

Internal ☐

External ☐

**C2. `$(document).on('ready pjax:scriptcomplete',function() {  
$('#question297 ul.answers-list li:eq(0) input:text').remove();  
$('#question297 ul.answers-list li:eq(1) input:text').remove();  
$('#question297 ul.answers-list li:eq(2) input:text').remove();  
$('#question297 ul.answers-list li:eq(3) input:text').remove();  
$('#question297 ul.answers-list li:eq(4) input:text').remove(); });`  
Which roles are involved in the internal SEA team?**

Social accountability manager ☐

Comment

Economic accountability manager ☐

Comment

Environmental accountability manager ☐

Comment



Senior sustainability officer

☐

Comment

Internal auditor

☐

Comment

Other role:

☐

Comment

Other role:

☐

Comment

Other role:

☐

Comment

Other role:

☐

Comment

Other role:

☐

Comment



C3. `$(document).on('ready pjax:scriptcomplete',function() {  
$('#question298 ul.answers-list li:eq(0) input:text').remove();  
$('#question298 ul.answers-list li:eq(1) input:text').remove();  
$('#question298 ul.answers-list li:eq(2) input:text').remove();  
$('#question298 ul.answers-list li:eq(3) input:text').remove();  
$('#question298 ul.answers-list li:eq(4) input:text').remove();  
$('#question298 ul.answers-list li:eq(5) input:text').remove(); });`

Which internal staff members are involved when the social and environmental accounting is performed by an external team?

No internal staff is involved

☐

Comment

Social accountability manager

☐

Comment

Economic accountability manager

☐

Comment

Environmental accountability manager

☐

Comment

Senior sustainability officer

☐

Comment

Internal auditor

☐

Comment

Other role:

☐

Comment



Other role:



Comment

Other role:



Comment

Other role:



Comment

## Section D: SEA method

Social and environmental accounting (SEA) is the process of assessing and reporting the social and environmental effects of a company's economic actions to particular interest groups within society and to society at large. The method to perform this audit can vary. The following section will ask questions about the methods your organization applies.

**D1.** `$(document).on('ready ajax:scriptcomplete',function() {  
$('#question299 ul.answers-list li:eq(0) input:text').remove();  
$('#question299 ul.answers-list li:eq(1) input:text').remove();  
$('#question299 ul.answers-list li:eq(2) input:text').remove();  
$('#question299 ul.answers-list li:eq(3) input:text').remove();  
$('#question299 ul.answers-list li:eq(4) input:text').remove();  
$('#question299 ul.answers-list li:eq(5) input:text').remove();  
$('#question299 ul.answers-list li:eq(6) input:text').remove();  
$('#question299 ul.answers-list li:eq(7) input:text').remove();  
$('#question299 ul.answers-list li:eq(8) input:text').remove();  
$('#question299 ul.answers-list li:eq(9) input:text').remove();  
$('#question299 ul.answers-list li:eq(10) input:text').remove();  
$('#question299 ul.answers-list li:eq(11) input:text').remove();  
$('#question299 ul.answers-list li:eq(12) input:text').remove();  
$('#question299 ul.answers-list li:eq(13) input:text').remove();  
$('#question299 ul.answers-list li:eq(14) input:text').remove();  
$('#question299 ul.answers-list li:eq(15) input:text').remove();  
$('#question299 ul.answers-list li:eq(16) input:text').remove();  
$('#question299 ul.answers-list li:eq(17) input:text').remove();  
$('#question299 ul.answers-list li:eq(18) input:text').remove();  
$('#question299 ul.answers-list li:eq(19) input:text').remove();  
$('#question299 ul.answers-list li:eq(20) input:text').remove();  
$('#question299 ul.answers-list li:eq(21) input:text').remove(); });`  
**Which SEA method(s) does your organization apply?**

ValorSocial.coop (Catalan Federation of Workers Cooperatives) Más información



Comment



AA1000 (AccountAbility series of standards), [Open more information](#)



Comment

B Impact Assessment (B Corp network), [Open more information](#)



Comment

CDP, [Open more information](#)



Comment

Common Good balance (of the economy for the common good) [Open more information](#)



Comment

EFQM (the European Foundation for Quality Management), [Open more information](#)



Comment

Green IT assessment (Swiss Informatics Society), [Open more information](#)



Comment

Measurabl, [Open more information](#)



Comment

Management model of the Global Compact of the United Nations (Global Compact of the UN), [Open more information](#)



Comment

Program Sustainability Assessment Tool (Washington University in St Louis), [Open more information](#)



Comment



Standard ISO 26000 (from the International Standard Organization), [Open more information](#)



Comment

Sedex Members Ethical Trade Audit (the Sedex Supplier Ethical Data Exchange). [Open more information](#)



Comment

Social audit REAS Euskadi (Network for Alternative and Solidarity Economy Euskadi) [Open more information](#)



Comment

Social balance REAS Madrid (Madrid REAS) [Open more information](#)



Comment

Social BALANC of XES (Xarxa d'Economia of Solidària) [Open more information](#)



Comment

Standards GRI (Global Reporting Initiative), [Open more information](#)



Comment

STARS - Sustainability Tracking, Assessment & Rating System (aashe), [Open more information](#)



Comment

S-CORE - Sustainability – Competency, Opportunity, Reporting & Evaluation (International Society of Sustainability Professionals), [Open more information](#)



Comment

Standard ISO 14000 (from the International Standard Organization), [Open more information](#)



Comment



SoFi Software (thinkstep), [Open more information](#)



Comment

Social & Human Capital Coalition, [Open more information](#)



Comment

Social Audit Network (SAN), [Open more information](#)



Comment

Other method 1:



Comment

Other method 2:



Comment

Other method 3:



Comment

Other method 4:



Comment

Other method 5:



Comment



**D2. Why has the organisation chosen to apply these specific methods?**

**D3. How clear are the instructions and guidance for the method(s)?**

	1 Everything is unclear	2	3	4	5 Everything is clear
AA1000 (AccountAbility series of standards), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Impact Assessment (B Corp network), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDP, <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Common Good balance (of the economy for the common good) <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EFQM (the European Foundation for Quality Management), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green IT assessment (Swiss Informatics Society), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurabl, <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management model of the Global Compact of the United Nations (Global Compact of the UN), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program Sustainability Assessment Tool (Washington University in St Louis), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard ISO 26000 (from the International Standard Organization), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sedex Members Ethical Trade Audit (the Sedex Supplier Ethical Data Exchange). <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social audit REAS Euskadi (Network for Alternative and Solidarity Economy Euskadi) <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social balance REAS Madrid (Madrid REAS) <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social BALANC of XES (Xarxa d'Economia of Solidària) <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standards GRI (Global Reporting Initiative), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STARS - Sustainability Tracking, Assessment & Rating System (aashe), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S-CORE - Sustainability – Competency, Opportunity, Reporting & Evaluation (International Society of Sustainability Professionals), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard ISO 14000 (from the International Standard Organization), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SoFi Software (thinkstep), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





	1 Everything is unclear	2	3	4	5 Everything is clear
Social & Human Capital Coalition, Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Audit Network (SAN), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 1:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 2:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 3:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 4:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 5:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**D4. If applicable, can you provide an example of unprecise instructions or guidance?**

**D5. How does your organization decide which ethical and sustainability topics are relevant during the social and environmental accounting?**

Only issues that come predetermined by the method used are considered ☐

In addition to the default topics, provided by the method, we add issues (issues or indicators) that we consider relevant to the organization ☐

Other ☐

Other

**D6. Can you provide an example of the overlapping activities?**



**D7. You have reported that you use more than one SEA method. We want to know the extent to which applying more than one method required unnecessary, redundant efforts from your organisation. If you apply more than two methods, please have in mind the two that overlap the most.**

**Do certain activities in the methods overlap (e.g. for both methods a survey has to be filled in)?**

1 No overlap at all (no common steps)      2      3      4      5 Complete overlap (all steps are exactly the same)

Overlap in process steps    ☐ ..... ☐ ..... ☐ ..... ☐ ..... ☐

**D8. Please indicate the extent to which the method requires you to assess the same sustainability and business ethics topics; that is, whether the same data has to be entered while applying two different methods (examples of data are: number of employees, number of women executives, greenhouse gas emissions in CO2-equivalent tonnes).**

1 No se solapan en absoluto (no hay cuestiones comunes)      2      3      4      5 El solapamiento es absoluto (todas las cuestiones son idénticas)

Overlap in topics    ☐ ..... ☐ ..... ☐ ..... ☐ ..... ☐

**D9. Can you provide an example of overlapping topics?**

**D10. To what extent are the results of the social and environmental account made public?**

	Only people responsible and a limited number of managers know the result	The results are published internally for all employees of the organization	The results are published for the general public
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AA1000 (AccountAbility series of standards), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Impact Assessment (B Corp network), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDP, <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Common Good balance (of the economy for the common good) <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EFQM (the European Foundation for Quality Management), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Green IT assessment (Swiss Informatics Society), <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measurabl, <a href="#">Open more information</a>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	Only people responsible and a limited number of managers know the result	The results are published internally for all employees of the organization	The results are published for the general public
Management model of the Global Compact of the United Nations (Global Compact of the UN), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Program Sustainability Assessment Tool (Washington University in St Louis), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard ISO 26000 (from the International Standard Organization), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sedex Members Ethical Trade Audit (the Sedex Supplier Ethical Data Exchange). Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social audit REAS Euskadi (Network for Alternative and Solidarity Economy Euskadi) Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social balance REAS Madrid (Madrid REAS) Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social BALANC of XES (Xarxa d'Economia of Solidària) Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standards GRI (Global Reporting Initiative), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STARS - Sustainability Tracking, Assessment & Rating System (aashe), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S-CORE - Sustainability – Competency, Opportunity, Reporting & Evaluation (International Society of Sustainability Professionals), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard ISO 14000 (from the International Standard Organization), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SoFi Software (thinkstep), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social & Human Capital Coalition, Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Audit Network (SAN), Open more information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 1:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 2:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 3:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 4:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other method 5:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**D11. In order to gather data for SEA does your organization send out surveys to stakeholders, such as employees, customers, community members, etc.?**

Yes ☐

No ☐



**D12. Can you name three positive aspects about GRI and the B Impact Assessment and three points of improvement for each?**

## **Section E: Tool support**

The following section contains questions about the usage of tool ICT support for SEA methods. There are three types of tools.

ICT tool that is used to support the accounting process and is provided by the organization that developed the social and environmental accounting method (e.g. B Impact assessment online tool). Additional tool has to be used in order to send out surveys to gather data necessary for SEA (e.g. Workplace Dynamics or SurveyMonkey). It might be possible that your organization uses other ICT tool support to perform the social and environmental accounting (e.g. software tools your organization developed themselves).

**E1. Can you list three advantages of the online B Impact Assessment tools you?**

**E2. Can you list three disadvantages of the B Impact Assessment tool?**

**E3. Do you use any other software tools to support the B Impact Assessment? Please elaborate.**



**E4. Which software tools do you use to support the application of GRI?**

--

**E5. Can you list three advantages of these software tools?**

--

**E6. Can you list three disadvantages of these software tools?**

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**E7. If we were to develop an online software tool to support the B Impact Assessment, GRI and many other social and environmental accounting methods, which functionalities should be implemented in your opinion (e.g. automatic report generation, theme and aspect explanations, list of ideas for action)?**

--

**E8. Would you find a tool that could support more than one method useful? Why?**

--



**E9. Is there anything you would like to mention about social and environmental accounting tool support or the methods in general?**

## **Section F: Contact**

Please leave your contact details if you would like to receive a copy of the results of this research, when they are available, or if you give us permission to contact you in case need to ask some follow-up questions.

WE WILL STILL TREAT AND PUBLISH YOUR DATA ANONYMOUSLY, EVEN IF YOU LEAVE YOUR CONTACT DETAILS HERE.

**F1. Please state your full name.**

**F2. Please state your e-mailaddress.**

**F3. Please select the applicable options.**

I would like to receive a copy of the results of this research when available ☐

You can contact me if doubts about the answers or additional questions arise ☐

**F4. If you have any tips, suggestions and/or feedback, please state them below.**

**Thank you for participating!**