

Social Sustainability Reporting Readiness in Software Services: Drivers and Challenges

Bachelor Thesis

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ABSTRACT

Your abstract goes

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1. INTRODUCTION

You have to **submit the Bachelor's thesis** on the submission date to the department. This is the introduction chapter. Write your content here.

It should provide an overview of your research topic, the problem statement, and the objectives of your study. Discuss the significance of your research and how it contributes to the field.

1.1. Background

Provide background information on your research topic. Explain the context and relevance of your study. This section should help the reader understand why your research is important and what led you to choose this topic.

1.2. Problem Statement

Clearly articulate the problem that your research aims to address. Discuss the specific issues or challenges that exist in the current literature or practice. Explain why these problems are significant and worth investigating.

1.3. Objectives

The choice of 2023 as the temporal focus of this study is closely linked to the institutional context. While the Corporate Sustainability Reporting Directive (CSRD) formally entered into force in January 2023, companies are required to disclose in line with the European Sustainability Reporting Standards (ESRS) for fiscal years starting on or after January 2024. Thus, 2023 represented a preparatory phase in which firms faced rising institutional pressure, whereas 2024 marks the first mandatory reporting cycle. This transition reflects the increasing coercive institutional forces that shape companies' readiness for social sustainability reporting.

Social pillars include employment, labor relations, diversity, occupational health and safety, and human rights (Fiechter 2022; Edge 2022).

2. Literature Review and Theoretical Framework

2.1. Prior Literature on Social Sustainability Reporting

Sustainability reporting can be understood under various definitions, including corporate social responsibility (CSR), extended external reporting, and ESG reporting (Edge 2022). As defined by (Rasche et al. 2017), CSR is the integration of social, environmental, ethical, and philanthropic responsibilities into business practice. Similarly, the ESG framework focuses on environmental, social, and governance. Across these approaches, the social dimension consistently emerges as a core aspect, covering issues such as employment, working conditions and human rights (Fiechter et al. 2022; Morais and Silvestre 2018).

Several regulations and standards have been developed to provide a basis for social sustainability reporting. Among these, the Global Reporting Initiative (GRI) is regarded as the most widely used framework by companies worldwide (Bais et al. 2024; Oorschot et al. 2024). According to GRI 401-406, companies disclose a wide range of social aspects, such as employment, workplace conditions, equality issues and non-discrimination. Marking a significant step forward, the European Sustainability Reporting Standards (ESRS) broaden this scope and make disclosure mandatory. The European Commission adopted the ESRS in July 2023 under the Corporate Sustainability Reporting Directive (CSRD). These standards oblige companies to report on impacts concerning the workforce (S1), value chain workers (S2), affected communities (S3), and consumers and end-users (S4).

Despite these regulatory developments, prior studies show that the social pillar remains underdeveloped within sustainability reporting practices. According to Heldal et al. (2024), the social dimension has not received adequate attention. This can be explained by Morais and Silvestre (2018), who argue that the social pillar remains vague, difficult to quantify, and less prioritized than environmental issues. This view is reinforced by Berg et al. (2022), who demonstrate lower inter-rater consensus on social indicators compared to environmental ones.

2.2. Prior Literature on SSR Readiness

Most prior research examines the extent to which firms comply with the GRI Standards when issuing sustainability reports (Fonseca et al. 2014; Vigneau et al.

2015). This emphasis is to be expected, as the GRI has represented a pioneering initiative in defining a common foundation that enables companies to develop stakeholder-oriented sustainability reports (Carungu et al. 2025; Dumay et al. 2010). In 2023, GRI and EFRAG released a draft Interoperability Index to help preparers align GRI Standards with ESRS disclosure requirements in detail (GRI and EFRAG 2024). Given this close interrelation, the present study begins by reviewing prior literature on GRI-based compliance in sustainability (CSR) reporting, which provide a basis for the analysis of SSR readiness.

For example, Ehnert et al. (2016) employed the GRI guidelines as an analytical framework to assess aspects of Sustainable Human Resource Management (HRM). Their study shows that companies tend to report more extensively on their internal workforce compared to their external workforce (Ehnert et al. 2016). Meanwhile, issues related to collective labor rights are often underreported, as firms exploit gaps in the GRI standards—particularly in disclosures 402 and 407 (Waas 2021). Consistently, Parsa et al. (2018) found that transnational corporations failed to comply with GRI’s ”labour” and ”human rights” reporting guidelines. Similarly, the quality of information disclosed on occupational health, safety (OHS), and employee well-being remains generally low (Mariappanadar et al. 2022). Specifically, Mariappanadar et al. (2022) highlight that firms often provide only generic and anecdotal disclosures to meet GRI requirements, rarely translating their claims into measurable outcomes. In line with these findings, Chauvey et al. (2015) also demonstrate that the quality of human resource-related reporting remains relatively poor.

At present, the introduction of the ESRS shifts attention toward firms’ readiness to meet more comprehensive and mandatory reporting requirements. However, most prior studies have addressed overall sustainability or CSR reporting readiness, but have not examined social pillar readiness in isolation. Current research provides only limited empirical insights into the extent to which companies are adjusting to the new sustainability reporting requirements. Notable exceptions are Nicolo et al. (2025), who examined early compliance with ESRS disclosure requirements among Italian listed firms and identified key firm-level drivers of adaptation, and Leal Filho et al. (2025), who assessed the readiness of 20 firms drawn from a cross-sectoral sample of EU companies. Nicolo et al. (2025) reports relatively high levels of early

compliance with ESRS requirements among firms falling within the scope of the Omnibus Package. Whereas, Raimo et al. (2025) documents relatively low overall levels of pre-compliance, particularly in integrated reports. Leal Filho et al. (2025) and Milanés-Montero et al. (2025) likewise reveal that disclosure, especially among SMEs, remains limited, due to the absence of concrete metrics, verification mechanisms, and external assurance. Overall, prior studies have focused on sustainability reporting in general and highlighted industry environmental sensitivity as a key determinant of readiness (Leal Filho et al. 2025; Raimo et al. 2025; Nicolo et al. 2025; Milanés-Montero et al. 2025). Specifically, these studies have focused on environmentally intensive sectors such as oil and energy (Leal Filho et al. 2025; Raimo et al. 2025; Nicolo et al. 2025), while the software industry has received only limited attention, typically being considered within broader technology-oriented classifications (Milanés-Montero et al. 2025).

2.3. Sectoral Characteristics and Reporting Practices in Software Services

The software services sector is a service-oriented industry that primarily provides intangible assets in the form of digital goods (Buxmann et al. 2015). Within this sector, the workforce plays a particularly crucial role (Buxmann et al. 2015). Investment in employee capacity development through training programs and certification initiatives has been shown to positively impact company performance in the global IT services industry (Chatterjee 2017). Furthermore, Nowak and Grantham (2000) emphasize that intellectual capital constitutes a core value of the software industry. This highlights why the software services sector has drawn significant attention in research on CSR reporting in general (Holder-Webb et al. 2009; Kim et al. 2018).

To date, there remains a lack of empirical research specifically addressing the social pillar of CSR reporting within the software industry. For example, Holder-Webb et al. (2009) examined software companies within a sample of 50 firms across multiple industries in the United States. The results indicate that employment-related issues as well as health and safety are relatively well addressed in the software sector (Holder-Webb et al. 2009). In contrast, other social aspects, such as human rights and community engagement, are not reported in a comprehensive manner (Holder-Webb et al. 2009).

Moreover, the software industry experiences rapid changes in technology and business models (Buxmann et al. 2015). Such continuous changes require companies to rapidly adapt to new regulations, such as the ESRS.

Reporting on key aspects such as work environment, work-life balance, and training is often inconsistent and rarely comprehensive (Greig et al. 2021). Similarly, disclosures on gender diversity were limited and linked to worse gender pay gaps, suggesting a reputational motive (Huang and Lu 2022).

Prior studies have highlighted persistent weaknesses in CSR report quality (Di Chiacchio et al. 2024), largely due to the scarcity of quantitative and monetary data (Michelon et al. 2015).

2.4. Theoretical frameworks

This study employs theoretical frameworks to explain the current level of social sustainability reporting readiness in the software services sector and to interpret the drivers and barriers shaping firms' preparedness. Prior studies have highlighted the importance of theoretical perspectives in the study of sustainability reporting (Del Gesso and Lodhi 2025; Rezaee 2016; Lozano et al. 2015). Within the wide range of theories applied in this field, Institutional Theory and Legitimacy Theory are among those frequently employed.

2.4.1. Institutional Theory

Institutional Theory is widely applied in sustainability reporting research (Campbell 2007). This theory explains how organizations adapt to social, political, and economic environments through institutionalized practices (Meyer and Rowan 1977; DiMaggio and Powell 1983). It emphasizes how coercive, normative, and mimetic pressures shape organizational behavior.

3. RESEARCH METHODOLOGY

4. FINDINGS AND ANALYSIS FROM EMPIRICAL RESEARCH

5. DISCUSSION AND IMPLICATIONS

6. SUMMARY AND CONCLUSIONS

REFERENCES

- Bais, B., G. Nassimbeni, and G. Orzes (2024). “Global Reporting Initiative: Literature review and research directions”. In: *Journal of Cleaner Production* 471, p. 143428.
- Berg, F., J. F. Kölbel, and R. Rigobon (2022). “Aggregate confusion: The divergence of ESG ratings”. In: *Review of Finance* 26.6, pp. 1315–1344.
- Buxmann, Peter, Heiner Diefenbach, and Thomas Hess (2015). *Die Softwareindustrie: Ökonomische Prinzipien, Strategien, Perspektiven*. Springer-Verlag.
- Campbell, J. L. (2007). “Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility”. In: *Academy of Management Review* 32.3, pp. 946–967.
- Carungu, J. et al. (2025). “Confronting sustainability grand challenges: how do standard-setters shape sustainability reporting standards and accountability practices?” In: *Accounting, Auditing & Accountability Journal*.
- Chatterjee, J. (2017). “Strategy, human capital investments, business-domain capabilities, and performance: a study in the global software services industry”. In: *Strategic Management Journal* 38.3, pp. 588–608.
- Chauvey, J.-N. et al. (2015). “The normativity and legitimacy of CSR disclosure: Evidence from France”. In: *Journal of Business Ethics* 130.4, pp. 789–803.
- Del Gesso, C. and R. N. Lodhi (2025). “Theories underlying environmental, social and governance (ESG) disclosure: a systematic review of accounting studies”. In: *Journal of Accounting Literature* 47.2, pp. 433–461.
- Di Chiacchio, L. et al. (2024). “The evolution of non-financial report quality and visual content: information asymmetry and strategic signalling: a cross-cultural perspective”. In: *Environment, Development and Sustainability*, pp. 1–31.
- DiMaggio, P. J. and W. W. Powell (1983). “The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields”. In: *American Sociological Review* 48.2, pp. 147–160.
- Dumay, J., J. Guthrie, and F. Farneti (2010). “GRI sustainability reporting guidelines for public and third sector organizations: A critical review”. In: *Public Management Review* 12.4, pp. 531–548.

- Edge, B. (2022). "Recent developments in sustainability reporting". In: *Australian Accounting Review* 32.2, pp. 151–155.
- Ehnert, I. et al. (2016). "Reporting on sustainability and HRM: A comparative study of sustainability reporting practices by the world's largest companies". In: *The International Journal of Human Resource Management* 27.1, pp. 88–108.
- Fiechter, P., J.-M. Hitz, and N. Lehmann (2022). "Real effects of a widespread CSR reporting mandate: Evidence from the European Union's CSR Directive". In: *Journal of Accounting Research* 60.4, pp. 1499–1549.
- Fonseca, A., M. L. McAllister, and P. Fitzpatrick (2014). "Sustainability reporting among mining corporations: a constructive critique of the GRI approach". In: *Journal of Cleaner Production* 84, pp. 70–83.
- Greig, M. A., C. Searcy, and W. P. Neumann (2021). "Work environment in the context of corporate social responsibility reporting: Developing common terms for consistent reporting in organizations". In: *Journal of Cleaner Production* 328, p. 129513.
- GRI and EFRAG (2024). *GRI-ESRS interoperability index*. Available at: <https://www.globalreporting.org/media/qzmoeixv/esrs-gri-interoperability-index-november-2024.pdf>. URL: <https://www.globalreporting.org/media/qzmoeixv/esrs-gri-interoperability-index-november-2024.pdf> (visited on 08/22/2025).
- Heldal, R. et al. (2024). "Sustainability Competencies and Skills in Software Engineering: An Industry Perspective". In: *Journal of Systems and Software* 211, p. 111978.
- Holder-Webb, L. et al. (2009). "The supply of corporate social responsibility disclosures among US firms". In: *Journal of Business Ethics* 84.4, pp. 497–527.
- Huang, J. and S. Lu (2022). "ESG performance and voluntary ESG disclosure: Mind the (gender pay) gap". In: *Available at SSRN* 3708257.
- Kim, K.-H., M. Kim, and C. Qian (2018). "Effects of corporate social responsibility on corporate financial performance: A competitive-action perspective". In: *Journal of Management* 44.3, pp. 1097–1118.

- Leal Filho, W. et al. (2025). “European sustainability reporting standards: An assessment of requirements and preparedness of EU companies”. In: *Journal of Environmental Management* 380, p. 125008.
- Lozano, R., A. Carpenter, and D. Huisingh (2015). “A review of ‘theories of the firm’ and their contributions to Corporate Sustainability”. In: *Journal of Cleaner Production* 106, pp. 430–442.
- Mariappanadar, S. et al. (2022). “Is it a sententious claim? An examination of the quality of occupational health, safety and well-being disclosures in global reporting initiative reports across industries and countries”. In: *International Business Review* 31.2, p. 101922.
- Meyer, J. W. and B. Rowan (1977). “Institutionalized organizations: Formal structure as myth and ceremony”. In: *American Journal of Sociology* 83.2, pp. 340–363.
- Michelon, G., S. Pilonato, and F. Ricceri (2015). “CSR reporting practices and the quality of disclosure: An empirical analysis”. In: *Critical Perspectives on Accounting* 33, pp. 59–78.
- Milanés-Montero, P. et al. (2025). “Spanish SME companies’ readiness for European sustainability reporting standards compliance”. In: *Journal of Global Responsibility*.
- Morais, D. O. C. and B. S. Silvestre (2018). “Advancing Social Sustainability in Supply Chain Management: Lessons from Multiple Case Studies in an Emerging Economy”. In: *Journal of Cleaner Production* 199, pp. 222–235.
- Nicolo, G. et al. (2025). “Ready for Change After the Omnibus Package? Early Compliance With the European Sustainability Reporting Standards and Its Key Determinants in the New Regulatory Era”. In: *Business Strategy and the Environment*.
- Nowak, M. J. and C. E. Grantham (2000). “The virtual incubator: managing human capital in the software industry”. In: *Research Policy* 29.2, pp. 125–134.
- Oorschot, K. E. van et al. (2024). “Standardization cycles in sustainability reporting within the Global Reporting Initiative”. In: *European Management Journal* 42.4, pp. 492–502.

- Parsa, S. et al. (2018). “Have labour practices and human rights disclosures enhanced corporate accountability? The case of the GRI framework”. In: *Accounting Forum* 42.1, pp. 47–64.
- Raimo, N. et al. (2025). “Integrated reporting and the Corporate Sustainability Reporting Directive: bridging the gap or growing apart?” In: *Management Decision*.
- Rasche, A., M. Morsing, and J. Moon (2017). *Corporate Social Responsibility: Strategy, Communication, Governance*. Cambridge University Press.
- Rezaee, Z. (2016). “Business sustainability research: A theoretical and integrated perspective”. In: *Journal of Accounting Literature* 36.1, pp. 48–64.
- Vigneau, L., M. Humphreys, and J. Moon (2015). “How do firms comply with international sustainability standards? Processes and consequences of adopting the global reporting initiative”. In: *Journal of Business Ethics* 131.2, pp. 469–486.
- Waas, B. (2021). “The ”S” in ESG and international labour standards”. In: *International Journal of Disclosure and Governance* 18.4, pp. 403–410.