



Master's Degree Program in Management

Course of Corporate Strategy

**Evaluation of social performance of suppliers:  
A case study at ENEL S.p.A.**

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## **PREFACE**

*“Our biggest challenge in this new century is take an idea that seems abstract – sustainable development – and turn it into a reality for all the world’s people.”*

*- Kofi Annan*

As destiny provides us the right platform, resources, and knowledge, it becomes our duty to direct those learnings for building a greater future. By means of this thesis, I was able to tackle one of the concerning issues of our generation – ‘sustainability’. It has been enlightening for me to study, analyze and materialize one of the challenging notions of this subject: ‘evaluation of social performance’, and specifically in a domain which is the starting point of commerce, ‘the supply side’.

I would like to thank my family for providing me great teachings and supporting me throughout this path. Your guidance will always be my first and last resort on every challenge in my life.

I would like to express my gratitude to the case company, my tutor and the respondents for their time and availability. The insights provided allowed me to conduct this extensive study. Their constant support and suggestions directed my research righteously.

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Finally, I want to dedicate this research to my husband, my pillar of strength.

# TABLE OF CONTENTS

ABSTRACT.....	5
CHAPTER 1: INTRODUCTION .....	6
1.1 Background .....	6
1.2 Problem indication .....	6
1.3 Theoretical contributions.....	8
1.4 Managerial implications .....	8
1.5 Problem statement and Conceptual Model.....	9
1.6 Research questions .....	9
CHAPTER 2: LITERATURE REVIEW .....	10
2.1 The social side of sustainability .....	10
2.2 Indicators of social sustainability .....	12
2.3 Measuring the indicators of social sustainability .....	15
2.3.1 Employment benefits .....	15
2.3.2 Employment practices and relations.....	16
2.3.3 Health and safety practices and incidents.....	16
2.3.4 Training, education, and personal skills .....	17
2.3.5 Diversity and equal opportunities.....	17
2.3.6 Human rights implementation and integration .....	18
2.3.7 Basic human rights practice.....	19
2.3.8 Social investment index.....	20
2.4 ‘SROI’: a methodology for quantifying social performance.....	20
2.5 Summary .....	25
CHAPTER 3: METHODOLOGY .....	26
3.1 Research strategy: A case study .....	26
3.2 Nature of the thesis.....	27
3.3 Data collection.....	28
3.4 Data analysis.....	29
3.5. Maintaining reliability and validity .....	31
CHAPTER 4: FINDINGS.....	33
4.1 Outlook of social sustainability evaluation of suppliers at ENEL .....	33
4.2 Indicators of social sustainability of suppliers at ENEL .....	35
4.2.1 Indicators of social sustainability of suppliers (combined findings from the case company and literature review) .....	38
4.3 Measuring the indicators of social sustainability at ENEL .....	38
4.4 Quantifying social performance of suppliers (using the SROI technique).....	40
CHAPTER 5: DISCUSSIONS .....	45
5.1 Conclusions .....	45
5.2 Theoretical contributions.....	46
5.3 Managerial implications .....	47

5.4 Limitations and future research.....	48
REFERENCES .....	49
APPENDIX.....	55
APPENDIX 1 – Interview Protocol .....	55
APPENDIX 2 – Questionnaire Protocol .....	57
APPENDIX 3 – Interview example (Interview 3) .....	59
APPENDIX 4 – Coding Scheme.....	63

## TABLE OF FIGURES

Figure 1 – Conceptual Model.....	9
Figure 2 – The five stages of SROI.....	22
Figure 3 – Framework for social performance evaluation.....	25
Figure 4 – Data analysis plan.....	31
Figure 5 – Framework for evaluating social performance of suppliers.....	47

## TABLE OF TABLES

Table 1 – Indicators of social sustainability.....	13
Table 2 – Comparative analysis of techniques to quantify social sustainability.....	23
Table 3.1 – Social sustainability indicators at ENEL - Human rights.....	35
Table 3.2 – Social sustainability indicators at ENEL – Health.....	36
Table 3.3 – Social sustainability indicators at ENEL - Safety.....	37
Table 4 – Social sustainability indicators (combined results).....	38
Table 5 – Numerical metrics of social sustainability indicators at ENEL.....	39
Table 6 – Metrics of social sustainability indicators (combined results).....	40
Table 7 – Weighted preference for social sustainability indicators (recorded at ENEL).....	42
Table 8 – Applied framework for evaluating social sustainability of suppliers (prepared for the case company).....	43

## **ABSTRACT**

The thesis discusses one of the crucial topics regarding the extensive subject of supply chain management: the process of supplier evaluation and selection under the sustainability lens. In particular, the study is focused on the aspect about social responsibility derived from the suppliers that a company aims to work with. The study is conducted as a case study at the Italian company producing and distributing electricity, namely ENEL S.p.A.

In the beginning, the study analyses the company's different aspects, starting from its brief history. Deriving from the goals of the case company, one of the main aspects that regulates their actions, i.e., how they evaluate their suppliers, is analysed. The strategy and framework implemented by ENEL for its sustainable supplier selection process is elaborated, focusing on the social index. Subsequently, the structure of a framework, to evaluate social sustainability of suppliers, is proposed using three main aspects: indicator selection, measurement of the identified indicators and quantification of the overall social performance of a supplier.

The already existing literature regarding social side of sustainability is presented, pointing out the gaps in literature and research possibilities. Further analysis is done to retrieve applicable indicators, their metrics, and quantitative techniques for measuring social performance of suppliers. The viably practical quantitative technique, i.e., 'SROI' is applied in this research.

A uniform approach, considering these three aspects, is then undertaken empirically. The case study conducted at ENEL extracts information related to indicators and metrics applied at the firm. Comparative analysis of the case findings with the data obtained through literature leads to combined results, generating novel contributions for each sector. New indices in terms of indicators and related metrics are proposed for the case company. Three unique indicators, extracted solely from the case findings act as additions for theory. The proposed modifications to the SROI technique, in terms of its numerator and denominator, contribute towards literature and extend SROI's applicability to the domain of suppliers. Resultantly, a complete framework for social performance evaluation is proposed by combining all the addressed aspects of study. Areas of future research are pointed out to guide further analysis in different industries as well as direction for refinement of SROI terms.

## CHAPTER 1: INTRODUCTION

### 1.1 Background

The company scrutinized in this study is an Italian utility operating in the field of electricity production and distribution, namely ENEL S.p.A. ENEL was initially established as a public organization and transformed into a limited body (Jannuzzi, 2006). The multinational firm has operational presence in Europe, North America, Latin America, Africa, Asia, and Oceania. The company employed 66, 279 people as of 2021 (Company Financial Report, 2022).

ENEL produces electricity and trades electric energy and natural gas, green certificates, and CO2 emission rights. One of the company's principal objectives is to strive towards sustainability and become the world's largest producer of renewable energy (*Corporate Vision: Values and Objectives / ENEL, 2022*). As a result, the firm produces electricity from a number of energy sources including geothermal, wind power, solar power, hydroelectric power, and thermal generation.

As remarked by Abu-Rayash & Dincer (2019), energy has become a crucial and valued entity in the 21<sup>st</sup> century and sustainable development is a significant highlight of this industry. Likewise, sustainability reporting remains a crucial factor for the company, and one of its first and important steps towards sustainability concerns the notion of supplier selection (Mio & Fasan, 2013).

### 1.2 Problem indication

The company under analysis incorporates the principles of sustainability into its supplier selection process. ENEL commits to loyalty, transparency, and collaboration as hallmarks of its procurement processes and aims for establishing a sustainable supplier base (*A Sustainable Supply Chain / Company name, 2022*). ENEL has put up in place a rigorous double-gate supplier selection strategy whereby suppliers are chosen in a two-step process. The first stage, also known as the 'qualification stage', concerns qualifying to the vendor's list. The second or the 'tender stage' is getting finalized to supply for the company. In the first stage, potential suppliers are examined on criteria which also includes sustainability factors such as occupational health and safety, and human rights. During the second stage, the company assesses selected suppliers again for related requirements to promote responsible practices, after which contracts are finalized. Additionally, the compliance with all such requirements is

monitored throughout the course of contract. According to company reports, 99% of the ENEL's suppliers have been assessed based on their commitment to health, safety, and environmental factors, with 59% contracts covered by Carbon Footprint certification (*Sustainability Report, 2021*).

Although the supplier selection process is in place, the company has sought to face certain issues concerning the 'social' aspect of sustainability. Concerns regarding the indicators and measurement of 'social-performance' of suppliers have been expressed. Boström (2017) points out that the social dimension of sustainable development receives less attention and is particularly challenging to materialize and operationalize. Hubbard (2009) also observed that when compared to environmental measurements, there is a paucity of social measurement, making it challenging to evaluate social performance at the company, industry, or cross-sectoral level. With the social index being quantitatively more difficult to measure, this poses problems for companies in ensuring a reliable sustainability approach. Therefore, this study aims to focus on the 'social' aspect of sustainable supplier selection. In particular, the objective is to identify the indicators of social performance of suppliers and how to measure them in order to improvise sustainable supplier selection at the company. Although ENEL has certain social indicators in place concerning aspects of health, safety, and human rights, various others can be added after conducting academic research (*Sustainability Report, 2021*). Also, as these indicators could use more elaborate metrics of measurement, the firm seeks refinement with more explicit indicators as well as their defined ways of measurement (Cova & Pace, 2006).

Boyd, J. (2004) elaborated a method for measuring social outputs and evaluating social outcomes in monetary terms, namely SROI (Social Return On Investment). This is a further step to quantify social performance and express social sustainability in a quantitative form. But traditionally, such methods have been confined to single projects or organizations, analysing certain listed factors of sustainability (Maier et al., 2014). This study intends to extend the measurement of social sustainability of suppliers and additional factors, attained from academic research and company findings, shall be inculcated in these methods.

### **1.3 Theoretical contributions**

By means of this study, the under-researched topic of social sustainability shall be addressed (Seuring & Müller, 2008). Novel findings obtained from the study at case company provide three new indices for social sustainability, which will be shown in section 4.2. Secondly, the application of SROI technique to the domain of suppliers and the proposed modifications regarding the same also provide fresh insights for the concerned topic. Thirdly, this study provides a complete framework of social performance evaluation, and attempts to tackle the issue of operationalizing social sustainability (Boström, 2017). These novel aspects deliver contributions for theory and elements which can be researched further.

### **1.4 Managerial implications**

From a corporate point of view, the study aims at developing solutions for effective supplier evaluation, especially addressing the aspect of social sustainability. By enlisting the indicators, metrics, and quantification technique, the case company is benefitted with a refined framework for evaluating social performance of suppliers. In addition to the social sustainability indicators already adopted by ENEL, additional indicators and metrics will be proposed through literature. Moreover, the combined analysis of these indices and application to the SROI technique, provide a robust structure for evaluating social performance of suppliers objectively and selecting them more responsibly. The contributions would be applicable to other firms of the industry as well as further sectors, with companies gaining additional insights into one of the challenging practices of the supply chain sector (Boström, 2017).



## 1.5 Problem statement and Conceptual Model

Based on the developed analysis, the problem statement is:

*How can social performance of suppliers be evaluated (indicators, measurement, quantification) to improve the supplier evaluation framework?*



*Figure 1 - Conceptual Model*

Indicator: a sign of performance over time for a specific objective, e.g., ‘health and safety’ is an indicator of social sustainability.

Measurement: means to track, monitor, and assess the indicator, e.g., the indicator ‘health and safety’ can be measured by metrics such as ‘number of accidents’.

Quantification: in this study, the step of quantification concerns combining measured indicators into a framework and expressing the overall social performance of a supplier in numeric terms.

## 1.6 Research questions

The corresponding research questions are:

### Theoretical RQs

RQ1: Which are the indicators of social sustainability of suppliers?

RQ2: How to measure the indicators of social sustainability?

RQ3: How to evaluate (quantify) the social performance of suppliers?

### Empirical RQs:

RQ1: Which are the indicators of social sustainability of suppliers of ENEL?

RQ2: How to measure the indicators of social sustainability of suppliers of ENEL?

RQ3: How to evaluate (quantify) the social performance of suppliers of ENEL?

## **CHAPTER 2: LITERATURE REVIEW**

Considering the issue at hand, and explicated problem of the case company, this chapter addresses the literature review of the subject. At first, the social aspect of sustainability is explained in section 2.1, outlining its importance and under-researched issue of the topic. Thereon, in part 2.2, the research about indicators of social sustainability is elaborated and the selected indicators are enlisted, addressing the first research question of our research. In section 2.3, ways of measuring these indicators are described, corresponding to the second research question. Finally in the subtopic 2.4, as an attempt to answer the third research question, one of the quantification techniques of social performance, i.e., the SROI methodology is explicated.

### **2.1 The social side of sustainability**

Sustainable development is defined by the World Commission on Environment and Development (WCED) in the Brundtland Commission Report (1987, p. 8) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. As remarked by Romagnoli et al., (2023), different factors should be taken into account when determining how to gauge sustainability. One prevalent concept of sustainability that is particularly common, employs three interconnected pillars which include social, environmental, and economic goals. These three pillars are sought to jointly symbolize and promote human development (Purvis et al., 2018). Additionally, sustainable supply chain management has become more important as consumers' awareness of the benefits of adopting sustainable practices has grown in recent years, prompting companies to focus their efforts in this area (Porkar et al., 2020).

With sustainability being a gravitating notion of discussion in modern times, it still remains as a topic requiring better understanding and research. In many instances, discussions on sustainable development appear to be primarily focused on its economic and environmental facets while ignoring its social component (Åhman, 2013; Anand & Sen, 2000; Woodcraft, 2015). Instead of receiving attention as a sustainability factor in itself, social dimensions of sustainability have mostly been explored in terms of being a cause of or potential solution to environmental concerns (Littig & Griessler, 2005). As stated by Boström (2017), the social dimension of sustainability attracts less attention and one of the reasons is its difficulty to realize and operationalize. Hubbard (2009) also observed that when compared to

environmental measurements, there is a paucity of social measurement, making it challenging to evaluate social performance at the company, industry, or cross-sectoral level.

However, the social dimension of sustainability is becoming more recognized in recent years and as a result, there is a wide body of literature discussing social sustainability in a variety of disciplines, such as supply chain management (Kim et al., 2019). A supply chain is composed of a number of actors and stages, and the sustainability of the chain is dependent on the sustainability of individual actors. One of the crucial steps for ensuring a sustainable supply chain is accounting for sustainability at the initial stage of supplier selection (Hutchins & Sutherland, 2008). Buying companies have grown to be interested in ensuring social responsibility in supply networks as failing to comply with this has been evident to harm a company's reputation and shareholder worth, evident through many instances (Kim et al., 2019). For instance, Nike faced intense public criticism after being discovered using child labor in supplier facilities (Zadek, 2004). Starbucks was likewise subjected to heavy media scrutiny and public outcry after claims that their coffee farmers were treated unfairly (Argenti, 2004). Apple faced media backlash as a result of a number of high-profile worker suicides at its supplier, Foxconn, whose factory workers in China experienced job insecurity and long hours of labor in subpar conditions (Dean & Tsai, 2010).

Therefore, there is increasing need for businesses to ensure effective practice of social sustainability and especially address this in the early phases of supplier evaluation and selection. As remarked by Salam (2009), ensuring socially responsible operations while sourcing can affect a firm's sales revenue, by influencing stakeholders' perception of the firm. So, this study is also directed to research and contribute towards such an essential notion of social responsibility with respect to the supplier selection process.

To contemplate this notion, it is essential to start by defining the social dimension of sustainability. Being such a vast topic, it has multiple established definitions, but one of the knowingly recognized elucidation is presented by the UN Global Compact, whereby social sustainability has been defined as a process about identifying and managing business impacts, both positive and negative, on people (*Social Sustainability | UN Global Compact, 2022*). Furthermore, another elaborate and accepted definition is presented by Woodcraft (2015) of social sustainability as a practice for creating sustainable places that promote wellbeing, by understanding what people need from the places in which they live and work. Nevertheless, in

order to operationalize these notions of societal well-being, it is essential to materialize the concepts practically, and this can be done in mainly three steps. Firstly, the factors which exhibit and exemplify social responsibility of a firm have to be identified, namely the indicators. Secondly, it is important to elaborate the measurement of such indicators, to elucidate practical ways of estimation. As the third and final step of this study, an attempt shall be made to quantify the overall social performance and represent in a numerical form, so as to refine the supplier evaluation process in a more objective manner and contribute towards quantification of social sustainability (Govindan et al., 2018).

## **2.2 Indicators of social sustainability**

One of the main challenges of sustainability is to make the Brundtland concept operational, or use it to inform decisions. Beginning to shed light on the matter is an alternative definition of sustainability that reads, "[design and operation of] industrial systems to ensure that humankind's use of natural resources and cycles does not lead to diminished quality of life due either to losses in future economic opportunities or to adverse impacts on social conditions, human health, and the environment." According to this definition, indicators as well as measures of performance, are required in order to assess the impact of any choice on sustainability (Hutchins & Sutherland, 2008).

To address the first requirement, the indicators of social performance are analyzed in depth. It is widely agreed that social sustainability indicators should take into account numerous evaluation categories. However, because there is limited research on social sustainability, there is a lack of agreement on the best measures or indicators to utilize. Nevertheless, indicators are crucial to the process of monitoring progress toward set goals and assessing performance (Taticchi et al., 2015). As an attempt to bridge these gaps, various authors presented an extensive research and accumulated a relevant set of quantitative indicators suitable for measuring social sustainability (Bauman & Skitka, 2012; Grosser & Moon, 2005; Kassinis et al., 2016; Popovic et al., 2018; Simões et al., 2016). Using content analysis of 141 sustainability reports from businesses across all SC tiers, the proposed indicators were validated. The results of the content analysis demonstrated that the enlisted indicators covered issues addressed in sustainability reports of the companies from all echelons of the supply chain. Hence, these indicators were valid to be applicable across all tiers or echelons of a supply chain (SC) and evaluate the social sustainability of any stage of an SC (Popovic et al., 2018). Therefore, these validated indicators are also suitable for measuring social sustainability of suppliers and

applicable in our study as well. However, it should also be noted that the choice of indicators also depends on the specific company under analysis or its requirements from the suppliers (Govindan et al., 2018; Popovic et al., 2018). Table 1 showcases the list of identified indicators.

*Table 1: Indicators of social sustainability (multiple sources as indicated in table)*

<b>Social sustainability indicator</b>	<b>Definition summary</b>	<b>Sources</b>
Employment benefits	Benefits of the job provided by the employer	(Popovic et al., 2018; Simões et al., 2016)
Employment practices and relations	Relations between workforce, unions, and the company	(Bauman & Skitka, 2012; Popovic et al., 2018; Simões et al., 2016)
Health and safety practices and incidents	The company monitoring quality of working conditions and potential health and safety risks	(Health and Safety – Sustainability Report, 2021; Popovic et al., 2018)
Training, education, and personal skills	Enhancement of employee productivity by assessing career development plans, learning, and job analysis	(Husgafvel et al., 2015; Popovic et al., 2018)
Diversity and equal opportunities	Employment of diversified (by gender, age, etc.) workforce	(Grosser & Moon, 2005; Popovic et al., 2018)
Human rights implementation and integration	Violation of human rights, such as forced labor, child labor, freedom of association	(Popovic et al., 2018; Schöggl et al., 2016)
Basic human rights practice	Violations such as racial, sexual harassment, and discrimination against the disabled	(Popovic et al., 2018; Simões et al., 2016)
Social investment index	Amount of investments made on social projects benefitting a community	(Bianchini et al., 2022; Govindan et al., 2018)

To elaborate the enumerated indicators, elucidation from research have been employed. According to Simões et al. (2016), ‘employment benefits’ have been defined as fundamental aspects that a firm offers to its employees in accordance with its contractual and compensational regulations. The study also remarks that this category frequently assesses the size of an organization's workforce, labor practices, and human resource management inside an organization. This indicator is marked by measures such as employee turnover, employee layoff and years of service.

The second indicator, namely, ‘employment practices and relations’ has been defined as disciplinary practices between the workforce, unions and company, with positive ties benefitting towards a better working environment and fewer operational disruptions (Popovic et al., 2018; Simões et al., 2016). This indicator is marked by metrics such as promotion rate and percentage of unionized employees.

The third indicator, 'health and safety practices and incidents' indicates the scrutiny of working conditions and health and safety risks, by the company (Popovic et al., 2018). This can impact employee satisfaction as well as the brand reputation, and it involves standards such as accidents and healthcare security coverage by the company.

The fourth indicator is 'training, education, and personal skills'. Plans for professional growth, lifelong learning, and job analysis are three crucial topics that this category seeks to evaluate and the metric inculcated here is the extent of training (Husgafvel et al., 2015; Popovic et al., 2018).

As the fifth indicator of social sustainability, Popovic et al. (2018) includes 'diversity and equal opportunities' and identifies this index to indicate how a firm guarantees that all workers receive equal chances regardless of their gender or age. As a measure of this indicator, the proposed metrics are ratio of genders, wage level between genders, and income distribution.

The sixth enlisted indicator, 'human rights implementation and integration' tends to evaluate abuses of human rights such child labor, forced labor and freedom of association. Some of the affiliated measures are child labor, bonded labor, and collective bargaining agreements (Popovic et al., 2018; Simões et al., 2016).

As the seventh indicator proposed by Popovic et al. (2018), 'basic human rights practice' evaluates internal discrimination problems. Racial and sexual harassment, as well as prejudice towards the disabled, are examples of the addressed issue of discrimination. The considered metrics include employee complaints, and incidents of discrimination.

The research by Bianchini et al. (2022) suggests another fundamental indicator i.e., 'social investment index', which indicates the amount of investments made on social projects benefitting a community. As a support to this indicator, Govindan et al. (2018) further elaborates such investments on communal development projects, volunteer programmes, and campaigning for social and environmental causes.

### 2.3 Measuring the indicators of social sustainability

As an attempt to advance the measurement of social sustainability quantitatively, it is important to establish ways of measuring the above stated indicators. Various forms of metrics for each indicator, derived from a variety of sources, and deemed most appropriate based on the explicable nature and feasibility of measurement, are explained hereby.

#### 2.3.1 Employment benefits

To enumerate the indicator ‘employment benefits’, the metrics involved are employee turnover, employee layoffs, and years of service.

##### Employee turnover

Employee turnover is estimated by considering the number of employees who resigned or have been made redundant divided by the total number of hired employees (ICHEME, 2002).

$$EmpT = \frac{\sum_{i=1}^I ce_i ((R+RD)/N_{hi})_i}{\sum_{i=1}^I ce_i}$$

$I$  = total number of entities in the SC;

$R$  = employees who resigned in entity  $i$ ;

$RD$  = redundant employees (who are no longer needed) in entity  $i$ ;

$N_{hi}$  = total number of hired employees in entity  $i$ .

##### Employee layoff

Secondly, employee layoff is described as the ratio between laid off employees and the total number of employees (Cascio, 2010).

$$EmpL = \frac{\sum_{i=1}^I ce_i ((L_{off}/N_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$L_{off}$  = number of layoffs in entity  $i$ ;

$N_{tot}$  is the total number of employees in entity  $i$ .

##### Years of service

As the third metric, years of service is calculated as the ratio of average years of service in the company and average years of working life of the employees (Popovic et. al, 2018).

$$YS_{ratio} = \frac{\sum_{i=1}^I ce_i (YS/WY)_i}{\sum_{i=1}^I ce_i}$$

$YS$  = average years of service at the entity  $i$ ;

$WY$  = average years of working life of an employee in entity  $i$ .

### **2.3.2 Employment practices and relations**

The second indicator, ‘employment practices and relations’ is marked by metrics such as promotion rate and percentage of unionized employees.

#### Promotion rate

Promotion rate has been defined as the rate of employees who have been promoted or attained advancement opportunities over a year. Higher rates of promotion are said to boost employee satisfaction, morale, and loyalty towards a firm (ICHEME, 2002).

$$ProR = \frac{\sum_{i=1}^I ce_i ((N_{pe}/N_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$N_{pe}$  = number of employees with promotion/ career advancement in a year in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

#### Unionized employees

The percentage of unionized employees is marked by the ratio of employees associated to labor unions and the total number of employees in a firm (Roca & Searcy, 2012).

$$UniEmp = \frac{\sum_{i=1}^I ce_i ((N_{ue}/N_{tot}))_i}{\sum_{i=1}^I ce_i}$$

$N_{ue}$  = number of unionized employees in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

### **2.3.3 Health and safety practices and incidents**

Another indicator i.e., ‘health and safety practices and incidents’ is measured via accidents and healthcare security coverage by the company.



### Accidents

The accidents are simply accounted as the number of accidents in one year at the firm or entity (Székely & Knirsch, 2005).

$$Acc = \sum_{i=1}^I ac_i RA_i$$

$RA$  = number of accidents documented in one year in entity  $i$ .

### Healthcare security coverage

Healthcare security coverage is described as the percentage of employees with employer-provided health insurance over the total number of employees, with a higher percentage boosting the social sustainability outlook of a firm (Popovic et. al, 2018).

$$HcS = \frac{\sum_{i=1}^I ce_i ((N_{hc}/N_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$N_{hc}$  = number of employees with employer-provided health insurance in entity  $i$ ;

$N_{tot}$  = total number of employees in the entity  $i$ .

### **2.3.4 Training, education, and personal skills**

The indicator ‘training, education, and personal skills’, includes the measures of training.

The ‘training’ metric can be described by the number of hours spent by one employee on training per year (Székely & Knirsch, 2005).

$$TRN = \sum_{i=1}^I ac_i \left( \frac{\sum_{n=1}^N TH_n}{N_{tot}} \right)_i$$

$n$  = employee with provided training;

$N$  = total number of employees who received training;

$TH$  = total number of hours of training per year per employee in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

### **2.3.5 Diversity and equal opportunities**

Another important indicator ‘diversity and equal opportunities’ is measured via ratio of genders, and income distribution.

### Ratio of genders

The ratio of genders is plainly the ratio between female and male employees, with an ideal ratio of 1:1 (Székely & Knirsch, 2005).

$$RG = \frac{\sum_{i=1}^I ce_i (FE/ME)_i}{\sum_{i=1}^I ce_i}$$

$FE$  = number of female employees in entity  $i$ ;

$ME$  = number of male employees in entity  $i$ .

### Income distribution

Income distribution is represented as the ratio between incomes of the top 10% employees and incomes of the bottom 10%, and a lower ratio is indicative of an environment with equality and better employee relationships (Azapagic & Perdan, 2000).

$$InD = \frac{\sum_{i=1}^I ce_i (IT/IB)_i}{\sum_{i=1}^I ce_i}$$

$IT$  = income of the top 10% employees in entity  $i$ ;

$IB$  = income of the bottom 10% employees in entity  $i$ .

### **2.3.6 Human rights implementation and integration**

The sixth indicator, ‘human rights implementation and integration’ is assessed through incidents of child labor, bonded labor, and collective bargaining agreements.

### Child labor

The existence of child labor can be scrutinized by considering the number of documented cases or incidents of child labor in an entity, and this should be evaluated as part of an external audit to avoid a biased view presented by the firm itself (Mani et al., 2014).

$$CL_{sc} = \sum_{i=1}^I ac_i CL_i$$

$CL$  = recorded number of child labor in entity  $i$ .

### Bonded labor

Similarly, bonded labor can be accounted for by considering the percentage of bonded labor reported in a firm (ideally through an external audit) (Mani et al., 2014).

$$BL_{ratio} = \frac{\sum_{i=1}^I ce_i ((BL/N_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$BL$  = number of recorded bonded labor in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

### Collective bargaining agreements

The metric collective bargaining agreements is described as the percentage of employees covered by collective bargaining agreements (Székely & Knirsch, 2005). Collective bargaining agreements are said to preserve workplace integrity and promote a safe working environment.

$$CBA = \frac{\sum_{i=1}^I ce_i ((N_{ca}/N_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$N_{ca}$  = number of employees covered by collective bargaining agreements in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

### **2.3.7 Basic human rights practice**

As the seventh indicator proposed by Popovic et al. (2018), ‘basic human rights practice’ can be evaluated through solved employee complaints and incidents of discrimination.

### Solved employee complaints

The employee complaints account for the percentage of recorded complaints which have been solved by the responsible authorities in a firm.

$$EmpC = \frac{\sum_{i=1}^I ce_i ((C_{add}/C_{tot}) \cdot 100)_i}{\sum_{i=1}^I ce_i}$$

$C_{add}$  = number of complaints that has been solved in entity  $I$ ;

$C_{tot}$  = total number of complaints in entity  $i$ .

### Incidents of discrimination

Discrimination is assessed by the average number of incidents of discrimination occurred per employee per year. The incidents of discrimination should consider and evaluate all forms of discrimination such as racial, sexual, discrimination against the disabled, harassment, and violence (Simões et al., 2016).

$$D = \frac{\sum_{i=1}^I ce_i (IN_{tot} / N_{tot})_i}{\sum_{i=1}^I ce_i}$$

$IN_{tot}$  = total number of discrimination incidents in entity  $i$ ;

$N_{tot}$  = total number of employees in entity  $i$ .

### **2.3.8 Social investment index**

The social investment index is indicated by the amount of investments made on social projects benefitting a community.

### **2.4 ‘SROI’: a methodology for quantifying social performance**

Quantifying social sustainability has become a crucial research area at the moment (Ahi & Searcy, 2015). It has been argued that measures should be created in order to give meaning to social issues, and something cannot be managed effectively if it cannot be quantified (Engelman, 2014). Indicators and metrics solely cannot measure the overall social performance of a firm or organization. They can be used for measuring different aspects of social sustainability separately, but to estimate the overall social performance on a whole, a quantitative technique needs to be implemented. This method is meant to combine the indicators and their metrics into a wholesome framework and measure the overall social performance of a supplier.

Hence, this study aims to make an attempt at quantifying social performance of suppliers, which can help to refine the supplier evaluation and selection framework, especially considering the aspect of ‘social sustainability’.

Out of the various methods created for measuring social impact, SROI analysis is one of the preferred and validated one (Maier et al., 2015). A few other methodologies have been developed out of which GIIRS, IRIS, CSR index based on AHP, and SROI are highlighted.

A popular technique is called IRIS (Impact Reporting and Investment Standards). IRIS methodology can be used by organizations to disclose their social and environmental performance using a set of standardized metrics. IRIS allows comparability of impact performance data by standardizing the way businesses create indicators. By choosing a set of IRIS indicators that are relevant to their job and reporting performance data in line with the IRIS definitions for those indicators, organizations can adopt IRIS (*Welcome to IRIS+ System*, 2020). However, IRIS does not specify which indicators or metrics should be used by an organization. The company needs to select the reasonable indicators themselves.

GIIRS (Global Impact Investing Rating System) is another thorough method for evaluating the social and environmental effect of corporations using a ratings approach, through scaled classification (*GIIRS*, 2020). GIIRS has incorporated IRIS metrics into the core of its rating system. Whenever possible, GIIRS uses IRIS indicators or definitions in its assessment, but as an additional feature, GIIRS signals the relative value of a firm as a rating/ranking. It is a fully comparable technique, independent of the organization, sector, or country. However, one of the main concerns of this approach is its requirement of a certain level of judgement (or personal opinions). Also, GIIRS requires more data and time, and hence is considered less cost-effective compared to other similar methods.

As another method of evaluation, Thomas Saaty elaborated AHP (Analytic Hierarchy Process), a multi-criteria decision-making procedure (Saaty, 2008). Stakeholder opinions are a crucial component of the CSR index based on AHP methodology. The created index is used to assess CSR (Corporate Social Responsibility) performance in a commercial environment (Mohammed Bahurmoz, 2022). Although this method is applied for social or environmental evaluation of organizations and involves usage of indicators, but it does not entail an explicit quantification process nor are the results expressed in objective or numerical terms. This method lacks indicator measurement and quantification of social sustainability.

SROI or the ‘Social Return on Investment’ is a mixed method approach to evaluate social, economic, and environmental impact of initiatives or firms. It is also termed as a monetization technique, as it allows the expression of social/environmental impact in monetary terms. The ‘SROI ratio’ is the trait that stands out the most. This ratio seeks to quantify how much social value is produced for every dollar, euro, or other unit of investment made in a certain initiative (Kara, 2013). According to Corvo and Pastore (2020), SROI (Social Return on Investment) is

a scheme which involves usage of financial proxies to evaluate the social and environmental outcomes. The key elements included are the indicators (counting mode for outcomes' evidence) and financial proxies (monetary value attached to each unit of outcome). For understanding the derivation of these two elements, an elaboration of the whole procedure should be acknowledged. A schematic representation of the five stages of SROI is depicted in Figure 2, followed by a detailed explanation.

<b>Stage 1: Define the scope of analysis</b>
<ul style="list-style-type: none"> <li>• Identify the stakeholders considered to be most impacted by the organization's activities</li> <li>• Describe the issues the organization is addressing and its objectives in addressing them</li> </ul>
<b>Stage 2: Impact map</b>
<ul style="list-style-type: none"> <li>• Map the relationships between the organization's inputs (costs/ investment) and outcomes/ impact (social and environmental impact), involving stakeholders</li> </ul>
<b>Stage 3: Identify indicators and assign values</b>
<ul style="list-style-type: none"> <li>• Establish the indicators that will be used to measure the inputs and outcomes identified before (involving stakeholders)</li> <li>• Assign monetary values to those outcomes considered significant (objectively)</li> </ul>
<b>Stage 4: Calculate SROI</b>
<ul style="list-style-type: none"> <li>• Calculate the SROI ratio (impacts/inputs) for these outcomes</li> </ul>
<b>Stage 5: Communication of results</b>
<ul style="list-style-type: none"> <li>• Support the numerical value (SROI ratio) with qualitative description, explaining the adopted procedures, collected data and inference of the results</li> </ul>

*Figure 2: The five stages of SROI*

In Stage 1, the main stakeholders are selected and involved to note the issues of an organization. In Stage 2, the involvement of stakeholders supports the development of an impact map of the whole production process, with a specific focus on the inputs or costs incurred and the subsequent environmental/social outcomes or impact generated. Once the outcomes have been identified, in Stage 3 they are valued via indicators. The indicators are identified and measured in monetary terms. In Stage 4 the SROI (ratio) is calculated. For this, it is necessary to draw up a projection of the inputs or costs (or investment) required by the project or firm. By using a discount rate, one can determine the Net Present Value (NPV). At the end, the SROI ratio is then calculated as follows:

$$\text{SROI} = \frac{(\text{Net Present Value of Impact})}{(\text{Net Present Value of Investment})}$$

The last step (Stage 5) entails the communication of the results to stakeholders and the embedment of good outcomes. A SROI ratio of 3:1 means that for every euro invested, the project will generate a social benefit of three euros.

Table 2 displays the differences related to aspects of indicator selection, their measurement, and key disadvantages of each method.

*Table 2 - Comparative analysis of techniques to quantify social sustainability  
(Welcome to IRIS+ System, 2020, GIIRS, 2020, Saaty, 2008, Corvo & Pastore, 2020)*

<b>Method</b>	<b>Indicator selection</b>	<b>Measurement of indicators</b>	<b>Disadvantages</b>
IRIS	Set of standard indicators established so that all stakeholders can use a common language	Certain indicators have defined numerical formulas for measurement, whilst some rely on yes/no question types or subjective judgements	<ul style="list-style-type: none"> <li>• Does not specify which indicators should be used by an organization</li> </ul>
GIIRS	Uses IRIS indicators and definitions in its assessment, whenever possible, or otherwise relies on an organization's judgement	Uses IRIS metrics for measuring indicators or otherwise relies on individual organization's judgement	<ul style="list-style-type: none"> <li>• Requires a certain level of personal opinions</li> <li>• Requires more data and time, thus considered less cost-effective</li> <li>• Does not consider the economic aspect</li> </ul>
CSR index based on AHP	Indicators established based on the AHP- methodology, focused especially on the CSR topic	Does not incorporate the notion of measuring indicators or metrics	<ul style="list-style-type: none"> <li>• Does not entail explicit quantification nor are the results expressed in objective or numerical terms</li> <li>• Requires subjective judgement</li> </ul>
SROI	Lays a framework for selecting indicators, which are then based on organization's judgement	Incorporates the measurement of indicators and transforms the metrics into a formula to be amalgamated with the economic aspect	<ul style="list-style-type: none"> <li>• Requires subjective judgement</li> <li>• Requires data and time</li> </ul>

Although there have been several attempts at measuring social sustainability, SROI stands out as one of the practical attempts (Hubbard, 2009). It offers a whole framework for indicator selection and measurement and allows quantification of social performance. Another main feature is the involvement of the economic aspect as well. This latter peculiarity particularly alleviates the preference of SROI, as stakeholders prefer methods which not only showcase

social impact in plain quantitative or subjective terms, but alongside can also combine the economic aspect (Yates & Marra, 2017).

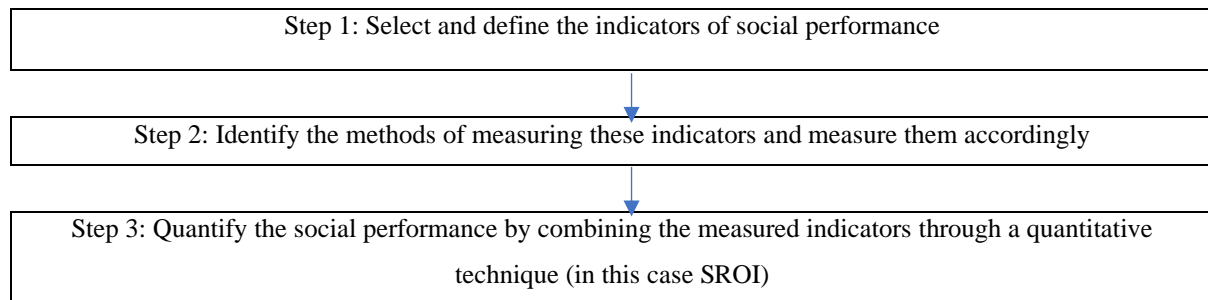
Using quantification methodologies such as SROI is an attempt at tackling the challenge to evaluate social performance and rationalize it (Hubbard, 2009). If applied in the case of suppliers, this is a useful tool to help firms judge rationally and decide amongst suppliers according to their social sustainability performance. As remarked by Engelman (2014), quantified indicators are more judicious measures and help to decide more objectively. Therefore, incorporating the social sustainability indicators into a quantification methodology such as SROI can help in portraying an overall index or ratio of social performance of a firm.

To extend SROI for evaluation of social sustainability of suppliers, various considerations have to be devised. In our case study, the indicators, mentioned in section 2.2 and others derived from the findings of the case company, are to be used along with defined methods of measuring these indicators (section 2.3). Once these indicators and their measurements are defined, the quantification of social performance is supposed to be put underway. For the quantification process, the SROI technique shall be utilized, but a few modifications are required for the applicability of SROI to the supplier evaluation process, which are explained in detail in section 4.4.



## 2.5 Summary

This chapter addressed the literature review on different subjects of analysis of our study. Starting with a description of the social side of sustainability, attention is focused on the need for outlining the indicators and ways of measuring these indicators. These two notions are then tackled in subsequent sections, summarizing defined indicators in a table (Table 1) and explicating the notions in detail as well (Bauman & Skitka, 2012; Grosser & Moon, 2005; Kassinis et al., 2016; Popovic et al., 2018; Simões et al., 2016). Furthermore, the research on measuring these indicators is explicated, elaborating each metric, along with a defined formula (in section 2.3). Finally, one of the advanced and practical techniques of social performance evaluation, the SROI methodology is presented. The literature includes the definition, usage, advantages, and explanation of the application of SROI. A possible framework for social performance evaluation, developed as a result of this analysis, is presented in Figure 3.



*Figure 3 - Framework for social performance evaluation*

## **CHAPTER 3: METHODOLOGY**

The study aimed at evaluating the social performance of suppliers in order to improve the supplier selection process. This was framed to be done in three steps: finding the adequate indicators of social sustainability of suppliers, measuring these indicators, and evaluating the overall social sustainability by quantifying supplier's social performance. The study was sought to be done via a case study at a single company, and the methodology of this research is explained in this section. The major topics covered in this chapter include: the research strategy/design, nature of the thesis, data collection (strategy and method) and finally, the data analysis. The elaboration, along with reasoning for each topic, has been defined to support the adoption of respective notions and showcase the underlying convictions.

### **3.1 Research strategy: A case study**

Addressing the notion of research strategy, this study was based on a detailed case study, conducted at ENEL, a company in the energy industry producing and distributing electricity. Aberdeen (2013) put forth three prerequisites for the use of a case study: the goal must be to provide "how" or "why" answers; the investigator must have little control over events; and the focus of the research must be on a current phenomenon within a real-life context. Additionally, according to Creswell (2013), in a case study, the researcher investigates "a real-life case using extensive, in-depth data gathering involving multiple sources of information." Similarly, as apparent in this study and from the developed conceptual model and corresponding research questions, it dealt with answering questions pertaining to 'why' and 'how' statements. Furthermore, as the researcher aimed at searching answers through previous studies and attaining information from the informants at the case company, the author had no control over the events or dynamics of the study but relied on the obtained data. Additionally, the research surrounded real-life phenomenon i.e., supplier selection considering their social performance, which was bounded within the case company under scrutiny. Also, as qualitative studies are mainly focused on difficult to access variables and hereby, the challenging topic of social sustainability involved finding and measuring complex indicators and quantitative techniques, it was apt to tackle such a compound notion with a qualitative case study.

### **3.2 Nature of the thesis**

Also, the research was exploratory in nature, following an inductive approach.

#### Exploratory research

As stated by Dul and Hak (2008) the goal of exploratory research is to formulate problems, clarify concepts, and create recommendations. Exploration typically initiates with a literature search, a discussion amongst academics or corporate workers, or through case studies. According to Yin (2014), "how" and "what" questions are typically answered in an exploratory case study. In the case of thorough and in-depth description of a social phenomenon, exploratory case studies are useful. It has also been highlighted that data from exploratory studies typically tends to be qualitative, with examples including interviews with experts, and short surveys as well (Dul & Hak, 2008).

In accordance with the stated reasoning, this thesis was entitled with identification of patterns, to conclude further theory and consider practical implications. The study was aimed at scrutinizing one of the prevailing concerns at a case company i.e., ‘evaluation of social sustainability of suppliers’ and the consequent analysis was based on conducting academic and corporate research for ‘finding indicators and their appropriate measurement’ and provide suggestions. Also, as the research aimed at answering ‘how’ and ‘why’ questions, with data gathered from experts at the case company, the motivations supported the nature of the thesis to be exploratory.

#### An inductive approach

Moving further, Eisenhardt (1989) and Hollweck (2016) elaborate inductive form of reasoning in the case of theory generation. They explain that in theory-generating case research, explanation (theory) derives from exploration (analysis) in the context of a research question, and this follows inductive reasoning. Henceforth, as this study was aimed at exploring academic and practical context (case analysis of firm) to elaborate further theories regarding social performance of suppliers, an inductive approach was followed. Ketokivi et al. (2014) mentioned that case studies have been primarily accepted for developing new theories, whereby researchers employ an inductive logic to develop relevant theories from qualitative data. Similarly, as this study was focused on developing theory regarding the measurement and evaluation of social performance of suppliers by collecting qualitative data from a firm, it

deemed appropriate to conduct this research via a case study method, through an exploratory and inductive approach.

In this research, the unit of analysis was the case company, ENEL S.p.A. The employees from Global Procurement, supplier qualification and Human Rights teams and category managers were addressed to encounter the company's sustainability perspective in a better way. In a time period of 2-3 months (between March 2023 and May 2023), data was collected and processed for elaborate analysis.

### **3.3 Data collection**

#### Sampling strategy

The sample of this thesis research was the company ENEL S.p.A. As the energy sector is highly important as well as impactful for the concern of sustainability, a major leader in the energy industry and a multinational company such as ENEL was considered for the study, According to Creswell (2013), in most of case study research, sampling techniques include non-random purposive sampling in order to choose specific people for the sample who meet the criteria of study. This is also done to avoid straying to non-relevant information and engage in non-fruitful interactions. Henceforth, also in this case study, employees were purposely from the concerned departments/sections of research. In total six employees were interviewed. These included 2 managers from the Global Procurement team, 1 category manager, 2 members of the supplier qualification team and 1 manager from the Human Rights team (part of the holding staff). All these members were selected to attain information regarding the already instated indicators and measurements of social sustainability of suppliers at the case company and this was done to enhance the research considering different perspectives and address each topic of the study deeply.

#### Data collection method

Yin (2010) described qualitative research as collecting data from a variety of resources, evaluating the data, analyzing evaluations to produce findings, and presenting the findings. The primary data in this study was gathered via semi-structured interviews with the possibility left to ask follow-up queries, and questionnaires. Jain (2021) points out that interviews have been found to be useful in getting a broader understanding of how and why certain things happen and what are the opinions, interests, and motivations of the people involved, providing a deeper insight into the research topic. Also, it has been observed that details revealed during interviews

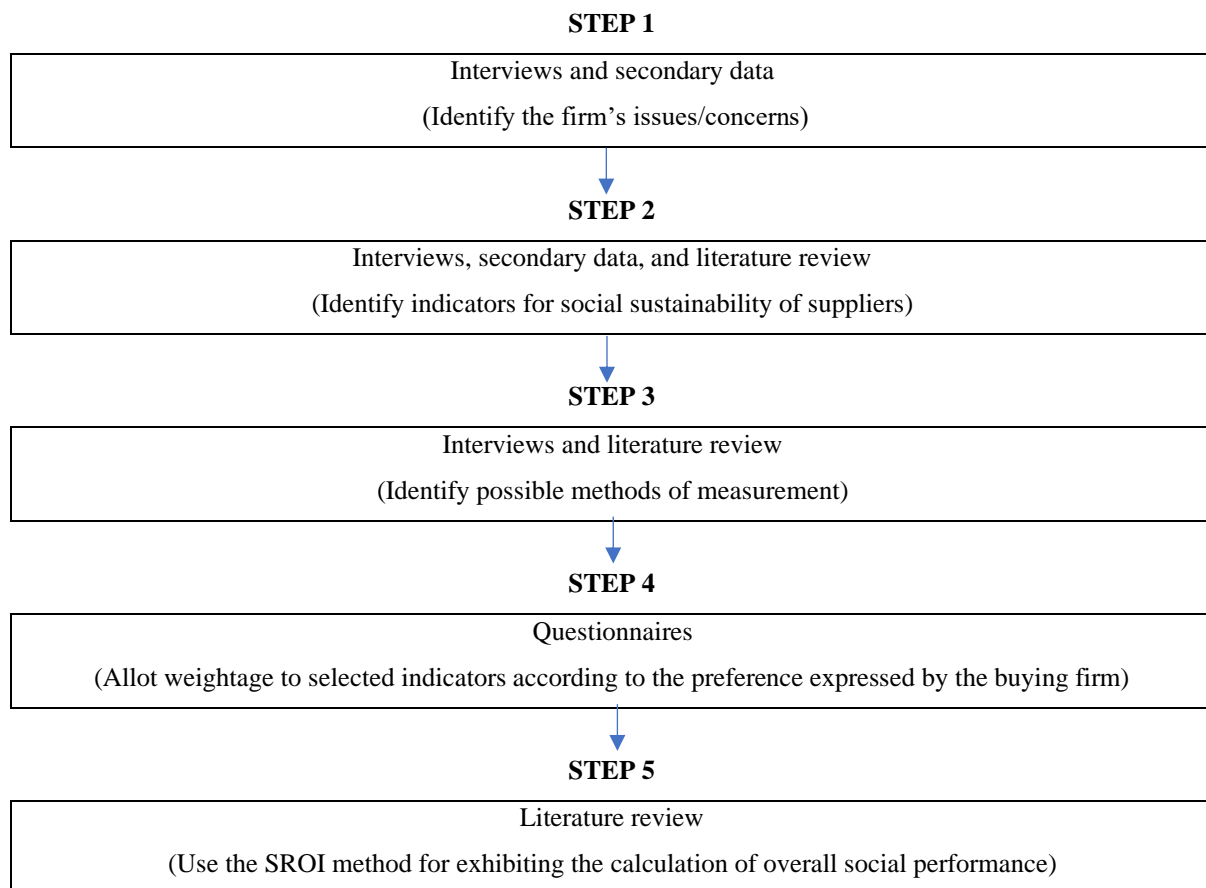
are often novel, which can be useful, especially in the case of an explorative project (Jain, 2021). Thus, conducting this inductive form of case study via interviews was considered appropriate to get a detailed understanding of the outlook of the company and recommend further considerations accordingly. The questions in the interviews were directed to gain insights into the supplier evaluation criteria adopted by the firm and also the anticipated objectives for the future. Specifically, the respondents were asked about the supplier selection framework adopted by ENEL, the indicators of supplier selection process, indicators specifically concerning social sustainability of suppliers, techniques/methods used to measure the social indicators and finally, the prospective evaluation techniques to measure social performance of suppliers expected to be undertaken in the future. As stated by Yin (2010), most case studies promote triangulation of data in order to get a full, rich description of the phenomenon in question and this can be done by using different methods of data collection or combine several sources. In this case study, data triangulation was done by combining interviews with short written questionnaires. The written questionnaires included Likert scales to rate the importance of social indicators (as mentioned in Table 1). Additionally, secondary data in the form of company reports was used for data triangulation. Also, with the sample respondents hailing from diverse teams, it promoted the variety of perspectives presented and provided a holistic and enriched outlook of the issue at hand.

### **3.4 Data analysis**

The data analysis was based on a coding scheme, such that labels were assigned to words and phrases that represented important and recurring themes in each response, and this aided the process of identifying patterns in the data collected (Vaughn & Turner, 2016). As illustrated by Williams and Moser (2019) coding is crucial to effectively advance the research process and recognize the interdependence between data organization, categorization, theory building, and the formation of meaning. At first, the data was organized into specific units, words, and sentences. Various general ideas of major themes were developed. A continuous record of the developed themes was kept side by side. In the next phase, coding was initiated. As the first step, which is 'open coding', distinct concepts of categorization were defined. This was done by aggregating the data (from interviews and archival forms) into categories of information and labeling them. As a result of open coding, a list of defined codes was developed, supplemented by code notes to clarify the content. These notes contained interesting observations and ideas important to the growth of theory (Flick, 2009). As stated by Williams and Moser (2019), axial coding is the second phase of coding, whereby codes are further

categorized. This was done by constantly comparing and establishing new sub-categories. In the third and final step, selective coding was implemented to select and integrate sub-categories into categories. This was done to elaborate and form a story out of the findings. Selective coding is typically conducted for theory creation and as a conclusion, expression was formed which made the construction of meaning easier (Williams & Moser, 2019).

Alongside coding the interviews, the findings were further supported by analysis of the secondary data (company documents), and these two sources were collaboratively used for identifying company's indicators for social sustainability and the metrics used to measure these indicators. The literature review further helped in adding more indicators and methods of measurement and also aided to identify the quantitative technique for evaluating social sustainability of suppliers. Next, the results of the questionnaire were analyzed. As the interviews were required to rate the importance of each identified indicator on a scale of 1 to 10, the answers from all the respondents were then compiled together. For each indicator, an average was calculated based on all the results and this average, divided by 10, was termed as the weightage of preference allotted to each indicator based on the buyer's convenience. This weightage was utilized to explain the application of SROI for supplier evaluation in the case of the firm under scrutiny. A description of the different stages of data analysis is presented in Figure 4.



*Figure 4 - Data analysis plan*

Comparing the data analysis plan to the five stages of SROI, it could be derived that step 1 of data analysis corresponded to stages 1 and 2 of SROI i.e., defining the scope of analysis and drawing the impact map, by means of identifying firm's main concerns and objectives. Steps 2 and 3 of data analysis concerned Stage 3 of SROI, regarding the identification of suitable indicators and their methods of measurement. Step 4 was an additional modification proposed in this case study and lastly Step 5 incorporated the stage 4 of SROI. Using a combined analysis of the indicators, metrics and their recorded weightage, a framework for the calculation of overall social performance using the SROI technique was proposed.

### **3.5. Maintaining reliability and validity**

#### Reliability

According to Yin (2014), reliability relates to the notion of results being reproducible. In order to ensure reliability various steps were undertaken. Reliability stems from triangulating the data and maintaining a chain of evidence (Yin, 2014). Data from the case company was not only collected through interviews, but secondary data (archival documents of the firm) were considered as well, for vaster and concrete information. Also, the interviews included both

verbal conversations, and filling out a questionnaire (composed of scaling indicators on a Likert scale), to articulate the thoughts and opinions more objectively and accordingly analyze data. The issue of preconceived assumptions of the researcher, which can hinder reliability of a study, were addressed by methods such as bracketing (Morse et al., 2002). Bracketing, in the context of qualitative research, is the act of putting one's own preconceived notions aside in order to avoid distorting a subject's intended meaning, or perception (Tufford & Neuman, 2010). One of the approaches of bracketing, i.e., maintaining notes during data collection, was undertaken, and fairly followed throughout the procedures of data collection, to avoid any presumptuous bias from the side of the researcher (Tufford & Neuman, 2010).

### Validity

In the stages of coding, by avoiding commonalities, capturing contrasting views and grouping precisely, attempts were made to maintain the accuracy and validity of analysis. According to Yin (2014), there are various forms of validity. Construct validity relates to the fact that operations of study have measured data according to what was intended to be measured in theory (Yin, 2014). To ensure construct validity, measures were undertaken such as using multiple sources of evidence (interviews, secondary data, and questionnaire). Furthermore, internal validity refers to the showcasing of cause and effect within a sample, which can be exemplified using patterns (Yin, 2014). To extend internal validity, pattern matching was undertaken. Pattern matching relates to determining the correspondence between theory and the observations or data collected from a case and likewise, comparative analysis was done between the findings accumulated from literature and the case company (Marquart, 1989).



## **CHAPTER 4: FINDINGS**

This chapter reports the findings of research from different sources of data. This information was analyzed for answering the three empirical research questions and the three sections of this chapter are divided accordingly. Section 4.1 is initiated by outlining the company's present framework and concerns for the future. This is followed by identifying indicators through coded interviews and secondary data (from company reports) in part 4.2. In addition, more indicators have been suggested from literature review, thereby answering the first empirical research question. In section 4.3, the metrics of measuring identified indicators are elaborated. This has been done in accordance with interviews and the literature review, responding to the second empirical research question. Resultantly, a table is materialized to showcase the list of identified indicators and methods of measurement. In section 4.4, the SROI technique for quantifying social performance has been explained, focusing the application of SROI to supplier evaluation based on social sustainability in the case of the scrutinized firm, answering the third empirical research question.

### **4.1 Outlook of social sustainability evaluation of suppliers at ENEL**

As a starting point to address the topic, respondents were questioned about aspects of the supplier evaluation, focusing on the aspect of social sustainability. Certain indicators and related metrics were utilized in the present evaluation framework, but enhancements were strived to be boosted.

The currently adopted evaluation framework was elaborated in one of the initial interviews. It was explained that ENEL embraced a 'double-gate supplier selection process'. The first stage, known as the 'qualification stage', was concerned with suppliers qualifying to an initial vendor's list. In this stage, suppliers were examined based on technical, financial, legal, and sustainability criteria which also included social sustainability indicators. The company identified three themes for social sustainability indicators, namely 'human rights', 'health', and 'safety'. These themes were formulated by ENEL, as it was deemed appropriate to allocate the adopted indicators under these three categories and present a concise framework. The first theme, i.e., 'human rights' was concerned with moral principles or norms for certain standards of human behaviour to be adopted by a company, such as freedom of association, prevention of child labor etc. The second theme, i.e., 'health' was related to maintenance of working conditions which promoted or secured good health of the employees and the third theme, 'safety' inculcated factors of maintaining safety and preventing any form of harassment at

workplace. Moving further, the second or the ‘tender stage’ was concerned with being finalized to supply for ENEL. During this second stage, the firm again assessed the selected suppliers to have a final rigorous screening, after which contracts were finalized.

As part of the ‘qualification stage’, the suppliers were assessed by means of a questionnaire. Firstly, the potential suppliers were required to fill a questionnaire. By means of this questionnaire, the case company sought to screen its suppliers for certain social sustainability indicators. The suppliers were asked to answer questions, related to certain indicators, and the answer options to these questions were represented in binary form, expressed in categories of ‘yes’ or ‘no’. The suppliers were also required to support their answers with certain forms of evidence (e.g. reports, codes of conduct etc.).

As a second derivative for the research, respondents were questioned regarding the metrics used at the case company for measuring identified social sustainability indicators. During the qualification stage, two approaches were used to measure social sustainability of suppliers. Firstly, the questionnaire measured indicators in the form of yes/no questions, thus indicating a binary scale. As a second measure, the ‘gap analysis’ approach was used. The gap analysis entailed a comparative examination between ENEL’s code of conduct with that adopted by a supplier and scrutinizing the prevailing ‘gap’ between the two. This was a subjective analysis, involving the comparison of policies of social sustainability, which have been adopted by a supplier and those required by ENEL. The comparison was done with the perspective of ENEL as a buyer, and the aim was to align the social sustainability policies of a supplier with those required or adopted by ENEL. If a few policies were lacking in the case of a supplier, they were persuaded to be adopted by the supplier and it was reported that in most of the cases, suppliers agreed to such compliance. Although such ‘gap analysis’ did not address an elaborate numeric measure but was considered useful for tackling indicators which necessitated subjective judgements.

As a result, certain improvement points were identified in the current evaluation approach. One of the main concerns was the reliance on subjective judgement, as in the case of gap analysis, and not including objective measures. One of the interviewees quoted, “It would be optimal if there are metrics to quantify the social sustainability indicators and express the results in some numerical or objective form, similar to financial evaluation.” (Respondent 4, *Qualification Team*) Secondly, also the human rights questionnaire relied on a binary code, without any

varied measurement of indicators. Thirdly, such evaluation method separated the economic and social aspects, and the social sustainability outlook was not analyzed together with the economic side of business.

#### 4.2 Indicators of social sustainability of suppliers at ENEL

Analysis of the interviews, human rights questionnaire and secondary data led to the identification of various indicators, separated into three themes (by the case company, ENEL). Table 3 (and the corresponding sub-parts) address these three main themes and indicators identified within each theme. The tables are followed by descriptions of the identified indicators, supported via sample questions (reported through interviews or the questionnaire).

*Table 3.1 - Social sustainability indicators at ENEL - Human rights  
(Interviews, Human Rights | ENEL, 2021)*

Theme	Indicator	Description	Source
<u>Human Rights</u>	Freedom of association	Right of individuals to interact and organize themselves to collectively express, pursue, and defend common interests, in the form of free associations and have collective bargaining entitlements	Interview/Questionnaire, Secondary data ( <i>Human Rights</i> / ENEL, 2021)
	Lawsuits	Reports filed against a firm for violations committed against the principles of human rights	Interview/Questionnaire, Secondary data ( <i>Human Rights</i> / ENEL, 2021)
	Child labor	Exploitation of children and employment of people aged under a specific minimum age	Interview/Questionnaire, Secondary data ( <i>Human Rights</i> / ENEL, 2021)
	Rights of indigenous and tribal people	Respecting the rights of indigenous and tribal communities, promoting their inclusion and preventing related harassment	Secondary data ( <i>Human Rights</i> / ENEL, 2021)
	Zero tolerance to corruption	Rejecting corruption in all its forms, both direct and indirect	Secondary data ( <i>Human Rights</i> / ENEL, 2021)

As evident from Table 3.1, the first theme addressed by ENEL was ‘human rights’. One of the first identified indicators was ‘freedom of association’. This indicator was related with the ideas of free association and collective bargaining, referring to the right of individuals to interact and organize themselves to collectively express, pursue, and defend common interests. It was also remarked that such an indicator should take into account the accusations faced by the firm regarding infringement of free association. Certain questions related to this indicator, as provided by the respondents included, “Does the company recognize workers' rights to free

association and collective bargaining?” (Respondent 1, *Qualification team*) Another indicator was ‘lawsuits’, which concerned the aspect of violations committed by a firm against the principles of human rights, and the corresponding reports filed against the firm. The respondent provided an example question i.e., “Has the company been reported, charged or sanctioned for the violation of human rights over the past 5 years?” (Respondent 1, *Qualification team*) The third and one of the most cited indicators was ‘child labor’. This related to exploitation of children and employment of people aged under a specific minimum age. Resultantly, the company asked its suppliers (as existent in the questionnaire), “Does the company have work contracts with people under age 18?”

In addition to the indicators obtained through interviews and the human rights questionnaire, two indicators were solely obtained from secondary sources. These principles were adopted by ENEL as part of its own take on sustainability. Hereby, they have been extended to the list of indicators as these are important social sustainability aspects which could be further extended for the supplier evaluation process. These included principles, namely, ‘respecting the rights of indigenous and tribal people’ and ‘zero tolerance to corruption’ (*Human Rights | ENEL, 2021*). Through the principle of ‘respecting the rights of indigenous and tribal people’, the company transmitted the idea of paying attention to the rights of the most vulnerable communities, such as indigenous and tribal ones, and commit to the United Nations Declaration of the rights of Indigenous Peoples, thus promoting the inclusion and preventing harassment of people belonging to indigenous tribal communities. Another principle i.e., ‘zero tolerance to corruption’ was identified from secondary reference (*Human Rights / ENEL, 2021*). Through the means of latter, the firm promoted the idea of rejecting corruption in all its forms, both direct and indirect.

*Table 3.2 - Social sustainability indicators at ENEL – Health  
(Interviews, HSE Terms, 2021)*

<b>Theme</b>	<b>Indicator</b>	<b>Description</b>	<b>Source</b>
<u>Health</u>	Working conditions	Ensuring good health of employees	Interview/Questionnaire, Secondary data ( <i>HSE Terms, 2021</i> )

The second identified theme was ‘health’ (Table 3.2). This included mainly the indicator ‘working conditions’, which was concerned with ensuring good health of a supplier’s employees. The respondents remarked that this indicator could be assessed through contractual

specifications of employment conditions (including salary, working hours, permitted sick leave, breaks, etc.).

*Table 3.3 - Social sustainability indicators at ENEL – Safety  
(Interviews, HSE Terms, 2021)*

Theme	Indicator	Description	Source
Safety	Prevention of discrimination	Means to protect employees from all forms of discrimination, and accommodate the disabled	Interview/Questionnaire, Secondary data ( <i>HSE Terms</i> , 2021)
	Harassment protection	Capabilities of a firm and /or its actions to prevent or tackle with cases of harassment	Interview/Questionnaire, Secondary data ( <i>HSE Terms</i> , 2021)
	Protection of privacy	Measures to ensure employee privacy and adequately informing them about the use of personal information.	Interview/Questionnaire, Secondary data ( <i>HSE Terms</i> , 2021)

The third theme was called ‘safety’ (Table 3.3). One of the indicators of this topic was ‘Prevention of discrimination’, evaluated by the policies adopted by a firm to protect employees from all forms of discrimination both in hiring and at work and also accommodate the disabled. According to respondents, this aspect should also include training of company employees regarding accommodation of diversity. Another indicator known as ‘harassment protection’ was identified, i.e., judging the suppliers based on their capabilities and /or actions to prevent or tackle with cases of harassment, such as those concerning physical or mental abuse, bullying or gender harassment. The third indicator of this field was ‘protection of privacy’. Hereby, the suppliers were meant to be judged by the aspect of policies enacted to protect employee privacy, and adequately informing employees about the use of personal information.

All the identified indicators, obtained from the interviews and human rights questionnaire, were in line with the description provided in company’s archival data sources. According to *HSE Terms* (2021), the parties in contract with the case company were obliged to comply by certain health and safety measures. This document also entailed requirements of maintaining privacy of employee identity (addressed in Table 3.3) and various measures of safety (such as prevention of accidents by avoiding hazardous risks and harmful substances etc.), in sum, which are addressed by Table 3.2. Another secondary data source identified principles concerning issues of labor practices, community relations and society, as included in Tables 3.1 and 3.2 (*Human Rights / ENEL*, 2021). Henceforth, it could be concluded that the

information gathered by means of interviews was in accordance with the data gained via secondary sources. Two indicators were found solely from secondary data, i.e., ‘respecting the rights of indigenous and tribal people’ and ‘zero tolerance to corruption’, which were added as prospective indicators for inclusion in the supplier evaluation process (*Human Rights / ENEL, 2021*).

#### **4.2.1 Indicators of social sustainability of suppliers (combined findings from the case company and literature review)**

After obtaining the findings of interviews and secondary data, a comparative examination was conducted between the case findings and the information collected through literature review. It was observed that a majority of the indicators adopted by the firm were inculcated in literature, although termed a bit differently, however a few indicators were different. Some were obtained particularly from ENEL’s findings whilst some were sourced from literature alone. All these indicators were combined and considered suggestive for developing the evaluation framework. The indicators which were common between ENEL’s findings and literature, have been aggregately expressed by terms used in literature as these terms are more well defined and also verified by research. Table 4 gives a summary of the finalized list of indicators, along with the source for each indicator.

*Table 4 - Social sustainability indicators (combined results – sourced from literature review and case findings)*

<b>Social sustainability indicator</b>	<b>Section of description</b>	<b>Source</b>
Employment benefits	Sections 2.2, 4.1	Literature review, Case findings
Employment practices and relations	Sections 2.2, 4.1	Literature review, Case findings
Health and safety practices and incidents	Sections 2.2, 4.1	Literature review, Case findings
Diversity and equal opportunities	Sections 2.2, 4.1	Literature review, Case findings
Human rights implementation and integration	Sections 2.2, 4.1	Literature review, Case findings
Basic human rights practice	Sections 2.2, 4.1	Literature review, Case findings
Training, education, and personal skills	Section 2.2	Literature review
Social investment index	Section 2.2	Literature review
Protection of privacy	Section 4.1	Case findings
Rights of indigenous and tribal people	Section 4.1	Case findings
Zero tolerance to corruption	Section 4.1	Case findings

#### **4.3 Measuring the indicators of social sustainability at ENEL**

As the second topic, respondents were questioned regarding the metrics used at ENEL for measuring identified social sustainability indicators. It was largely noted that social sustainability of suppliers was either evaluated by means of the questionnaire (binary scale) or

through the subjective gap analysis. However, there were some indicators which could be associated with numerical values. Although these indicators did not directly correspond to the social sustainability aspect for the company, but they provided a scope for application towards the identified metrics. Table 5 lists some of these values.

*Table 5 - Numerical metrics of social sustainability indicators at ENEL (Interviews)*

<b>Theme</b>	<b>KPIs</b>	<b>Calculation</b>
Others	Production value (year N)	Production value (EUR) as published in the official financial statement of year N.
	Number of employees	Average number of employees
	Total hours worked	Total number of hours worked by all company employees

Comparative analysis of the findings from literature review and the case company led to the finalization of the below mentioned metrics (Table 6). Majority of the metrics were derived from literature, as these metrics have been extensively researched and referenced in various sources. For indicators uniquely identified through case findings, certain metrics were proposed by amalgamating the concepts adopted by the firm with those cited in literature. These included suggestions concerning a points-based system (ideally, on a scale from 1 – 10) to be allotted after subjective analysis of the suppliers’ conduct. This was proposed as a means of utilizing the ‘gap analysis’ (adopted by ENEL) as a basis, and transform it into a more objective and numerical approach (with a points-based system).

*Table 6 - Metrics of social sustainability indicators  
(combined results – sourced from literature review and case findings)*

Social sustainability indicator	Current measurement	New metrics
Employment benefits	Binary scale, gap analysis	Employee turnover, Employee layoff, Years of service (section 2.3.1)
Employment practices and relations	Binary scale, gap analysis	Promotion rate, Unionized employees (section 2.3.2)
Health and safety practices and incidents	Binary scale, gap analysis	Accidents, Healthcare security coverage (section 2.3.3)
Diversity and equal opportunities	Binary scale, gap analysis	Ratio of genders, Income distribution (section 2.3.5)
Human rights implementation and integration	Binary scale, gap analysis	Child labor, Bonded labor, Collective bargaining agreements (section 2.3.6)
Basic human rights practice	Binary scale, gap analysis	Employee complaints, Incidents of discrimination (section 2.3.7)
Training, education, and personal skills	No measurement	Training (section 2.3.4)
Social investment index	No measurement	Points based on the amount of investments made on social projects (section 2.3.8)
Protection of privacy	Binary scale, gap analysis	Number and efficacy of privacy clauses adopted (points based on gap analysis)
Rights of indigenous and tribal people	No measurement	Employee complaints/reports (Incidents of discrimination on grounds of rights of indigenous and tribal people)
Zero tolerance to corruption	No measurement	Number of complaints/reports filed related to corruption

#### **4.4 Quantifying social performance of suppliers (using the SROI technique)**

It became evident from the company’s findings that ENEL has an interest for improving the analysis of social performance of its suppliers. Thus, to tackle this issue, one of the most practical techniques to quantify social sustainability, as also argued in section 2.4, i.e., the SROI methodology was applied as the suggestive framework in this case (Maier et al., 2015). As it was also noted that the SROI technique would require certain modifications for applying to the case of suppliers, the requisite set of changes have been explained hereby.

In accordance with the developed framework for social performance evaluation (Figure 4), steps 1 and 2 of the plan have been tackled in section 4.1 and 4.2, empirically, and step 3 shall be addressed in this section. In this study, the opinions of the stakeholders, along with their interests and concerns, have been addressed in sections 4.1 and 4.2, in compliance with Stages 1 and 2 of SROI (Figure 2). The social sustainability indicators, as applied by the firm, are also



explained in subtopic 4.1. After defining the list of indicators, their metrics of measurement have been elaborated in part 4.2, addressing the Stage 3 of SROI. As the calculation of the quantification technique, i.e., Stage 4 of SROI, the explanation along with a few modifications required for the applicability of SROI to the supplier evaluation process, are elaborated hereby.

Firstly, as SROI addresses both environmental and social aspects, our emphasis will be only on the social side, in accordance with the focus of this study. Secondly, in order to calculate ‘value of impact’ (numerator of SROI) the measured indicators of social sustainability can be used. As the identified metrics transform the indicators into quantifiable (numerical) terms, they can be used for calculating ‘the value of impact’. However, a direct summation of values obtained from all the measured indicators is not considered practical. This is because at times, all indicators are not considered equally important by a buyer. Instead, weighted preference can be allotted to each of the indicators and multiplying the measured value of each indicator with the allotted weightage, and summing all the resultant values together, shall give a more appropriate ‘value of social impact’. The weighted sum generated (in accordance with the buyers’ preference) is supposed to provide a more accurate judgement for evaluating suppliers from a buyer’s perspective. As a simulation to this requirement, a form of practical application was implemented in the case company. A short questionnaire was distributed across identified teams in the case company, whereby respondents were asked to rate the indicators on a scale of 1 – 10 (then converted to a scale of 0 – 1 by the researcher), according to their perspective of importance which should be allocated to each indicator. The findings of this questionnaire have been reported in Table 7.

*Table 7 - Weighted preference for social sustainability indicators (recorded at ENEL through a questionnaire)*

<b>Social sustainability indicator</b>	<b>Preferred weightage of importance</b>
Employment benefits	0.85
Employment practices and relations	0.76
Health and safety practices and incidents	0.95
Diversity and equal opportunities	0.87
Human rights implementation and integration	0.94
Basic human rights practice	0.96
Training, education, and personal skills	0.87
Social investment index	0.76
Protection of privacy	0.74
Rights of indigenous and tribal people	0.93
Zero tolerance to corruption	0.95

To calculate the numerator of SROI or the value of social impact, the identified indicators, their metrics of measurement and weightage of preference are compiled. It should be noted here that for some of the metrics, their values would be directly proportional to a higher mark of social sustainability, whilst for some, it is the inverse relationship. For example, the metrics ‘promotion rate’ and ‘unionized employees’ are directly proportional to the value of social sustainability, whereas the value for metrics ‘accidents’, ‘employee turnover’ and ‘child labor’ etc. would be counted inversely proportional to the value of social performance. An elaborate formula for calculating each indicator is described in Table 8. By combing the values obtained in column 3 of the table, the value of social impact can be determined.

Table 8 - Applied framework for evaluating social sustainability of suppliers (prepared for the case company)

Social sustainability indicator	Metrics of measurement	Value calculated for the indicator (considering the weighted preference)
Employment benefits	Employee turnover, Employee layoff, Years of service	$(\frac{1}{\text{Employee turnover}} + \frac{1}{\text{Employee layoff}} + \text{Years of service}) * 0.85$
Employment practices and relations	Promotion rate, Unionized employees	$(\text{Promotion rate} + \text{Unionized employees}) * 0.76$
Health and safety practices and incidents	Accidents, Healthcare security coverage	$(\frac{1}{\text{Accidents}} + \text{Healthcare security coverage}) * 0.95$
Diversity and equal opportunities	Ratio of genders, Income distribution	$(\text{Ratio of genders} + \frac{1}{\text{Income distribution}}) * 0.87$
Human rights implementation and integration	Child labor, Bonded labor, Collective bargaining agreements	$(\frac{1}{\text{Child labor}} + \frac{1}{\text{Bonded labor}} + \text{bargaining agreements}) * 0.94$
Basic human rights practice	Employee complaints, Incidents of discrimination	$(\frac{1}{\text{Employee complaints}} + \frac{1}{\text{Incidents of discrimination}}) * 0.96$
Training, education, and personal skills	Training	$(\text{Training}) * 0.87$
Social investment index	Points based on the amount of investments made on social projects	$(\text{Points allocated}) * 0.76$
Protection of privacy	Number and efficacy of privacy clauses adopted (points based on gap analysis)	$(\text{Points allocated}) * 0.74$
Rights of indigenous and tribal people	Employee complaints/reports (Incidents of discrimination on grounds of rights of indigenous and tribal people)	$(\frac{1}{\text{Employee complaints}}) * 0.93$
Zero tolerance to corruption	Number of complaints/reports filed related to corruption	$(\frac{1}{\text{Complaints filed}}) * 0.95$

For the other second of SROI ratio, i.e., the denominator or ‘net present value of investment’, a few modifications are proposed as well. Originally, this part was expressed in monetary terms, but in this case it cannot be depicted the same. This is because in the case of application to suppliers, the numerator of SROI (value of impact) is supposed to be expressed like a score and similarly, also the denominator should have a similar unit of measure, for both elements to constitute towards a ratio.

The SROI technique, in its prime notion, combines social and economic aspects. The social side is addressed by the numerator and the denominator undertakes the economic side (by means of costs incurred or investments). In this case, applying the same principle, the denominator is supposed to tackle the economic aspect, but using a measure which is expressed in terms of a score (as that of the numerator). For this requirement, an already implemented indicator by the case company can be suggested. ENEL created an efficient indicator for analyzing risks associated with a potential supplier, called as Aggregated Risk indicator (ARI). ARI measures the risks concerning a supplier, considering economic and financial factors,

supplier performance, dependency of company versus supplier, dependency of supplier versus company and country risk. Through this measurement, ARI assigns a score to a supplier, which is an indicator of the risks associated with that supplier. It gives a score in the range of 0 – 100. As in the case of supplier evaluation, the inputs, or costs (which can also be called as risks) to be incurred are future measures which cannot be definitively determined in advance, so a measure or indicator is required to forecast the future costs or risks associated with a supplier. Resultantly, ARI is an integrated tool which measures such risks, with highest importance given to economic and financial aspects (40% weightage) and thus addressing the economic notion of SROI. Additionally, by including other factors such as supplier performance, dependency, and country risk, it provides a more holistic viewpoint of the input risks associated with each supplier. Thus, ARI can be used as an effective tool to holistically measure the risks associated with potential suppliers and is also expressed in terms of a score. As ARI is already used by the case company, the use of this tool can be efficiently extended to this framework as well.

By following such adjustments, SROI can be extended to the quantification of social sustainability of suppliers. The resultant SROI ratio would measure the social performance of suppliers, and in relation to the economic aspect as well.

## **CHAPTER 5: DISCUSSIONS**

This chapter provides an overview of the study conducted on the supplier evaluation process based on the social sustainability context. Section 5.1 recaps the content of the thesis research. In subtopic 5.2, the theoretical contributions of the study are elaborated and part 5.3 explains the managerial implications. Finally, section 5.4 enlists the limitations and areas of future research concerning the addressed topic.

### **5.1 Conclusions**

This study concerns the subject of supplier evaluation, focusing on the aspect of social sustainability. The research attempts to develop a framework for evaluating social performance of suppliers and addresses the under-researched issue of measuring social sustainability. To facilitate the research, a case study has been conducted at an Italian company producing and distributing electricity, ENEL S.p.A. To tackle the issue at hand, a refined structure has been proposed in this thesis which can be applicable in the first stage i.e., ‘qualification stage’ of supplier evaluation at ENEL. This framework elaborates three steps for evaluating social sustainability of suppliers. As a first step, the indicators of social sustainability have to be selected and defined. Secondly, metrics for the identified indicators have to be elaborated, so as to measure the indicators in a quantitative form and move ahead from the commonly adopted subjective notions. Thirdly, by combining the findings of the indicators and metrics of these indicators, a quantification technique can be utilized to numerically apprehend the overall social performance of a supplier.

This study entailed a uniform approach, followed for both theoretical and empirical research, based on the underlined three main concepts. Chapter 2 elaborates the literature review on the topic, enlisting the indicators and metrics identified from literary sources. Also, after analyzing and comparing various quantitative techniques, the SROI methodology has been sought as the most practical methodology to measure the overall social impact generated by a supplier and scrutinize it through an economic lens as well. Subsequently, Chapter 4 presents the empirical side of the research, reporting the findings from the case company. Following a similar approach, first the indicators of social sustainability adopted by the firm are analyzed (by means of interviews and secondary data) and combined with those found in literature. Thereon, the metrics are reported, but as the case company mostly adopted a binary scale approach or subjective judgement for measuring its indicators, a majority of the metrics are suggested to be adopted from literature and some novel ones are proposed as a result of amalgamating the

concepts of the firm with those retrieved from theory. Addressing the third aspect of the framework, the SROI technique has been considered as the basis for quantifying the overall social performance, but certain modifications have been suggested to extend its applicability to the domain of suppliers.

## **5.2 Theoretical contributions**

Comparing the empirical findings of ENEL with the theoretical research, a number of similarities and differences can be concluded. Firstly, a majority of the social sustainability indicators retrieved from ENEL's findings are similar to the notions found in literature, including 'employment benefits', 'employment practices and relations', 'health and safety practices', 'diversity and equal opportunities', 'basic human rights' and 'human rights implementation' (Bauman & Skitka, 2012; Grosser & Moon, 2005; Kassinis et al., 2016; Popovic et al., 2018; Simões et al., 2016). As also cited in literature, these indicators have been found in majority in previous studies and the case findings of this research add to the accreditation of these indices. Differently, there were three indicators retrieved from case findings alone, and they act as novel contributions for theory. These include 'protection of privacy', 'rights of indigenous and tribal people' and 'zero tolerance to corruption'. Although these indicators have not been found in majority studies, but a few sources support their importance for social sustainability. These include the studies by Passos Neto et al. (2022) and Novelo et al. (2021) which identified 'privacy' and 'preventing corruption', respectively, as social sustainability considerations for the construction industry. Another study by Kapelus (2002), identified 'rights of indigenous people' as an index for the mining industry. As these indicators have been acknowledged in very few sources till date, this thesis adds to the validation of these indicators and provides evidence to their application in the energy industry as well.

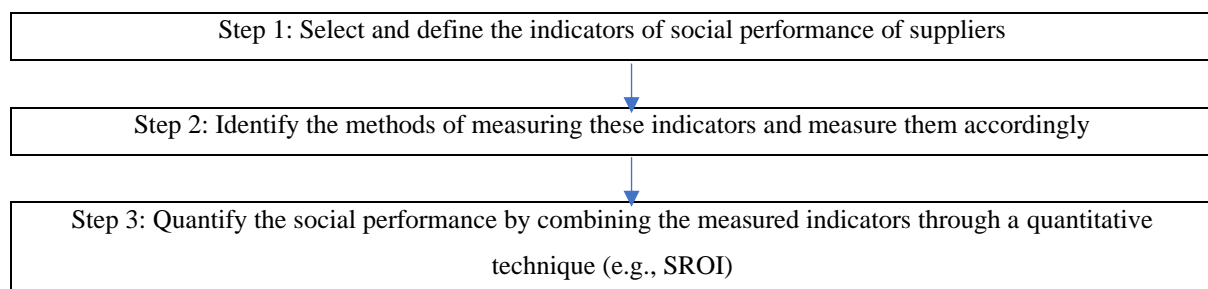
Secondly, majority of the metrics proposed in this study are derived from literature, but a few have been proposed as measures resulting from the amalgamation of notions derived from the case study and theory combinedly. This includes the 'points-based approach' of assigning points (ideally from 1 – 10) to certain social sustainability indicators such as 'social investment index' and 'protection of privacy', based on the subjective examination of conduct of suppliers in these sectors. Hubbard (2009) remarked that there is a need to refine objective measurement of social sustainability and this measure is a suggestive proposition for transforming the

subjective analysis into a points-based system, to promote certain level of quantification in this sector.

Thirdly, the modifications proposed for the SROI technique act as novel adaptations of the methodology. Firstly, the novelties suggest transforming the terms of SROI ratio in integral forms (different from the original monetary terms) such that the numerator composes of the combined value of all measured indicators and is expressed as an integral value or like a score. Also, the denominator is suggested to be expressed in similar terms as the numerator and hence a proposed modification is the usage of an integrated tool ('ARI' or 'Aggregated Risk Indicator) to be used to measure the denominator. ARI comprises of a score/value allotted to a supplier based on the expected costs (economic and other commercial risks) to be incurred for that supplier. In these ways, the original notion of SROI, which is to combine the social and economic aspects, is maintained but the terms of SROI ratio are transformed into a score, for having both the terms expressed in same units. Lastly, to make the results more practically convenient, another suggestion is to measure the weightage of preference for each indicator (according to the buyer's perspective) and accordingly calculate the value of social performance. These modifications act as unique contributions for literature and extend the applicability of SROI to the domain of suppliers, from a theoretical perspective.

### 5.3 Managerial implications

This study proposes an elaborate framework for evaluating social performance of suppliers and refining the supplier selection process. Figure 5 reiterates the framework that can be adopted by various companies.



*Figure 5 - Framework for evaluating social performance of suppliers*

As an example to the application of this framework, Table 8 recaps the indicators, metrics and weighted preference recorded for these indicators at the case company. By adding the values obtained from column 3 of Table 8, the 'social value of impact' (numerator of SROI ratio) can

be determined. Combining this value with the costs associated to a supplier, based on the score allotted by ARI tool, the SROI ratio can be calculated, and the social performance of suppliers depicted in a numerical form.

A similar approach, as portrayed in this case study is applicable for other companies of different industries as well. By identifying indicators, related metrics and applying SROI to measure the overall social performance, the social sustainability of suppliers can be evaluated and measured objectively. The identified approach can be applied directly, or with a few modifications (as per the requirements or perspective of a company) to any other company of the same or different industries as well.

#### **5.4 Limitations and future research**

Considering the well-versed nature of the thesis, a few limitations of this study have been identified which also pave way to opportunities for future research. Firstly, considering the proposed framework, it can be accredited by application to other industries (with same or other modifications, as per requirements). Additional indicators and metrics for assessing social sustainability can be proposed through other research and application to different industries. Further studies can also attempt to refine the numerator of SROI so that it could also be expressed in monetary terms, to calculate the 'net present value of impact'. Addressing the inclusion of economic aspect in the SROI methodology, more improvised measures can be developed to measure the economic factor related to an investment or outcome of an entity.



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## APPENDIX

### APPENDIX 1 – Interview Protocol

The interviews were conducted across various groups at the case company. These included managers and employees from Global Procurement (1), Human Rights (2) and Qualification teams (2) and category managers (1). 6 employees were interviewed in total. As a starting point to the interview, a brief presentation of the interviewer and the scope of the thesis study was explained. The questions for each interview differed as each interview had a slightly different and specific objective (in line with the objectives laid down in the study). The protocol followed for each interview (the introduction) and questions asked in one of the interviews (Interview 3, attached in Appendix 3) is presented hereby.

*“Good morning! I am Asees Kaur Birring, a student of Masters in Management program at LUISS Guido Carli and MSc in Supply Chain Management at Tilburg University. I am pursuing my thesis in the supply chain sector, and specifically focusing on the supply side, considering a case study at ENEL S.p.A. My aim is to study the supplier evaluation framework considering the aspect of social sustainability. The study is concerned with finding ways to evaluate social sustainability of suppliers in an objective and practical form. To undertake this purpose, I aim to analyze the supplier evaluation process currently adopted by ENEL, specifically concerning the social sustainability aspect. I aim to find the indicators used by ENEL to evaluate the social sustainability of its suppliers, ways of measuring these indicators and areas of future concern. The results of this interview are important for examining the thesis topic and obtain findings regarding the identified areas of research. The identity of the respondent will remain confidential and not be disclosed to any external sources. Thank you for your time and availability and I look forward to your responses.”*

#### Example Questions (Interview 3)

- What is the role of the ‘social sustainability’ aspect in terms of supplier evaluation and qualification for ENEL?
- Could you highlight the indicators of social sustainability (regarding the ‘Human Rights’ theme) on the basis of which ENEL evaluates its suppliers?

- Thank you for explaining the 'Human Rights' indicators in detail. I have another question regarding the metrics of social sustainability. How are the enlisted indicators of social sustainability 'measured' by ENEL?



## **APPENDIX 2 – Questionnaire Protocol**

After the interviews, a questionnaire was shared with the six respondents (same as the interviews), as they were already well versed with the thesis topic and related concerns. This questionnaire concerned the indicators of social sustainability used for supplier evaluation. Comparative examination of the indicators obtained via literature and case findings led to a combined list. It was sought more practical (as a suggested modification to SROI) to weigh the importance to be allotted to each indicator (from the buyer's perspective). As a simulation to this modification, a short questionnaire was shared with a limited set of respondents. The respondents were asked to give importance to an indicator on a scale of 1 – 10. The average calculated for each of the indicator (and divided by 10) was termed as the 'weightage of preference' allotted to each indicator by the buying firm (in this case, ENEL). In Appendix 2, the protocol for the questionnaire (a short introduction and list of indicators) is described.

*The aim of the study is to refine the supplier evaluation framework considering the aspect of social sustainability. As an attempt to evaluate social sustainability of suppliers objectively, a list of indicators has been identified through company information and literature review. This questionnaire presents the identified indicators, along with a short description for each. The respondents are requested to rate the weightage of importance (or preference) for each indicator on a scale of 1 to 10 ('1' suggesting that the indicator is minimally important, and '10' suggesting extremely high importance). [The identity of the respondents will remain confidential and not be disclosed to any external sources.]*

1. Employment benefits (Benefits or fundamental facilities of the job provided by the employer, such as adequate salary, retirement plan benefits etc.)
2. Employment practices and relations (Relations between workforce, unions, and the company, marked by measures such as promotion rate and percentage of unionized employees)
3. Health and safety practices (The company monitoring quality of working conditions and potential health and safety risks, identified by measures such as accidents and healthcare security coverage)
4. Diversity and equal opportunities (Employment of diversified (e.g. by gender, age, nationality) workforce, estimated by metrics such as ratio of genders and wage difference between genders in the company)

5. Human rights implementation and integration (Company's attempt at attending to the violation of human rights, such as forced labor, child labor, freedom of association)
6. Basic human rights practice (Company's attempt at attending to violations such as racial, sexual harassment, and discrimination against the disabled)
7. Training, education, and personal skills (Enhancement of employee productivity by assessing career development plans, learning, and job analysis, e.g. training sessions for employees against acts of discrimination or assaults)
8. Social investment index (Amount of investments made on social projects benefitting a community, e.g. communal development projects, volunteer programmes, and campaigning for social and environmental causes)
9. Protection of privacy (Company's attempts at protecting employee privacy and use of personal information)
10. Respecting the rights of indigenous and tribal people (Paying particular attention to the most vulnerable communities, such as indigenous and tribal ones. In developing its projects, the company aims to engage all the relevant stakeholders, including indigenous and tribal communities)
11. Zero tolerance to corruption (Rejecting corruption in all its forms, both direct and indirect, and company's attempts at attending to acts of corruption)

### **APPENDIX 3 – Interview example (Interview 3)**

Appendix 3 includes one of the interviews conducted for this thesis as an example. The other can be provided on request.

#### ***Interview 3***

As indicated by the previous 2 respondents and also guided by the interviewer's tutor at ENEL (regarding the roles and duties of various teams), it was considered appropriate to next interview the 'Qualification Team' in order to thoroughly understand the exact indicators and metrics used by ENEL to evaluate its suppliers. 2 managers from the Qualification Team were interviewed regarding this vast topic. As the case company distributed its social sustainability aspect (and indicators) into 3 themes, the first respondent provided details regarding the 'Human rights' theme and the other manager explained indicators and metrics of 'Health and safety' themes. Interview 3 concerns the recording with the first manager (dealing with the 'Human Rights' theme).

***Interviewer: What is the role of the 'social sustainability' aspect in terms of supplier evaluation and qualification for ENEL?***

**Respondent:** We have a focus on the social aspect during the qualification phase, but it's not so rigorous or we can say very detailed at the moment. There are many other factors which are considered more important, such as economic, financial, or legal aspects. The first aspect that we address during qualification is the technical aspect, specific for the activity (merchandising group). There are different specificities according to the merchandising group the suppliers aiming for, for example construction, generators, consulting etc. But the technicalities are the same for the suppliers of one merchandising group. Moving forward, there are financial requirements, then legal and so on.

However, we are trying to improve the inclusion of social sustainability aspect in the qualification phase. Right now, the sustainability outlook is addressed using a 'Questionnaire' called as the 'Human Rights Questionnaire'. This questionnaire is the same for all the merchandising groups. The questionnaire is divided into 3 parts, one concerns the Environmental aspect, second is the human rights aspect and third is combined for health and safety. This questionnaire has a list of questions which have to be filled in by the supplier, using yes/no answer options.

I can show you the questionnaire alongside (starts sharing screen).

As you can see on the screen, on top of the questionnaire there is either a red or green light which appears based on the status of completion of the questionnaire by the supplier. It only turns green once the questionnaire is completed and all questions have been answered.

As agreed with Mr. X (interviewer's tutor), I will provide details regarding the 'Human Rights' aspect of the questionnaire.

***Interviewer: Could you highlight the indicators of social sustainability (regarding the 'Human Rights' theme) on the basis of which ENEL evaluates its suppliers?***

**Respondent:** Yes, I will share with you that particular part of the questionnaire. So, as you can see here there are a number of questions asked in this section. One by one I will elaborate each of the aspects that we try to evaluate. Also, I can show you some of the questions as exactly written in the questionnaire.

As one of the first questions, we ask our suppliers, "Does the company recognize workers' rights to free association and collective bargaining?" This is asked because we want to see if the suppliers allow free association or some form of collective bargaining within the working environment of its employees. As this is an important aspect which we adopt at our own firm, we also try to extend this requirement to our suppliers and ask them similar questions. But, as a step ahead and to ensure proper evaluation, we also further ask, "Have there been allegations of infringing on the right to form unions, bargain collectively or strike (e.g. NGO or media reports?)". This is to see if the supplier has been accused regarding any of these aspects and this becomes an extra check for this indicator of freedom of association. If there are any reports filed concerning this issue, it is something that we have to look into carefully.

Another aspect that we consider carefully is the certifications concerning human rights which have been adopted by the supplier. As in today's times these certifications provide credible proof of sustainability adoption by a business, we take these into account as well. Secondly, we also pay careful attention to the Code of Ethics adopted by the supplier. We ask questions like, "Does the company have its own Code of Ethics / Code of Conduct? or Are the company's ethical management systems certified (e.g. Social Accountability 8000)?" I give here an

example like the Social Accountability 8000 which is one of the recognized certificates of this field, and so we ask our suppliers if they abide by its principles. Another requirement which we pose also concerns the UN Global Compact principles. These are basically principles laid down by the UN for corporate sustainability and due to their prevalence and importance amongst businesses today, we address them too. We ask our suppliers, “Does the company support UN Global Compact principles?”

Then, we look into the violations committed by a supplier regarding the human rights notion. We do this to scrutinize our suppliers, not only through the principles they adopt, but also want to check in a way how they implement these rules or codes of conduct. As a result we pose questions like, “Has the company been reported, charged or sanctioned for the violation of Human Rights over the past 5 years, or is the company currently facing any legal proceedings to that effect?” As a support to this question, we also ask suppliers to upload a proof of document (or a self-declaration) in case there are no such violations and if there have been any violations, then upload reports concerning those problems.

As the fourth and one of the very important aspects, we consider the notion of child labor. As most of our suppliers are from third-world economies, there is a constant risk of prevalence of child or forced labor of some form in their factories. As a way to tackle this issue, we ask the suppliers questions like, “Has the company enacted policies to fight the exploitation of child labour or forced labour?” to see if there are policies in place (in the supplying firm) which prevent child or forced labor of any kind. As an additional and more objective test, we also ask them if the candidates at the firm are required to provide their birth certifications, and therefore in a way we try to evaluate if the supplying firm is actually monitoring the issue of child labor in a practical and serious way.

One of the last resorts of this part of the questionnaire is related to the extension of social sustainability along with the supply chain. By this I mean that we try to see if the supplier itself also ensures social responsibility of its further suppliers or we can say subcontractors for our firm. There is a question related to this in the questionnaire. It says, “Has the company enacted policies to guarantee that subcontractors operate with respect for Human Rights?”

*Interviewer: Thank you for explaining the ‘Human Rights’ indicators in detail. I have another question regarding the metrics of social sustainability. How are the enlisted indicators of social sustainability ‘measured’ by ENEL?*

**Respondent:** This is a very important question and something that we also ask ourselves these days. It’s because we want to see improvements regarding these measurements. Till date, the approach is not so concrete, or in other terms, I can say not quite measurable. Regarding what concerns the current approach, I can highlight two things. First, as you saw the Human Rights questionnaire. For this part, the answers are evaluated in terms of yes/no. So, the suppliers have only two options to choose, and we see if there are many red flags (or negatively concerning answers) once a supplier completes the questionnaire. If we think so and there is a concerning number of answers which are considered negative, we directly approach the supplier and see to the issues prevailing. Sometimes the supplier has just misinterpreted the question or if there are infact a lot of social sustainability issues at that firm, we do not proceed ahead with that supplier. As a step for security, we ask for attachments to be uploaded in the questionnaire (like reports, or self-declarations) in order for the supplier to prove their point or answer, but there are no exact quantifiable measures for these indicators.

As a second approach I can tell you briefly about another method which we call as the ‘gap analysis’. That is something which the Human Rights teams takes care of and they basically evaluate the supplier’s’ code of conduct and compare it to the company’s Code of Ethics. So that one is another approach, using which we try to measure the social sustainability outlook of our suppliers.

*Interviewer: Thank you so much Mr. Y for your availability and time. The insights provided will help me to enrich my research and form better solutions for the thesis.*

## APPENDIX 4 – Coding Scheme

Categories	Sub-categories	Codes	Example Quotes
Current situation at ENEL	Social sustainability at ENEL	<ul style="list-style-type: none"> <li>• area of concern</li> <li>• code of ethics</li> <li>• human rights policy</li> </ul>	<ul style="list-style-type: none"> <li>• ENEL is one of the first companies in its industry to focus so many efforts towards the sustainability issue.</li> <li>• In 2013, first time the ‘Human Rights policy’ was adopted by the firm, which extended the principles adopted by ENEL</li> </ul>
	Supplier selection	<ul style="list-style-type: none"> <li>• two phases</li> <li>• qualification phase</li> <li>• tender phase</li> </ul>	<ul style="list-style-type: none"> <li>• At ENEL,, the supplier evaluation process is a 2-step strategy, known as the ‘double-gate’ supplier selection approach. The first phase is called as the ‘qualification phase’ and the second one is the ‘tender phase’</li> </ul>
	Requirements from suppliers	<ul style="list-style-type: none"> <li>• sustainability requirements</li> <li>• other requirements</li> <li>• three themes of sustainability</li> </ul>	<ul style="list-style-type: none"> <li>• The suppliers are evaluated based on technical, financial, legal and sustainability requirements.</li> <li>• These include KPI’s like occupational health and safety, human rights, business ethics. Actually, the firm has divided these aspects into 3 themes which we consider while selecting our suppliers. They are called ‘human rights’, ‘health’ and ‘safety’.</li> </ul>
	Concerns/issues	<ul style="list-style-type: none"> <li>• social sustainability</li> <li>• objective measurement</li> <li>• indicators</li> <li>• additional costs</li> </ul>	<ul style="list-style-type: none"> <li>• These costs are not only applicable for that business or supplier, but also ultimately will cost their buyer or ENEL for instance.</li> <li>• This is also because social sustainability is very hard to</li> </ul>

			measure and explain in concrete terms.
Indicators (Human Rights)	Freedom of association	<ul style="list-style-type: none"> <li>• free association</li> <li>• collective bargaining</li> <li>• accusations</li> </ul>	<ul style="list-style-type: none"> <li>• Does the company recognize workers' rights to free association and collective bargaining?</li> <li>• Have there been allegations of infringing on the right to form unions, bargain collectively or strike (e.g. NGO or media reports?)</li> </ul>
	Certifications	<ul style="list-style-type: none"> <li>• ethical code</li> <li>• ethical management</li> <li>• UN principles</li> </ul>	<ul style="list-style-type: none"> <li>• Does the company have its own Code of Ethics / Code of Conduct?</li> <li>• Are the company's ethical management systems certified (e.g. Social Accountability 8000)?</li> <li>• Does the company support UN Global Compact principles?</li> </ul>
	Lawsuits	<ul style="list-style-type: none"> <li>• reports</li> <li>• violation</li> </ul>	<ul style="list-style-type: none"> <li>• Has the company been reported, charged or sanctioned for the violation of Human Rights over the past 5 years, or is the company currently facing any legal proceedings to that effect?</li> </ul>
	Child labor	<ul style="list-style-type: none"> <li>• child labor policies</li> <li>• birth certification</li> </ul>	<ul style="list-style-type: none"> <li>• Has the company enacted policies to fight the exploitation of child labour or forced labour?</li> <li>• Do you require candidates to provide copies of birth certificates or other official forms of identification to verify their age before being hired by the company?</li> </ul>



	Supply chain	<ul style="list-style-type: none"> <li>Subcontractors</li> </ul>	<ul style="list-style-type: none"> <li>Has the company enacted policies to guarantee that subcontractors operate with respect for Human Rights?</li> </ul>
Indicators (Health)	Working conditions	<ul style="list-style-type: none"> <li>contractual conditions</li> <li>break</li> <li>sick leave</li> <li>risk assessment</li> <li>living conditions</li> </ul>	<ul style="list-style-type: none"> <li>Do employees' contracts specify clearly conditions of employment (including working hours, sick leave and benefits)?</li> <li>Have you developed work schedules that allow employees to have regular break and at least one day off in seven?</li> <li>Does the company perform an occupational risk assessment?</li> <li>Does the company evaluate living conditions on sites?</li> </ul>
Indicators (Safety)	Diversity	<ul style="list-style-type: none"> <li>protection</li> <li>discrimination</li> <li>disabled</li> <li>personal life</li> </ul>	<ul style="list-style-type: none"> <li>Has the company enacted policies to protect employees from all forms of discrimination both in hiring and at work?</li> <li>Do you make accommodations to allow disabled workers job opportunities with the company?</li> <li>Has the company undertaken actions to help employees reconcile personal and professional life (beyond what is required by applicable laws)?</li> </ul>
	Harassment protection	<ul style="list-style-type: none"> <li>harassment</li> <li>protection</li> </ul>	<ul style="list-style-type: none"> <li>Has the company enacted policies to protect workers from workplace harassment (abuses or threats) by preventing, raising awareness, providing ways to report harassment?</li> </ul>

	Privacy	<ul style="list-style-type: none"> <li>• privacy</li> <li>• personal information</li> </ul>	<ul style="list-style-type: none"> <li>• Has the company enacted policies to protect employee privacy, informing employees about the use of personal information?</li> </ul>
Metrics	Net revenue	<ul style="list-style-type: none"> <li>• production value</li> </ul>	<ul style="list-style-type: none"> <li>• Insert production value (EUR) as published into official financial statement of year N.</li> </ul>
	General data	<ul style="list-style-type: none"> <li>• number of employees</li> <li>• working hours</li> </ul>	<ul style="list-style-type: none"> <li>• What is the average number of employees at your organization?</li> <li>• How many hours do all company employees work?</li> </ul>
	HR Questionnaire	<ul style="list-style-type: none"> <li>• yes/no options</li> <li>• proof of result</li> </ul>	<ul style="list-style-type: none"> <li>• For this part, the answers are evaluated in terms of yes/no. So, the suppliers have only two options to choose.</li> <li>• As a step for security, we ask for attachments to be uploaded in the questionnaire (like reports, or self-declarations)</li> </ul>
	Gap Analysis	<ul style="list-style-type: none"> <li>• code of conduct of supplier</li> <li>• ENEL's code of ethics</li> <li>• subjective examination</li> <li>• alignment of principles</li> </ul>	<ul style="list-style-type: none"> <li>• We perform a comparative examination, a subjective one, between the supplier's code of conduct with that adopted by ENEL and try to find the gap between the two.</li> <li>• Our aim is to basically align the principles of the supplier with those which we adopt at ENEL.</li> </ul>
SROI denominator	ARI	<ul style="list-style-type: none"> <li>• scoring</li> <li>• future risks</li> <li>• eco-fin</li> <li>• integrated approach</li> </ul>	<ul style="list-style-type: none"> <li>• As the numerator of SROI, in this case study also represents a type of score, ARI also gives out a score based on different factors.</li> <li>• ARI considers the economic aspect, using eco-fin factors, and this aspect has the highest weightage of 40%.</li> </ul>

