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Sustainability Performance Indicators and Firm Financial Performance in the Healthcare Sector during Crisis Period

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Abstract

Starting with the pandemic period, the healthcare sector was expected to consider measures aligned to the evolving needs of patients and communities. Healthcare providers were keen to adopt environmental and social strategies to overcome crises, but those were postponed due to multiple health-war-climate crises. The aim of this research is to observe whether sustainability performance is reported during crisis periods and its implication for sustainable performance and profitability of healthcare companies. To investigate the sustainability indicators reported by the healthcare sector and their implications during the crisis period towards companies' performance, a sample of 199 listed European companies was used to perform a quantitative analysis based on descriptive statistics of the mean, standard deviation, minimum, and maximum reported values. The data sample was collected from the Refinitiv Eikon database for the period 2020-2022. The sustainability performance indicators used in the analysis are ESG scores, ESG Controversies, Environmental Pillar Score, Social Pillar Score, Governance Pillar Score, CSR Sustainability Committee Score, Board Size and Board Gender Diversity Score, while for analysing the firm financial performance indicators, the study uses ROA, ROE, Assets Turnover, and Number of Employees. The results of the study reveal that European companies in the healthcare system took measures and reported sustainability along with firm financial performance during the crisis period. Descriptive statistics revealed that healthcare sector companies reported sustainability information in ESG reporting and ESG controversies without being involved in any controversies. The social pillar was the focus of the sector, as it was the most affected during this period. ROA and ROE recorded negative values, while Assets Turnover showed that healthcare sector companies effectively used their assets to generate sales during crisis periods. The novelty of the study is reflected in the analysis of sustainability and financial performance indicators reported by European listed companies in crisis periods.

Keywords: sustainability performance indicators, firm financial performance indicators, healthcare sector, crisis period.

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1. Introduction

During multiple crises, the healthcare industry faced challenges such as increased workload, hygiene measures, war, and climate changes. To overcome these challenges, special strategies were implemented, considering patients and community needs, as well as environmental and societal concerns. Countries with developed healthcare systems are prepared to combat pandemic crises. Sustainable practices in the healthcare sector, such as ESG reporting and Corporate Sustainability Reporting (CSR), are beneficial, but a burden for decision makers. Without any kind of engagement with its surroundings, no business can function in a vacuum or as a closed system. The business sector becomes more complicated and labour-intensive as corporations strive to outperform their rivals; this has an impact on society and the environment. Over the past 10 years, the conversation around sustainability and corporate social responsibility (CSR) has expanded rapidly.

This study is relevant for the further development of strategies and practices by the healthcare sector during crisis periods based on the information reported. This study aims to observe whether sustainability performance is reported during crisis periods and its implication towards healthcare companies' sustainable performance and profitability. In detail, the authors investigate the connection between sustainability performance reporting and the financial success of healthcare sector companies, as well as on and CSR adoption. In order to achieve the research purpose, a descriptive analysis of the statistics of sustainability performance indicators used by the healthcare sector listed companies' and the firm financial performance indicators during crisis period is used in the study. The data was collected from Refinitiv Eikon Database for the 2020-2022 crisis period.

The author's contribution to the study resides in: (1) the analysis of sustainability performance indicators and firm financial performance indicators reported by the healthcare sector during crisis periods, compared to other studies analysing a pre-crisis period, and (2) filling the literature gap on studies about sustainability reporting in relation to firm financial performance of the healthcare sector during a crisis period.

The study is organised as follows: the first part of the research presents the problem statement and the aim of the research; the second exposes the methodology used for analysing the sustainability indicators reported by the healthcare sector and its implication during the crisis period towards companies' firm financial performance, while the last part of the research focuses on presenting the findings and discussion on the results of the descriptive statistics, as well as the conclusion of the study.

2. Problem Statement

The importance of reporting sustainability performance has grown for both developed and emerging economies due to growing concerns about the environment

and the maintenance of ecosystems to ensure sustainability. The 1987 Brundtland Report on closing the development gap between human and environmental issues led to the rise in popularity of the idea of sustainable development, or sustainability (Bebbington & Unerman, 2018). Sustainability performance reporting is often confused with other concepts, such as triple bottom line reporting and corporate social responsibility (CSR) reporting, that refer to the disclosure of information about economic, environmental, and social impacts. Businesses that want to provide their stakeholders with more information and value on how their operations and activities affect society and the environment voluntarily release sustainability performance reports (Garg, 2015). According to Dyllick and Hockerts (2002), addressing the needs of current and potential stakeholders without sacrificing a company's capacity to meet those of future generations is the definition of sustainability from the viewpoint of the business. Since it encompasses the environmental, social, and economic (ESG) pillars of the triple bottom line, the concept of sustainability is quite inclusive (Hart & Milstein, 2003). The literature on sustainability performance reporting only partially addresses the issues of why some businesses use sustainability management strategies while others do not, as well as the situations in which adopting sustainable practices might give businesses a competitive edge (Rivera-Camino, 2007).

Sustainable practices in the healthcare sector through ESG reporting and CSR led to the idea that these are beneficial and a burden at the same time, especially for decision makers (Deselaers et al., 2023). The CSR performance studies' analysing sustainability performance in relation to firm financial performance (Kuzey et al., 2021), or in ESG in relation to financial performance and firm value (Alareeni & Hamdan, 2020; Almeyda & Darmanasyah, 2019; Constantinescu et al., 2021) acknowledged both positive and negative influences on companies. In the healthcare sector, CSR performance did not generate firm value and profitability before the crisis period (Kuzey et al., 2021). Therefore, it is interesting to observe whether the recent health crisis (SARS-CoV-2) has changed the value and profitability of the healthcare sector.

Growth in total assets, profitability, and efficiency (Return on Assets – ROA, and Return on Equity – ROE) are metrics that can be used to assess a company's performance. A company's ability to use its assets effectively and efficiently to produce resources is subjectively measured by its financial performance. ROA and ROE are the subsets of profitability performance that make up an organisation's financial performance. The growth dimension of performance is made up of market share growth, asset growth, net revenue growth, net income growth, and increased number of employees (Santos & Brito, 2012).

The extent to which a company discloses information can be influenced by its size and profitability. As stated by Uwuigbe et al. (2018), larger companies, for instance, are more inclined to reveal more information to lower agency costs, enhance their reputation, gain the public's support, and find investors. According to Turban and Greening (1997), who also offered practical support for the claim, companies that perform well in terms of sustainability are more likely to draw in the

best candidates for employment. Therefore, these companies would attract more competent candidates, perhaps increasing their competitive advantage over rivals.

During the multiple crisis period (climate change, SARS-CoV-2, and conflicts between states), the healthcare sector (services and providers) was affected by functional challenges such as increased workload and hygiene measures for society (Deselaers et al., 2023), the war affecting business continuity and lifestyle of citizens, and climate change, which is one of the hazardous problems today (Barchielli et al., 2022; Benedek et al., 2021). To overcome these crises, the healthcare sector should have considered special strategies aligned with the needs of patients and communities, as well as environmental and societal concerns. The study of Zaremba et al. (2021) observed that countries with developed healthcare systems are prepared to combat pandemic crises.

3. Aim of the Research

This paper analyses whether sustainability performance indicators and firm financial performance are reported in the healthcare sector during crisis periods. Based on the literature review and through specific indicators, this study aims to observe how sustainability performance reported during the crisis periods affected the firm financial performance of the healthcare sector.

4. Research Methods

From a methodological perspective, the analysis of sustainability performance indicators and firm financial performance in the healthcare sector during crisis periods is based on quantitative research performed through descriptive statistics of the mean, standard deviation, minimum, and maximum values reported. Descriptive statistics are instruments that aid in organising and summarising the real data regarding observations and scores. They also measure uncertainty and how it impacts planned observations and experiments (Dong, 2023). The scope of this research is to observe the sustainability performance indicators reported during the crisis period and their implication towards healthcare companies' sustainable performance and profitability. In this section, the sample data and the variables included in the analysis are presented.

4.1 Study Sample

The database size for the analysis of sustainability performance indicators and firm financial performance in the healthcare sector initially totalled 199 listed European companies. Considering that the analysis was focused on sustainability indicators reported during multiple crisis periods, only companies that presented sustainability information in the period 2020-2022, based on the reported ESG Score, were considered. Therefore, 21 companies were removed from the database and only 178 companies reported information on sustainability based on ESG Scores. It was remarkable that companies in Northern and Western Europe were more interested in reporting sustainability and financial performance, while Central and Eastern Europe

(CEE) companies were just starting to implement sustainability measures due to new directives (Arraiano & Hațegan, 2019). The details can be found in Table 1.

Table 1. Final Sample Data

	Overall
Number of listed companies	199
Initial observations for the period 2020-2022	597
Less: observations dropped due to insufficient data to ESG Score	(21)
Final observations for the period 2020-2022	576
Number of Final Observations by Region	
Central and Eastern Europe	5
Northern Europe	102
Southern Europe	13
Western Europe	79

Source: Refinitiv Eikon (2024).

For this quantitative study, the Refinitiv Eikon database (Thomson Reuters) was used as a secondary data source. This database source was previously used in other studies that analysed sustainability reporting in relation to financial performance indicators (Bancu et al., 2023; Bătae et al., 2020; Constantinescu et al., 2021; Kuzey et al., 2021). The analysis was carried out for the period 2020-2022 for the analysis of the healthcare sector performance during multiple crisis periods. The study of Kuzey et al. (2021) analysed the performance of the healthcare sector during the period 2011 and 2018, considering the CSR performance, leaving the impression that sustainability reporting improved the efficiency of companies in that period, but in terms of profitability, a weak performance was observed, since sustainability performance cannot generate profit. However, this study aims to observe a different period in which pandemic, conflicts between countries, and climate change impacted company performance, especially the healthcare sector. Nevertheless, these were considered the latest challenges of all time in the world (Barchielli et al., 2022).

4.2 Variables

The construction of the descriptive analysis was based on 13 indicators, out of which seven are independent variables, three dependent variables, and three control variables. Nine of them represent sustainability performance indicators (ESG Score, ESG Combined Score, Environmental Pillar Score, Social Pillar Score, ESG Controversies, CSR Sustainability Committee Score, Board Size, and Board Gender Diversity Score) and four of them firm financial performance indicators (Return on Assets - ROA, Return on Equity - ROE, Assets Turnover, and Number of Employees. The reason this study employs these indicators is that they are commonly used in sustainability performance articles (Kuzey et al., 2021). The details of the description sources used and the references to the variables are presented in Table 2.

Table 2. Definitions of variables, sources, and references

Indicators	Definition	Source	Reference
Sustainability Performance Indicators			
ESG Score (independent variable)	It considers CSR performance and ESG scores separately.	Refinitiv Eikon	(Kuzey et al., 2021)
ESG Combined Score (independent variable)	It considers CSR performance, ESG score ranging between 0 and 100.		(Kuzey et al., 2021)
Environmental Pillar Score (independent variable)	It contains information on resource use, emissions reduction, and innovation.		(Bătae et al., 2020; Constantinescu et al., 2021; Kuzey et al., 2021)
Social Pillar Score (independent variable)	It contains information on the workforce, human rights, the community, and product responsibility.		(Bătae et al., 2020; Constantinescu et al., 2021; Kuzey et al., 2021)
Governance Pillar Score (independent variable)	It contains information about Management, Shareholders, and CSR Strategy.		(Bătae et al., 2020; Constantinescu et al., 2021; Kuzey et al., 2021)
ESG Controversies Score (independent variable)	It measures a company's exposure to controversies related to the environmental, social, and governance pillars, reflected in the global media. Its score ranges from 0 (worst) to 100 (the best).		(Bătae et al., 2020)
CSR Sustainability Committee Score (independent variable)	Analyses if a company has a CSR committee established by the board level or senior management to make sustainability decisions. If a committee exists, the score is 1, otherwise 0.		(Bancu et al., 2023; Kuzey et al., 2021)
Board Size (control variable)	Total number of directors on board.		(Kuzey et al., 2021)
Board Gender Diversity Score (control variable)	The percentage of women directors on board.		(Kuzey et al., 2021)
Firm Financial Performance Indicators			
ROA (dependent variable)	Net Income After Taxes/Total Assets	Refinitiv Eikon	(Kuzey et al., 2021; Alareeni & Hamdan, 2020)
ROE (dependent variable)	Net Income After Taxes/Total Equity		(Kuzey et al., 2021; Alareeni & Hamdan, 2020)
Assets Turnover (dependent variable)	Total Assets/Revenue		(Alareeni & Hamdan, 2020)
Number of Employees (control variable)	Total number of employees		(Kuzey et al., 2021)

Source: the authors' own research.

5. Findings and Discussion

5.1 Findings

The summary of statistics for each variable is presented in Table 3. In terms of sustainability reporting indicators, the results show that the healthcare sector has the highest mean value reported on the ESG Controversies Score (95), followed by the Social Pillar Score (51.56), Governance Pillar Score (51.50), and Board Diversity Score (51.28). According to Bătae et al. (2020), higher scores of ESG mean a high involvement of companies in public controversies. In the healthcare sector, the mean results show the best score close to 100, not confirming the involvement in too many controversies.

Table 3. Descriptive Statistics overall

Variables	N*	Mean	Standard Deviation	Min	Max
ESG Score	576	47.96	23.05	5.152	95.58
ESG Combined Score	576	46.61	21.68	5.152	95.10
Environmental Pillar Score	575	34.70	29.53	0.000	94.40
Social Pillar Score	575	51.56	28.39	0.616	97.75
Governance Pillar Score	576	51.50	22.12	0.657	97.78
ESG Controversies Score	575	95.00	16.73	0.735	100.00
CSR Sustainability Committee Score	576	31.40	34.32	0	83.58
Board Size	576	8.04	3.13	1.000	21.00
Board Gender Diversity Score	576	51.28	28.25	0.962	99.75
ROA	576	(0.10)	0.37	(3.255)	0.45
ROE	576	(0.16)	2.36	(41.855)	27.45
Assets Turnover	576	0.48	0.39	(0.094)	2.54
Number of Employees	558	11642	31790.49	6	316078

Note: * N represents the total number of valid observations.

Source: the authors' own research results.

During the multiple crisis period, such as the SARS-CoV-2 pandemic, companies were usually focused on the social pillar part which were the most affected during these times (Barchielli et al., 2022). This is also confirmed by the mean results of the mean of the Social Pillar Score (51.56), which is the highest of the ESG separated scores. On average, the companies in the sample have a mean of 47.96 percent of ESG Score and 46.61 percent of ESG Combined Score, meaning a high performance, as well as a high standard deviation. Compared to the study of Kuzey et al. (2021), where the mean was more than 50%, this study is lower and could indicate that healthcare companies did not continue to focus on reporting sustainability information with high interest. An interesting result is observed in the CSR Sustainability Committee Score. Healthcare listed companies, as well as other companies, used to obtain the maximum score of 1 (Bancu et al., 2023; Kuzey et al., 2021). Now the maximum score obtained is 83.58 indicating a high presence of a sustainability committee in charge of sustainability actions during the crisis period.

The control variables Board Diversity and Board Gender Diversity presented that the maximum number of people in charge of sustainability reporting was 21 and 51.28% of the board members were women. The sustainability performance indicators, as well as its control variables, presented a high standard deviation. According to the results of the study by Hutagaol-Martowidjojo et al. (2023), the sustainability performance of the healthcare sector differs from countries and situations, and the crisis periods, companies could suffer losses.

In terms of firm financial performance indicators, the results show that the healthcare sector has registered low mean scores for ROE and ROA during the multiple crisis period, but a high mean of Assets Turnover. The sampled companies show a negative mean ROE value of -0.16 percent and a negative mean value of ROA of -0.10 percent. The minimum value of ROE is -41.855 and the maximum value is 27.45, which could be translated as a difference between healthcare companies (Mititean, 2022). Usually, companies that report high sustainability performance have higher ROA and ROE according to the findings of Alareeni and Hamdan (2020), and higher sustainability performance scores mean higher financial performance of companies. In this case, descriptive statistics observed positive ESG Scores reported by healthcare companies, but negative results of profitability indicators. The positive mean of the Assets Turnover of 0.48 percent showed that healthcare companies effectively used their assets to generate sales during crisis periods, but not as effectively as in the period analysed by Kuzey et al. (2021).

It could be concluded that European companies in the healthcare sector took measures to achieve sustainable performance during the crisis period. However, to understand if there is a correlation between sustainability performance and firm financial performance reported by healthcare companies (as in Kuzey et al., 2021) during the crisis period, a deeper analysis could be performed through a further correlation analysis between the indicators as in the study of Alareeni and Hamdan (2020).

5.2 Discussion

If the healthcare sector had not taken sustainability performance measures, the business would have been at financial risk. An argument for a relationship between social responsibility and financial risk measures like earnings variance and stock return variance can also be made, even though theory and research have mainly focused on the relationship between sustainability performance reporting, reporting, reporting and measures of financial performance (Ullmann, 1985). To begin with, a company's financial risk may increase in response to low social responsibility. Due to their perception of the firm's low management calibre, investors may view less socially conscious companies as riskier investments (Alexander & Buchholz, 1978). Due to a lack of social responsibility, investors and other stakeholders can also expect a rise in company expenses. For instance, a company's very survival may be threatened by fines imposed by the government or lawsuits like the ones that have been filed against asbestos, chemical, and pharmaceutical companies lately.

Businesses that can create a pleasant and satisfied work environment for their employees have been shown both theoretically and empirically to perform better than those that cannot. According to Habaragoda (2018), a significant proportion of managers think that having contented staff members is essential to achieve exceptional work output. Businesses now understand more than ever how crucial it is to maintain positive working relationships with employees to boost productivity. Workers' views, including their contentment with job security, perks, compensation, and the job itself, are impacted by common internal CSR activities such as employee training, health and safety, welfare facilities, rewarding, and work-life balance. Performance within the company will be influenced by the good sentiments that employees have about it.

6. Conclusions

The analysis of sustainability performance indicators and firm financial performance in the healthcare sector during the multiple crisis period was carried out based on descriptive statistics. Companies in the healthcare sector have reported sustainability performance through ESG scores, ESG Controversies, Environmental Pillar Score, Social Pillar Score, Governance Pillar Score, CSR Sustainability Committee Score, Board Size and Board Gender Diversity Score, as well as firm financial performance through ROA, ROE, and Assets Turnover indicators.

The results of the descriptive statistics of sustainability performance indicators presented that during the multiple crisis period companies reported information in ESG Controversies and ESG scores without being involved in many controversies. The focus of healthcare companies during this period was on the social pillar that was the most affected. In case of the presence of a sustainability committee, an increased one was registered, while the results of the board in charge with sustainability reporting presented a maximum number of 21 members, out of which 51.28% were women.

The results of the firm's financial performance indicators presented negative mean values of ROA and ROE, which could be translated as differences between companies from a financial performance perspective. Healthcare companies managed their assets to produce sales during the crisis period, but less successfully than in other periods, as indicated by the mean of the Assets Turnover.

European companies in the healthcare sector took measures to achieve sustainable performance during the multiple crisis period (climate changes, SARS-CoV-2, and conflicts between states) and reported useful information on firm financial performance. However, the study was limited to a descriptive statistical analysis of the performance indicators chosen. For further research, a deeper understanding through an econometric analysis based on a correlation analysis on the effect of sustainability performance indicators on the firm's financial performance could be performed.

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