Addressing Sustainability Reporting Frameworks: A Content Analysis of Western and Eastern European Companies

Emil-Adrian Bancu
Bucharest University of Economic Studies, Bucharest, Romania

bancuemil17@stud.ase.ro

Abstract: Corporate reporting has developed globally in the last three decades, encompassing economic, social, and environmental information. From the GRI standing out as the first organization that offers companies guidelines to sustainability reporting, to the recent ESRS standards adopted by the EU, there is an increasing trend in the diversity of sustainability reporting frameworks. This empirical research attempts to provide insights into sustainability reporting frameworks used by European companies from six countries grouped into two regions of Europe, namely Western (France, Germany, Netherlands) and Eastern (Hungary, Poland, Romania) to highlight the directions of action of companies to achieve sustainable objectives. The sample includes 30 companies headquartered in Europe, 15 companies for each region of Europe. The reports of the companies during the period of 2018–2022 were used to extract the information on sustainability frameworks, resulting in 150 sustainability or annual reports used. To achieve the objective of the research, quantitative data were collected through the content analysis of the companies' sustainability or annual reports, the extracted information being applied in statistical analyses. The study finds that the trend of using sustainability reporting frameworks in Western and Eastern Europe increases from year to year. Western European companies stand out with better corporate performance by relying on multiple sustainability reporting frameworks in the preparation and publication of sustainability or annual reports. Most European companies have a low level of compliance with the requirements of sustainability frameworks and are economic science-oriented and business-oriented. Western European companies are more focused on investment and environmental aspects, while those in Eastern Europe are more focused on profitability and social aspects. This study fills the gap in corporate reporting research in relation to the sustainability frameworks used by Western and Eastern European companies.

Keywords: Sustainability Frameworks, Corporate Reporting, European Companies, Content Analysis, Sustainability Reports.

1. Introduction

The diversity of sustainability frameworks involve numerous changes in corporate reporting worldwide over the last three decades. From the Global Reporting Initiative (GRI) standing out as the first organization that offers companies guidelines to sustainability reporting (GRI, 2024; Van Oorschot et al, 2024), to the recent European Sustainability Reporting Standards (ESRS) adopted by the European Union (EU), all sustainability frameworks have contributed to corporate reporting development. In line with Landrum and Ohsowski (2018), Alsayegh et al (2020), Ali and Jadoon (2022), and Gunawan, Permatasari, and Fauzi (2022) this study focus on the use of sustainability reporting frameworks by Western and Eastern European non-financial listed companies to get insights on companies' action to achieve sustainable goals. Thus, three research hypotheses were developed to investigate the evolution and level of use of sustainability frameworks, stages of corporate sustainability, and corporate sustainability performance (CSP) in reporting. Sustainability or annual reports of companies in six countries grouped in Western (France, Germany, Netherlands) and Eastern (Hungary, Poland, Romania) European were content analysed. The sample includes 150 sustainability or annual reports of 30 companies headquartered in Europe, 15 for each European region, analysed for the period 2018–2022.

The study findings show an increasing trend of using sustainability reporting frameworks in Western and Eastern Europe. Western European non-financial listed companies revel a higher level of using sustainability frameworks in corporate reporting. Furthermore, the study finds that most European non-financial listed companies in the sample have a low level of compliance with the requirements of sustainability frameworks, but Western European non-financial listed companies are more focused on investment and environmental aspects, while those in Eastern Europe are more focused on profitability and social aspects.

This paper is structured as follows. After the introduction, the literature review argues for research hypotheses development in Section 2. Next, Section 3 presents the sample selection process and content analysis method, with the results and discussions discussed in Section 4. Finally, Section 5 presents the study's conclusions, research limitations, and future research directions.

2. Literature Review

In the last three decades, corporate reporting has developed globally, by disclosing economic, social, and environmental information based on various sustainability frameworks (Andrew and Cortese, 2013; Ott,

Schiemann, and Gunther, 2017; Landrum and Ohsowski, 2018; Baier, Berninger, and Kiesel, 2020; Gunawan, Permatasari, and Fauzi, 2022; Van Oorschot et al, 2024).

Van Oorschot et al (2024) present the relationship between corporate reporting standardization according to the GRI standards and transparency of sustainability reports. The authors argue that GRI standards positively affect transparency, but when standards are far too complex to be understood, then transparency is negatively influenced. Additionaly, Van Oorschot et al (2024) find that a lower number of GRI standards and a higher clearness improve the level of transparency of sustainability reports prepared by Norwegian companies for the period 2010-2020. The GRI, organization was the first to provide companies with guidelines on ESG information disclosure (GRI, 2024; Van Oorschot et al, 2024). Broadly speaking, ESG information disclosure refers to companies' ability to transparently report their relevant information about environment, social, and governance aspects (Jitmaneeroj, 2016; Alsayegh et al, 2020). Baier, Berninger, and Kiesel (2020) analysing reports of 25 largest companies in the S&P 100 index find that only 4% of the volume of the annual report reveal specific ESG information.

Landrum and Ohsowski (2018) claim that two other dominant sustainability frameworks follow GRI, Integrated Reporting (IR) focusing on value creation, and Sustainability Accounting Standards disclosing information about sustainability for investors. Moreover, Gunawan, Permatasari, and Fauzi (2022) identify the Task Force on Climate-related Financial Disclosures (TCFD) framework as a benchmark for corporate sustainability, as it recommends four reference areas: governance, strategy, risk management, and metrics and targets (TCFD, 2017). Due to common interests, IIRC and SASB merged in 2021 to form the Value Reporting Foundation (VRF). IFRS Foundation instituted International Sustainability Standards Board (ISSB) with the objective of preparing and publishing sustainability standards focused on investors' needs and financial markets. In 2022, the IFRS Foundation consolidated ISSB with both VRF and CDSB (Climate Disclosure Standards Board), but also incorporated TCFD recommendations into its standards (IFRS, 2024).

Although many organizations have combined their goals, other organizations have been established. The Task Force on Nature-related Financial Disclosures (TNFD) published recommendations in 2023 to encourage companies to assess and report their nature-related dependencies, impacts, risks, and opportunities (TNFD, 2023). Another important stage in corporate sustainability was the adoption of 2030 Agenda and the 17 SDGs (UN, 2015). Borges et al (2022) present the need to publish sustainability reports in the case of oil and gas companies in Latin America in relation to the SDGs to achieve targets proposed by 2030 Agenda. Additionally, the EU has adopted directives and regulations on corporate sustainability, such as Non-Financial Reporting Directive (NFRD), Sustainable Finance Disclosure Regulation (SFDR), Taxonomy Regulation (TR), or Corporate Sustainability Reporting Directive (CSRD) embodied by the recent ESRS (European Parliament, 2014, 2019, 2020, 2022). Heichl and Hirsch (2023) analyse sustainability reports of European companies through the lens of NFRD. The results show a constant trend of reporting ESG information through sustainability reports in line with the NFRD.

First, the diversity of sustainability frameworks contributes to an increasing trend from year to year in use more sustainability frameworks in corporate reporting. Gunawan, Permatasari, and Fauzi (2022) highlights the quantitative and qualitative increasing trend of sustainability reporting over the last 20 years, indicating that the lowest reporting rates are usually in the Middle East, Africa, and Eastern Europe. Overall, the authors show that about 75% of the top 100 companies in America, Europe, and Asia-Pacific publish sustainability reports, most of which are listed or large companies. Hamilton and Waters (2022) analysing the sustainability reports of Fortune 50 companies and the top 50 universities from U.S. News & World Report, concludes that companies have relied on a greater diversity of sustainability frameworks. They highlighted that the most used sustainability framework was GRI, followed by SASB. Hence, the first research hypothesis is as follows:

RH_1: Western European companies compared to Eastern European companies have a better evolution and a higher level of use of sustainability frameworks in the preparation and publication of sustainability or annual reports.

Second, the sustainability reports prepared and published by companies have a level of quality reflected by the information inserted in their content. Landrum and Ohsowski (2018) propose five stages of corporate sustainability with which to assess the quality of sustainability reports, from business-oriented to ecology-oriented sustainability reports. Sukitsch, Engert, and Baumgartner (2015) highlights four key objectives of corporate sustainability found through the sustainability reports of European automotive manufacturers: sustainable mobility and society, customers, market, and competitiveness. As a result, the second research hypothesis is as follows:

RH_2: Western European companies compared to Eastern European companies have a higher stage of corporate sustainability in the preparation and publication of sustainability or annual reports.

Finally, the results of using a diversity of sustainability frameworks and ensuring a high level of quality in corporate reporting are highlighted in the level of integration of CSP in reporting. The CSP framework takes into account the economic, environmental and social (EES) concerns adopted and published through the sustainability reports (Alsayegh et al, 2020; Ali and Jadoon, 2022). Analysis of sustainability reports published by multinational companies in the period 2005-2010 highlighted that the main activities targeted were related to local communities, employees, and environmental protection, which indicates increased attention to environmental and social concerns (Leszczynska, 2012). Instead, Gunawan, Permatasari, and Fauzi (2022) concludes that Indonesian companies directed their sustainability reports in the period 2006-2019 towards the disclosure of economic, social and followed by environmental concerns. Therefore, the third research hypothesis is as follows:

RH_3: Western European companies compared to Eastern European companies have a higher level of corporate sustainability performance (CSP) integration in the preparation and publication of sustainability or annual reports.

3. Methodology

The methodology of the study was mainly based on the content analysis of companies' sustainability or annual reports, as well as on a statistical processing of the data collected through the content analysis. To achieve the objective of the paper, three analyses were conducted, one for each research hypothesis: (1) analysis of evolution and level of use of sustainability frameworks, (2) analysis of the stages of corporate sustainability, and (3) corporate sustainability performance (CSP) analysis.

3.1 Sample Selection

The selection of the two regions, Western and Eastern Europe, was based on the evolution of the number of European listed companies for which the Refinitiv Eikon rating agency published the ESG scores, as well as on the mean ESG scores evolution of European listed companies for the period 2018-2022. *Figures 1* and *2* show the two evolutions.

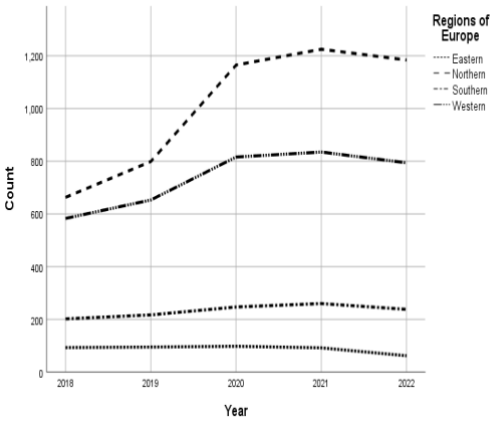

Figure 1: Evolution of the number of European listed companies for which the Refinitiv Eikon rating agency published the ESG scores

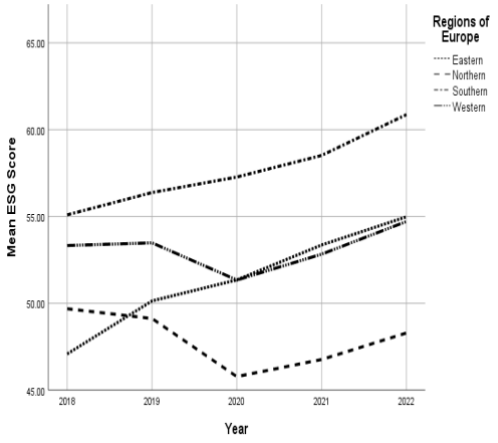

Figure 2: Evolution of the mean ESG scores of European listed companies published by the Refinitiv Eikon rating agency

It was noted that most listed companies for which the Refinitiv Eikon rating agency published ESG scores are Northern European, and the fewest are Eastern European (see *Figure 1*). However, the trend of similar evolution of the mean ESG scores of Western and Eastern European listed companies was observed (see *Figure 2*). This aspect determined the application of the comparative evaluation of the sustainability reporting frameworks used by Western and Eastern European listed companies.

For the two regions, the top 3 countries were selected based on the number of listed non-financial companies for which the Refinitiv Eikon rating agency published the ESG scores for the period 2018-2022. Eurasian or non-

EU countries such as Monaco, Switzerland, Russia, and Ukraine were not considered. Based on this criterion, six countries were selected and grouped in the two regions of Europe, namely Western (France, Germany, Netherlands) and Eastern (Hungary, Poland, Romania).

Finally, the sample selection was completed by establishing the top 5 listed non-financial companies based on ESG performance for each country previously selected. The mean ESG scores published by the Refinitiv Eikon rating agency for the period 2018-2022 was the measure used to evaluate ESG performance. The application of the specific criterion regarding the selection of listed non-financial companies with the highest ESG performance was based on the need to the content analysis of some sustainability or annual reports as complex and transparent as possible (LSEG Data & Analytics, 2023), as well as to ensure the comparability of the results within the two regions of Europe. Similarly, Baier, Berninger, and Kiesel (2020) selected the 25 largest companies by market capitalization in the S&P 100 index, Borges et al (2022) analysed the sustainability reports of the most relevant companies in the oil and gas sector in Latin America considering the revenues of these companies, while Jayarathna et al (2022) analysed CSP through the lens of sustainability reports published in accordance with the GRI frameworks. Thus, the sample includes 30 listed non-financial companies headquartered in Europe, 15 companies for each region of Europe. The reports of the companies during the period of 2018-2022 were used to extract the information on sustainability frameworks, resulting in 150 sustainability or annual reports used.

3.2 Content Analysis Method

First, the analysis of evolution and level of use of sustainability frameworks was based on the content analysis of the 150 selected sustainability or annual reports using the MAXQDA software. This was used to extract keywords specific to the 14 sustainability frameworks selected through the literature review. *Table 1* shows the sustainability frameworks and keywords used for the first analysis.

Table 1: Keywords used to analysis of the evolution and level of use of sustainability frameworks

Sustainability Frameworks	Root Words / Keywords
ESG	ESG; Environmental, Social, and Governance; Environmental, Social and Governance; Environmental Social and Governance
GRI	GRI; Global Reporting Initiative
SASB	SASB; Sustainability Accounting Standards Board
IIRC	IIRC; International Integrated Reporting Council; Integrated Reporting
ISSB	ISSB; International Sustainability Standards Board
CDP	CDP; Carbon Disclosure Project
CDSB	CDSB; Climate Disclosure Standards Board
TCFD	TCFD; Task Force on Climate-related Financial Disclosures; Task Force on Climate related Financial Disclosures; TaskForce on Climate-related Financial Disclosures; TaskForce on Climate related Financial Disclosures
TNFD	TNFD; Task Force on Nature-related Financial Disclosures; Task Force on Nature related Financial Disclosures; TaskForce on Nature-related Financial Disclosures; TaskForce on Nature related Financial Disclosures
SDGs	SDGs; SDG; Sustainable Development Goals; 2030 Agenda
NFRD	NFRD; Non-Financial Reporting Directive; Directive (EU) 2014/95
SFDR	SFDR; Sustainable Finance Disclosure Regulation; Regulation (EU) 2019/2088
TR	Taxonomy Regulation; Regulation (EU) 2020/852
CSRD	CSRD; Corporate Sustainability Reporting Directive; Directive (EU) 2022/2464

Words marked with an asterisk (*) show that all the forms found were considered in the content analysis.

Additionally, to analyse evolution and level of using sustainability frameworks a Frameworks Score was developed for each sustainability or annual report included in the sample. The Frameworks Score is computed by using the following equation:

$$F\_SC_j = \frac{\sum_{i=1}^{n} Xij}{n}$$

where F_SC_j is Frameworks Score, n is the maximum expected score of Frameworks Score, 14 points respectively in accordance with the maximum number of sustainability frameworks included in the analysis, and X for sustainability or annual report j and sustainability framework i, assumes the value 1 if the item is revealed in the report and 0 otherwise. The data collected through content analysis were processed using the SPSS Statistics software. Descriptive analysis and comparison of means were applied for RH_1.

The second analysis considered the stages of corporate sustainability proposed by Landrum and Ohsowski (2018). The content analysis of the sustainability or annual reports using MAXQDA software was carried out based on the keywords proposed by Landrum and Ohsowski (2018) for each stage of corporate sustainability, namely:

- *Stage 1*: Compliance (very weak sustainability);
- *Stage 2*: Business-Centered (weak sustainability);
- *Stage 3*: Systemic (intermediate sustainability);
- *Stage 4*: Regenerative (strong sustainability);
- *Stage 5*: Coevolutionary (very strong sustainability).

Searching validation for RH_2, descriptive analysis was applied by processing data collected through content analysis using SPSS Statistics software.

Finally, CSP analysis was based on the content analysis of sustainability or annual reports considering the three components of CSP, economic, environmental, and social (EES) performance. MAXQDA software was used to extract keywords specific to EES performance (Alsayegh et al, 2020; Ali and Jadoon, 2022). For CSP analysis, the frequency of keywords and the connections between them were analysed using Gephi software. Keywords co-occurrence was applied for RH_3. *Table 2* shows the EES performance and keywords used for CSP analysis.

Table 2: Keywords used to corporate sustainability performance (CSP) analysis

EES Performance	Root Words / Keywords
Economic performance	Economic value*; Economic growth; Profit*; Investment*; Productivity; Financial implication*; Financial assistance*; Market capitalization*; Market value*; Procurement practice*; Corrupt*; Anticompetitive behaviour; Antitrust; Market practice*; Fiscal policy*; Tax governance; Risk management; Stakeholder engagement
Environmental performance	Recycled; Energy; Water; Freshwater; Fresh water; Wastewater; Waste water; Effluent*; Spill*; Waste; Non-hazardous waste; Nonhazardous waste; Non hazardous waste; Hazardous waste; Biodiversity; Ecosystem service*; Climate change; GHG emission*; Greenhouse gas emission*; CO2 emission*; Carbon dioxide*; CO2 equivalent emission*; NOx emission*; Nitrogen oxide*; SOx emission*; Sulfur oxide*; VOC emission*; Volatile organic compound*; ODS emission*; Ozone-depleting substance*; Ozone depleting substance*; Environmental criteria; Environmental impact*; Environmental protection expenditure*; Environmental protection expense*; Environmental protection cost*; Environmental expenditure*; Environmental expense*; Environmental cost*; Ecological footprint
Social performance	Employment*; Employee turnover; Management relation*; Labor relation*; Occupational health; Occupational safety; Training; Employee skill*; Diversity; Equal opportuniti*; Discrimination; Freedom of association; Collective bargaining; Collective agreement*; Child labor; Forced labor; Compulsory labor; Human rights; Community; Social criteria; Social impact*; Social expenditure*; Social expense*; Social cost*; Public policy; Customer health; Customer safety; Labeling; Compliance; Customer privacy; Fine*; Sanction*

Words marked with an asterisk (*) show that all the forms found were considered in the content analysis.

4. Results and Discussion

4.1 Analysis of the Evolution and Level of use of Sustainability Frameworks

To investigate the first research hypothesis (RH_1), *Figure 3* shows the evolution of the use of sustainability frameworks in corporate reporting based the Frameworks Score measure by regions of Europe, while *Figure 4* shows the evolution of the use of reporting frameworks by each country in the selected sample.

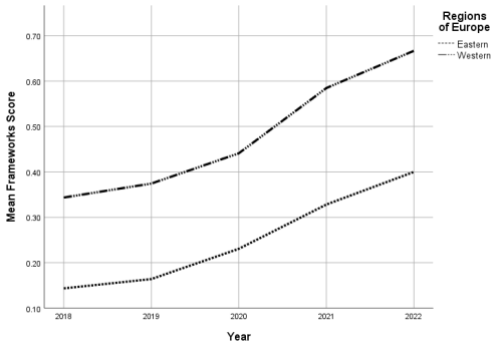

Figure 3: Evolution of the mean Frameworks Score by years and regions

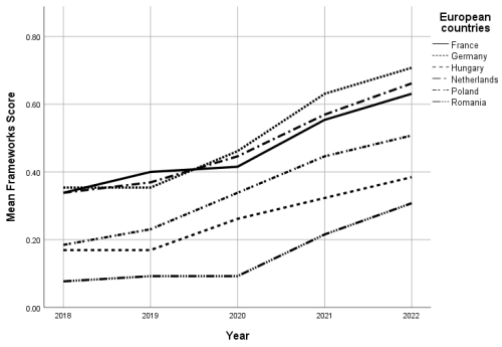

Figure 4: Evolution of the mean Frameworks Score by years and countries

It was noted that Western and Eastern European listed non-financial companies have an increasing trend from year to year in using more sustainability frameworks in corporate reporting. It was also concluded that German listed non-financial companies are rated as the most involved in using different reporting frameworks, while Romanian listed non-financial companies show the weakest interest in using a diversity of sustainability reporting frameworks in the preparation and publication of sustainability or annual reports. The results of the evolution of use of sustainability frameworks are complemented by the analysis of the diversity of sustainability frameworks that led to these evolutions from year to year in the preparation and publication of sustainability or annual reports. *Figure 5* shows the diversity of sustainability frameworks used in corporate reporting by European non-financial listed companies in the period 2018-2022 by regions, and *Figure 6* shows the structure by each country in the selected sample.

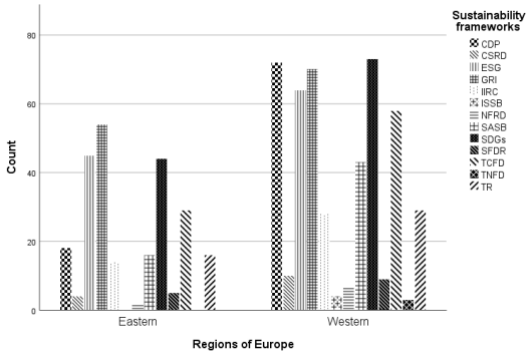

Figure 5: Diversity of sustainability frameworks in use 2018-2022 by regions

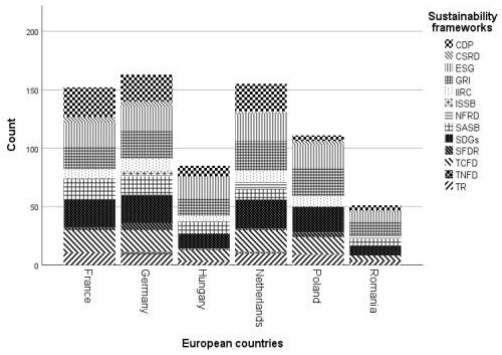

Figure 6: Diversity of sustainability frameworks in use 2018-2022 by countries

It was highlighted that the most used sustainability frameworks used in the preparation and publication of sustainability or annual reports by European non-financial listed companies were the GRI standards, the ESG framework, the SDGs, the CDP project, or the TCFD recommendations. Instead, the CDSB framework, not found at all in the reports, TNFD recommendations, ISSB standards, or European directives such as NFRD, SFDR, and CSRD, these frameworks stood out as the least used in corporate reporting of Western and Eastern European non-financial listed companies. Among the least used sustainability frameworks, the CDSB framework is the least justified. Although established in 2007, in 2010 the first climate change reporting framework was published, but it is not used by the European non-financial listed companies sampled in the 2018-2022 sustainability or annual reports. On the other hand, the low use of the TNFD, ISSB, NFRD, SFDR, and CSRD frameworks is justified considering their recent establishment and adoption, and for most of them, the standards being released after 2018-2022.

Also, observed the increased tendency of Western European non-financial listed companies to achieve the SDGs adopted by all 193 UN member states through the 2030 Agenda, all contributing to global challenges, such as ending poverty, developing the health and educational systems, economic growth, reducing the impact of climate change, and preserving oceans and forests (UN, 2015), to disclose the impact on the climate and the environment in line with the requirements of the CDP framework, and the use of GRI standards in the preparation and publication of sustainability or annual reports. In contrast, Eastern European non-financial listed companies focused primarily on the GRI standards, the ESG corporate reporting framework, and the 17 SDGs adopted by the 2030 Agenda, but not in a significant way on the CDP framework. In addition, in line with previous

assessments, German companies stood out with the greatest diversity of sustainability frameworks used in corporate reporting, followed by those from the Netherlands and France. On the other hand, Romanian companies relied on the lowest diversity of sustainability frameworks in the preparation and publication of sustainability or annual reports, followed by those from Hungary and Poland.

Lock and Seele (2016) suggest that European CSR reports do not have a high level of credibility, and there are aspects to improve in corporate reporting. Also, Gamerschlag et al (2011) show that the disclosure of sustainability information based on GRI standards by German companies is affected by their visibility, shareholder structure, and relationship with stakeholders.

The analysis of the level of use of sustainability frameworks by European non-financial listed companies is based on testing the homogeneity of variances by Levene's test, as well as by applying parametric (Independent Samples T) and non-parametric (Mann-Whitney U) tests. At this stage, the distribution of the Frameworks Score variable of European non-financial listed companies was investigated considering their grouping into Western European (=1) or Eastern European companies (=0). Independent T-tests and Mann-Whitney U-tests were performed to determine whether there were differences in the distribution of the Frameworks Score variable for Western and Eastern European non-financial listed companies. The results show a statistically significant difference between the means of the two regions of Europe (p-value < 0.5). Western European companies stood out with a mean of about 48% sustainability frameworks used in the preparation and publication of sustainability or annual reports, while Eastern European companies stood out with a mean of about 25% sustainability frameworks used. The results are reported in *Table 3*.

Table 3: Comparison between groups on the level of use of sustainability frameworks (Eastern = 0 vs. Western = 1)

Variable: Frameworks Score		Values
Mean (Eastern European non-financial listed companies)	N	75
	Mean	0.253
Mean (Western European non-financial listed companies)	N	75
	Mean	0.482
Homogeneity of variances	Leneve's Test	9.240***
Independent Samples	T Test	-7.992***
	Mean Difference	-0.229
	95% Confidence Interval *Lower*	-0.285
	95% Confidence Interval *Upper*	-0.172
Mann-Whitney	Mean Ranks = Eastern	52.490
	Mean Ranks = Western	98.510
	Mann-Whitney U	1086.500
	Wilcoxon W	3936.500
	Z Test	-6.534***

***, **, * indicate statistical significance at the 1, 5, and 10% levels, respectively.

The assumption of homogeneity of variances was violated for the Frameworks Score variable, as assessed by Levene's test (p-value < 0.5). Therefore, the Mann-Whitney U test for assessing the significant differences between the means of the two regions of Europe is more relevant. The mean ranks of the Mann-Whitney U test clearly indicate that the Western European non-financial listed companies (= 1) are distinguished by a higher level of use of sustainability frameworks in corporate reporting.

4.2 Analysis of the Stages of Corporate Sustainability

Figure 7 shows the degree of use of keywords in the sustainability or annual reports prepared and published by European non-financial listed companies at each stage proposed by Landrum and Ohsowski (2018).

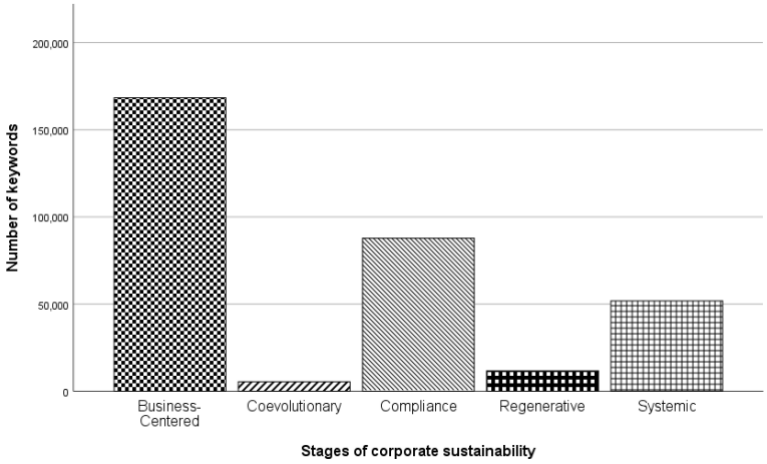

Figure 7: The degree of use of keywords in corporate reporting for the period 2018-2022 by stages of corporate sustainability

It was noted that European companies tend to adopt corporate reporting focused by business-centered (weak sustainability), followed by compliance (very weak sustainability) and systemic (intermediate sustainability). This aspect suggests that most European non-financial listed companies in the sample have a low level of compliance with the requirements of sustainability frameworks and are economic science-oriented and business-oriented in the preparation and publication of sustainability or annual reports.

Figure 8 shows the degree of use of keywords in corporate reporting for the period 2018-2022 by stages of corporate sustainability and regions of Europe, and *Figure 9* shows the structure by each country in the selected sample.

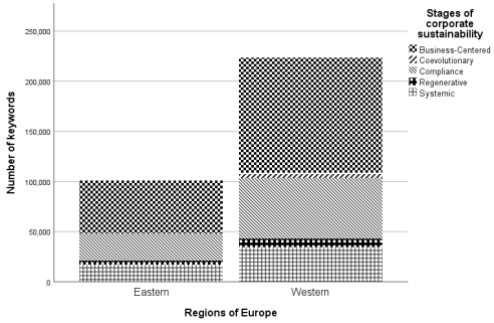

Figure 8: The degree of use of keywords in corporate reporting for the period 2018-2022 by stages of corporate sustainability and regions of Europe

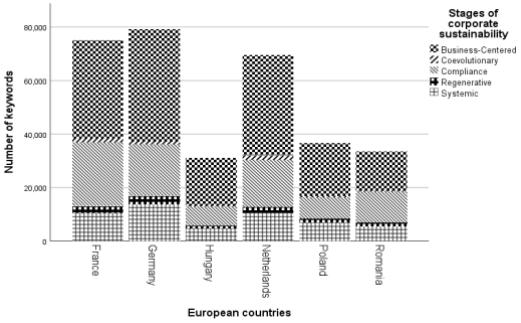

Figure 9: The degree of use of keywords in corporate reporting for the period 2018-2022 by stages of corporate sustainability and countries

Similar to the previous results, there was an increasing degree of use of keywords usage in the preparation and publication of sustainability or annual reports of Western European non-financial listed companies compared to the level of Eastern European non-financial listed companies. German companies were also judged to be the most involved in compliance with the requirements of sustainability frameworks, but Hungarian companies on the other hand were ranked as the least involved in compliance with the requirements for corporate reporting.

4.3 Corporate Sustainability Performance (CSP) Analysis

To investigate the last research hypothesis (RH_3), the EES performance was considered. *Figures 10, 11, 12, 13, 14,* and *15* show keywords co-occurrence maps for each region of Europe and each component of CSP, EES performances.

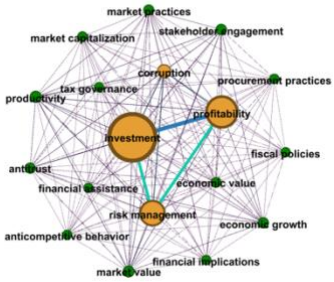

Figure 10: Keywords co-occurrence map for Western companies by economic sustainability performance

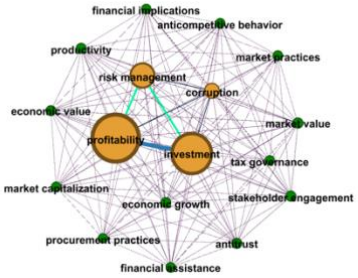

Figure 11: Keywords co-occurrence map for Eastern companies by economic sustainability performance

From the perspective of the economic component of sustainability performance, the results suggest that Western European non-financial listed companies tend to ensure the investments necessary for business, followed by profitability, management risk and avoiding corruption, while the focus of Eastern European non-financial listed companies is primarily on profitability.

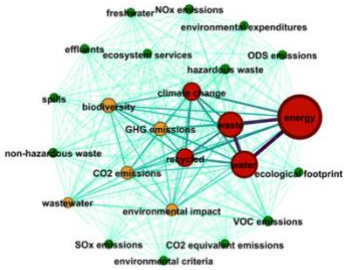

Figure 12: Keywords co-occurrence map for Western companies by environmental sustainability performance

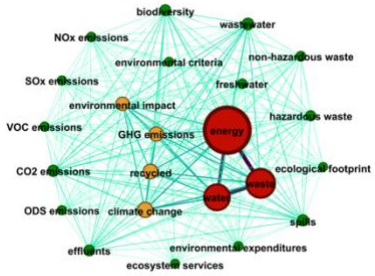

Figure 13: Keywords co-occurrence map for Eastern companies by environmental sustainability performance

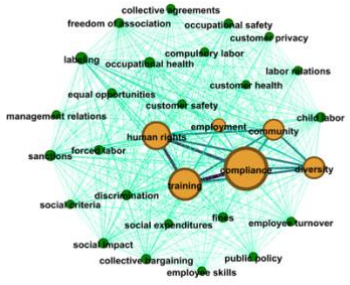

Figure 14: Keywords co-occurrence map for Western companies by social sustainability performance

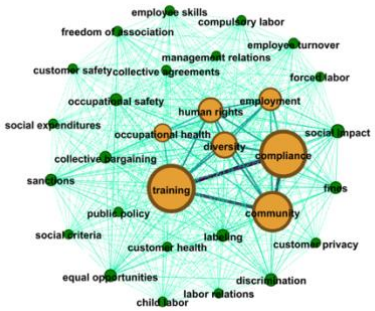

Figure 15: Keywords co-occurrence map for Eastern companies by social sustainability performance

On the other hand, it was noted that Western European companies focused heavily on the group consisting of energy, water, waste, climate change, and recycling issues, followed by the group on reducing carbon emissions, greenhouse gas emissions, biodiversity, environmental impact, and waste water. In contrast, Eastern European companies stood out by focusing on energy, water, and waste consumption, while climate change, recycling, greenhouse gas emissions, and environmental impact were in the background. In the end, the social component regarding sustainability performance was noted as being similar in the case of both regions in Europe, focusing on the issues of compliance, training, community, human rights, diversity, employment, but also health at work in the case of Eastern European companies.

Similarly, Gunawan, Permatasari, and Fauzi (2022) conclude the increasing trend of sustainability reporting by Indonesian companies with emphasis on economic, social, and followed by environmental information. In contrast, Jayarathna et al (2022) appreciate that environmental and social aspects have dominated sustainability reporting in accordance with GRI standards in the case of logistics companies. On the other hand, Heichl and Hirsch (2023) present in the context of the analysis of French, German, Italian, and Swedish companies that the tendency to report ESG information is different for each country or activity sector.

5. Conclusions

The variety of sustainability frameworks focus, to a greater or lesser extent, on encouraging companies to assess and report their economic, environmental, and social dependencies, impacts, risks, and opportunities. On the one hand, the study finds that the trend of using sustainability reporting frameworks in Western and Eastern Europe increases from year to year. Western European companies stood out with a mean of about 48% sustainability frameworks used in the preparation and publication of sustainability or annual reports, while Eastern European companies stood out with a mean of about 25% sustainability frameworks used. The Mann-Whitney U test clearly indicate that the Western European non-financial listed companies are distinguished by a higher level of use of sustainability frameworks in corporate reporting. The study claims that the most used sustainability frameworks used in the preparation and publication of sustainability or annual reports by European non-financial listed companies were the GRI standards, the ESG framework, the SDGs, the CDP project, or the TCFD recommendations. German companies stood out with the greatest diversity of sustainability frameworks used in corporate reporting, while Romanian companies show the weakest interest in using a diversity of sustainability reporting frameworks.

On the other hand, the study finds that most European non-financial listed companies in the sample have a low level of compliance with the requirements of sustainability frameworks and are economic science-oriented and business-oriented in the preparation and publication of sustainability or annual reports. Furthermore, Western European non-financial listed companies are more focused on investment and environmental aspects, while those in Eastern Europe are more focused on profitability and social aspects.

The main practical contribution of this study is based on the fact that Eastern European non-financial listed companies are distinguished by a lower level of use of sustainability frameworks in corporate reporting. Thus, several practical implications can be drawn from this study. The most important practical implication is in relation to Eastern European accountants and managers. They should pay more attention to sustainability reporting within companies to reduce the reporting gap compared to the Western European region. In addition, professionals who prepare sustainability reports can initially focus on the main frameworks used by European companies, such as the GRI standards, the ESG framework, the SDGs, the CDP project, or the TCFD recommendations. Also, sustainability reports developed and published by German companies can be used as a reference in Western and Eastern European countries.

This study was limited to a few analyses, as well as a small group of companies from six European countries. Potential future research may include correlating financial performance with the level of use of sustainability frameworks, addressing other regions of Europe, as well as developing the qualitative assessment of frameworks used in sustainability reporting.

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