Social Sustainability Reporting Readiness in Software Services: Drivers and Challenges

Outline of Bachelor Thesis

Supervisor:

Prof. Dr. Sara Bormann
Chair of Accounting,
in particular Management Control
Goethe-University Frankfurt am Main

submitted by:

Hoang Huong Giang Nguyen
Im Vogelsgesang 28
60488 Frankfurt am Main
Tel.: 015781929866
E-mail: s7684253@rz.uni-frankfurt.de
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1. INTRODUCTION

Paragraph 1: The Rationale for the Research

As social and sustainability concerns gain prominence in corporate agendas, reporting practices are evolving across industries. Firms in the software services sector are increasingly expected to disclose their social sustainability performance, driven by institutional pressures, internal strategic considerations, and stakeholder expectations.

Paragraph 2: Research Gap

Despite the growing importance of SSR, there is a lack of comprehensive frameworks tailored to the unique challenges faced by the software services sector. Existing literature often overlooks the specific context and needs of this industry, resulting in a gap that this research aims to address.

Paragraph 3: Research Objectives

This study aims to develop a structured assessment framework to measure the readiness of software service companies in Europe to engage in social sustainability reporting. It evaluates disclosure practices, identifies challenges, and proposes improvement strategies.

Paragraph 4: Scope and Limitations of Research

The study focuses only on the social dimension of ESG, analyzing 30 European software firms using publicly available data. It does not cover E/G dimensions or collect primary data.

Paragraph 5: Significance of the Study

Academically, the thesis fills a research gap through the development of a sector-specific framework for assessing social sustainability reporting in software services. Practically, it offers a quantitative tool for companies to evaluate their SSR readiness in light of regulatory requirements such as the CSRD.

Paragraph 6: Structure of the Research

This thesis is organized as follows:

- Chapter 2 reviews relevant literature, including definitions, sector context, theoretical frameworks, and prior research.
- Chapter 3 outlines the research methodology, including approach, data collection, assessment framework, and limitations.
- Chapter 4 presents findings and analysis from empirical research.
- Chapter 5 discusses the empirical results and their implications.
- Chapter 6 summarizes the research, key conclusions, contributions, recommendations, limitations, and suggestions for future research.

2. Theoretical background, prior literature, and conceptual foundations

2.1 Theoretical frameworks for social sustainability reporting readiness in software services

1. Opening Paragraph (ca. 1/3 page): Introduction to the role of theory in this research

Theoretical frameworks provide a foundation for understanding the variation in social sustainability reporting (SSR) readiness across software service firms.

2. Main body paragraphs (ca. 2 page): Overview of key theories

a. Institutional Theory

Institutional Theory (DiMaggio & Powell, 1983) explains how external forces such as regulatory mandates (e.g., CSRD, ESRS), industry norms, and peer behavior exert pressures that influence the motivation of software firms in social sustainability reporting.

b. Resource-Based View (RBV)

The Resource-Based View (Barney, 1991) highlights that SSR readiness depends on a firm's internal capabilities and that a lack of such resources may limit readiness even under strong external pressure.

c. Stakeholder Theory

Stakeholder Theory (Freeman, 1984) views SSR as a strategic response to meet the expectations of key stakeholders.

3. Closing paragraph (ca. 1/3 page): Integration and relevance to the study

These theories complement each other by offering distinct yet interconnected explanations of SSR readiness, which will serve as analytical tools to interpret empirical results in Chapter 5.

2.2 Foundations and Prior Literature on Social Sustainability Reporting

Paragraph 1: Overview of Social Sustainability Reporting

Social sustainability reporting in this research highlights the S-Pillar in CSR Reporting.

Paragraph 2: Prior Literature on Social Sustainability Reporting

2.3 Sectoral Characteristics and Reporting Practices in the Software Services

Paragraph 1: Sector Characteristics

The software services sector is a service-based industry highly reliant on human capital and intangible assets.

Paragraph 2: Reporting Practices in the Software Services

Reporting practices in the software services sector are evolving, with firms increasingly recognizing the importance of social sustainability. However, many still struggle with effective implementation and measurement.

2.4 Conceptualizations and Existing Frameworks of Reporting Readiness

Paragraph 1: Definition of Reporting Readiness

Reporting readiness refers to the extent to which an organization possesses the capacity, systems, data, and commitment required to conduct high-quality, reliable SSR.

Paragraph 2: Existing Frameworks

Several frameworks have been proposed to assess reporting readiness, but they often lack specificity for the software services sector. Existing models may not fully capture the unique challenges and opportunities faced by firms in this industry.

2.5 Literature-Based Drivers and Barriers

Paragraph 1: Drivers of Social Sustainability Reporting

Drivers of social sustainability reporting include regulatory compliance, stakeholder expectations, and the desire to enhance brand reputation.

Paragraph 2: Barriers to Social Sustainability Reporting

Barriers to social sustainability reporting encompass a lack of standardized metrics, insufficient data collection processes, and limited awareness of social sustainability issues among key stakeholders.

3. RESEARCH METHODOLOGY

3.1 Research Design and Methodological Approach for Social Sustainability Readiness

- The study follows an exploratory, mixed-methods approach:
  - Qualitative content analysis of company reports;
  - Quantitative descriptive statistics;
  - Framework design aligned with Design Science Research (DSR) principles.
- Three main phases of the research:
  1. Developing the framework, consisting of 7 main groups and 246 sub-criteria;
  2. Collecting data from 30 European software companies (2022-2023);
  3. Descriptive analysis to assess levels of readiness and identify key patterns.

3.2 Assessment Framework and Data Analysis

3.2.1 Developing the SSR Readiness Framework

Reference Standards

- ESRS S1 – Own Workforce;
- GRI 2 – General Disclosures, GRI 401–406;

Framework Structure

- A total of 246 sub-criteria (reporting items), partially derived from ESRS/GRI standards, and partially adapted to the software sector context.
- 7 main indicator groups based on SRN Framework, each containing 2–3 mid-groups, reflecting specific social dimensions including:
  1. Workforce Characteristics

2. Collective bargaining and social dialogue
3. Compensation
4. Training
5. Health and Safety
6. Work Life Balance
7. Human Rights

- A brief description is given on how the full list of 246 sub-criteria was organized into mid-level thematic groups (mid-groups) for analysis.

Rationale for Grouping

- Facilitates identification of thematic strengths and weaknesses;
- Enables multi-level readiness assessment – at the criterion, mid-group, and main group levels.

Scoring System

- Sub-criteria: scored 0 or 1 (No / Yes – information present);
- Mid-groups: scored from 0 to 3:
  - 0 = No information;
  - 1 = Criteria are mentioned but not quantified;
  - 2 = Specific data or bargaining is reported for one dimension (e.g., gender);
  - 3 = Comprehensive reporting, including bargaining across two or more dimensions
- Main groups: average of mid-group scores.
- Total score: average of all 7 main group scores.
- Each company's total score reflects a relative level of SSR readiness.

3.2.2 Data Analysis

Includes descriptive statistics (mean, SD, frequency), thematic comparison, and radar/bar chart visualizations.

3.3 Research Ethics and Methodological Limitations

- Uses only public data, no company is individually criticized.
- Sample may not fully represent the software sector.
- Disclosure depth varies across firms; framework is still exploratory and unvalidated.

4. FINDINGS AND ANALYSIS FROM EMPIRICAL RESEARCH

4.1 Overview of SSR Readiness Across the Sample

Sample Overview

- This section provides a brief description of the 30 software companies included in the sample, covering:
  - Geographic distribution
  - Company size (small, medium, large)
  - Status of ESG/SSR report disclosure

Table 4.1: Basic Information of Sampled Companies (Appendix A)

Company Country Size Status of ESG & SSR report disclosure

Table 4.2: Sample Classification by Region and Company Size (Appendix B)

Region/Size Number of Companies SSR Readiness Score

Overall Results

- SSR readiness scores across the sample range (to be completed with data).
- There is substantial variation in average scores across companies and countries.

Table 4.3: SSR Readiness Score for Each Company

Company Score accounding sub-sectors (0-246) SSR Readiness Score (0-3)

Figure 4.1: Histogram/Bar Chart of Readiness Score Distribution

Table 4.4: Average Readiness Score by Country

Country Average Readiness Score

4.2 Readiness by Company Characteristics

Comparison of readiness based on:

- Company size (SMEs vs. large)
- Geographic location (Western vs. Central & Eastern Europe)
- Business model
- ESG disclosure status (presence of standalone ESG report)

Table 4.5: Readiness Score by Company Characteristics

Attribute Number of Companies Average Readiness Std. Dev.

Figure 4.2: Bar Chart Comparing Readiness by Attribute Groups

4.3 Analysis by the Framework Categories

Readiness across thematic groups

Table 4.6: Readiness by Main Groups (Appendix C)

Figure 4.3: Bar Chart of 7 Main Group Readiness (Appendix D)

Readiness by Mid-Groups

- Each main group is further divided into mid-groups, which provide more granular insights into specific reporting areas.
- Mid-groups reveal strengths and weaknesses within each thematic category, highlighting areas for improvement.

Table 4.7: Readiness by Mid-Groups (Appendix E)

Figure 4.4: Bar Chart of Mid-Group Readiness (Appendix F)

Top and Bottom Reporting Sub-Criteria

- Identify the top 5 sub-criteria with the highest reporting rates
- Identify the bottom 5 sub-criteria with the lowest reporting rates
- Discuss potential reasons for these patterns, such as ease of measurement, stakeholder demand, or sector norms.

Table 4.8: Top 5 Highest and Lowest Reporting Sub-Criteria

4.4 Empirical Drivers and Challenges

Key Drivers of Reporting Readiness

- High disclosure rates ($\geq$ 70%) in areas for examples compensation, health & safety, and DEI suggest these topics are measurable, familiar, and stakeholder-driven — thus supporting reporting readiness.

Key Challenges Hindering Reporting Readiness

- Low-scoring criteria (e.g., $<$ 30% disclosure rate) signal inherent challenges.

Table 4.9: Summary of Key Drivers and Barriers

Category Description Number of Companies

4.5 Summary of Findings

- Strong and weak reporting categories
- Factors positively/negatively affecting SSR readiness
- Prepares for discussion

5. DISCUSSION ON EMPIRICAL RESULTS

5.1 Summary of Key Findings

Brief recap of key results from Chapter 4:

- Average SSR readiness among the 30 companies
- Strongest and weakest thematic categories
- Differences across company groups (by size, geography, etc.)
- Unexpected or counterintuitive observations

5.2 Theoretical Interpretation of Drivers and Barriers

5.2.1 Drivers of Social Sustainability Reporting Readiness

Table 5.1: Drivers of SSR Reporting and Theoretical Interpretation

Driver	**Theoretical Interpretation**
Regulatory pressure from CSRD, EFRAG, SEC	Institutional Theory: Coercive pressure driving behavioral change
Demands from customers and large investors	Stakeholder Theory: Stakeholder expectations incentivize transparency and reporting quality
Talent shortage $\rightarrow$ SSR used for employer branding	Stakeholder & RBV: SSR becomes a competitive advantage in recruitment and reputation
Large firms with clear ESG leadership	RBV: Strong organizational capabilities, leadership, and ESG integration into strategy

5.2.2 Barriers of Social Sustainability Reporting Readiness

Table 5.2: Industry-Specific Challenges and Theoretical Interpretation

Challenge	**Theoretical Interpretation**
Difficulty in collecting and standardizing non-financial data	RBV: Reflects lack of systems, tools, and personnel—organizational capabilities not yet developed
Informal labor, globalization, remote work	Institutional Theory: Fragmented settings weaken legal coherence and coercive pressure
Lack of sector-specific social standards	Institutional Theory: Normative pressure is underdeveloped; no established "social norms" for the sector
SMEs lack ESG budget/personnel	RBV: SMEs often lack the strategic resources to build internal reporting capabilities

5.3 Implications for Practices

For Businesses

- SSR should be viewed not merely as compliance but as a strategic investment in long-term

For Policymakers

- Encourage SSR through sector-specific guidance, training, financial incentives, and open data standards (e.g., SRN) to support transparency.

For Standard-Setters and Rating Agencies

- Tailor social indicators to digital industries and clarify materiality thresholds to reduce reporting ambiguity.

5.4 Academic Contributions

- Extends ESG research into the software industry, a largely underexplored area
- Develops a transferable SSR readiness framework applicable to other service sectors

- Integrates three organizational theories in a complementary way to explain ESG reporting behavior

6. SUMMARY AND CONCLUSIONS

6.1 Research Summary and Conclusions

- Research Summary
- Key Conclusions: Overall Readiness, Strongest and Weakest Thematic Groups, Key Drivers, Major Challenges
- Unique Sector Traits

6.2 Contributions of the Study

- Academic Contribution: Adds sector-specific insights; uses Institutional, RBV, and Stakeholder theories.
- Practical Contribution: Proposes a usable SSR readiness framework for self-assessment and improvement.

6.3 Recommendations

- **For Companies:**
  - Treat SSR as a strategic capability;
  - Invest in data infrastructure and assign dedicated personnel;
- **For Policymakers and Standard-Setters:**
  - Develop SSR standards tailored to the software/services sector;
  - Provide support for companies through model reporting tools and open data platforms (e.g., APIs).

6.4 Research Limitations

- **Sample Size:** The study is limited to 30 companies, all based in Europe.
- **Framework Testing:** The SSR readiness framework is preliminary and has not yet been tested widely.

- **Data Sources:** Only publicly available data were used; no interviews or internal data were collected.

6.5 Suggestions for Future Research

- Expand Sample and Coverage
- Cross-Industry Application
- Validation Methods
- Explore links between SSR and business/ESG performance.