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**Influence of non-financial indicators and ESG voluntary disclosure on the market value of entities**

*Influência dos indicadores não-financeiros e do disclosure voluntário ESG no valor de mercado das entidades*

*Influencia de los indicadores no financieros y la divulgación voluntaria de ESG en el valor de mercado de las entidades*

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**KEYWORDS**

Non-financial  
Disclosure. Corporate  
Sustainability. Value  
Creation.

**Abstract:** This study aims to analyze the relationship between the disclosure of non-financial information presented in sustainability reports and the market value of companies involved in B3's ISE index. The sample is made up of 47 companies designated in the ISE portfolio. The research data was collected in the Economática databases and in the sustainability, reports made available by the companies. For data analysis, a non-parametric test was carried out to verify the existence of a significant statistical difference in the level of non-financial disclosure between the companies involved in the ISE, as well as an analysis of a multiple linear regression model (MQO) with the aim of verifying whether the value of companies influences the disclosure of non-financial information related to sustainability practices and ESG actions of companies involved in B3's Corporate Sustainability Index (ISE). The results demonstrated that there is no statistically significant difference in the level of non-financial disclosure between specific companies in the ISE. As well as a negative relationship was found between the non-financial disclosure of sustainability information and ESG practices in companies. Therefore, it is inferred that the market value of companies significantly influences the level of disclosure of non-financial information, however this

relationship is inverse to what is expected in the literature. The analysis of these relationships using financial and non-financial indicators expands the analysis of the impact of sustainability information.

**PALAVRAS-CHAVE**

Disclosure Não-financeiro. Sustentabilidade Empresarial. Criação de Valor.

**Resumo:** Este estudo tem como objetivo analisar a relação entre a evidenciação de informações não-financeiras presentes nos relatórios de sustentabilidade e o valor de mercado das empresas listadas no índice ISE da B3. A amostra é composta por 47 empresas listadas na carteira do ISE. Os dados da pesquisa foram coletados a partir dos bancos de dados da Economática e nos relatórios de sustentabilidade disponibilizados pelas companhias. Para análise dos dados, foi realizado um teste não paramétrico para verificar a existência de diferença estatística significativa no nível de disclosure não-financeiro entre as empresas listadas no ISE, como também, foi feita a análise de um modelo de regressão linear múltipla (MQO) com o intuito de verificar se o valor das empresas influencia na divulgação das informações não-financeiras relacionadas com práticas de sustentabilidade e ações ESG das empresas listadas no Índice de Sustentabilidade Empresarial (ISE) da B3. Os resultados mostraram que não existe diferença estatística significativa no nível de disclosure não-financeiro entre as empresas listadas no ISE. Como também, constatou uma relação negativa entre o disclosure não-financeiro de informações de sustentabilidade e práticas ESG nas empresas. Desta forma, infere-se que o valor de mercado das empresas influencia significativamente o nível de disclosure de informações não-financeiras, porém essa relação é inversa ao esperado pela literatura. A análise dessas relações utilizando indicadores financeiro e não-financeiros, ampliam a análise sobre o impacto das informações de sustentabilidade.

**PALABRAS CLAVE**

Divulgación no Financiera. Sostenibilidad Corporativa. Creación de Valor.

**Resumen:** Este estudio tiene como objetivo analizar la relación entre la divulgación de información no financiera presente en los informes de sostenibilidad y el valor de mercado de las empresas que cotizan en el índice ISE de B3. La muestra está formada por 47 empresas cotizadas en la cartera del ISE. Los datos de la investigación se recopilaron de las bases de datos de Economática y de los informes de sostenibilidad puestos a disposición por las empresas. Para el análisis de los datos se realizó una prueba no paramétrica para verificar la existencia de una diferencia estadística significativa en el nivel de divulgación no financiera entre las empresas que cotizan en el ISE, así como un análisis de un modelo de regresión lineal múltiple (MQO) con el objetivo de verificar si el valor de las empresas influye en la divulgación de información no financiera relacionada con las prácticas de sostenibilidad y acciones ESG de las empresas listadas en el Índice de Sostenibilidad Corporativa (ISE) de B3. Los resultados mostraron que no existe diferencia estadísticamente significativa en el nivel de divulgación no financiera entre las empresas que cotizan en el ISE. Así como también, se encontró una relación negativa entre la divulgación no financiera de información de sostenibilidad y las prácticas ESG en las empresas. De esta manera, se infiere que el valor de mercado de las empresas influye significativamente en el nivel de revelación de la información no financiera, sin embargo, esta relación es inversa a lo esperado en la literatura. El análisis de estas relaciones utilizando indicadores financieros y no financieros amplía el análisis del impacto de la información sobre sostenibilidad.

## Introduction

The evaluation of organizational performance still has predominantly financial prerogatives, but changes in the competitive scenario have altered informational demands. These demands for information coming from investors, investment fund managers, but also from customers, employees and society in general, incorporate issues of social well-being, transparency and environmental responsibility, in addition to the traditional demand for financial performance (Shakil, 2021; Chen & Xie, 2022, Fafaliou et al., 2022).

As a result, leaders and managers should not only focus on short-term financial factors, as business performance must include environmental, social and governance issues (Saxena et al., 2023; Romão & Callado, 2020).

This is because this growing concern with environmental factors from *stakeholders* influences the company's image (Hinojoza-López et al., 2020). Moreover, the creation of value, which goes beyond the prerogative of quarterly profits, but focuses on the remuneration on shareholders' invested capital in the long term, requires non-financial indicators to be monitored (Duda et al., 2022; Forte et al., 2023).

Operational aspects, processes, production, etc., generate indicators focused on, for example, quality, satisfaction, innovation and aspects of the market, which reveal not only the past or current financial situation, but show the entity's future prospects in a more holistic way, allowing for a more complete panorama (Kotane & Kuzmina-Merlino, 2011; Romão & Callado, 2020).

In this context, non-financial information relates to aspects of sustainable development, which involves the social, environmental and economic dimensions. Therefore, companies are under pressure to increase their level of *disclosure*, publicizing information in their reports on the impacts generated by their processes and activities to all the *stakeholders* involved (Irigaray & Stocker, 2022).

*Disclosure*, understood as the propagation of relevant information by the company, reduces information asymmetry through greater transparency and extent of information (Costa &

Correia, 2018).

However, reflections on the impact of *disclosure* of non-financial information linked to social and environmental issues is not a settled issue in the literature (Barka et al., 2023). Studies show that the *disclosure* of this information increases the value of the company (Mazionni et al., 2023; Redecker & Trindade 2021; Zhou, Lio & Luo, 2022; Romão e Câmara, 2022; Silva & Lucena, 2019; Romão & Callado, 2020; Costa & Correia, 2018). Others show that the *disclosure* of this information reduces or has no impact on the value of the company (Duda et al., 2022; Macedo et al., 2022).

This scenario gives rise to the following research problem: What is the relationship between the *disclosure* of non-financial information in sustainability reports and the market value of companies listed on B3's ISE? Thus, the aim of this study is: to analyze the relationship between the *disclosure* of non-financial information in sustainability reports and the market value of companies listed on the B3 ISE.

The ISE (Sustainability Index) of B3 is the indicator of the average performance of the asset prices of companies selected by the Brazilian stock exchange (B3, 2024), being the focus group of this study.

The research is justified by the contribution of using metrics to evaluate the *disclosure* of sustainability information and the creation of value for companies, as in the studies by (Silva & Lucena, 2019; Costa & Correia, 2018; Peixoto, et. al. 2017; Santos & Ribeiro, 2017), having as differential the establishment of a relationship between this information and non-financial indicators in the generation of financial and informational value.

From a societal perspective, this study contributes to the discussion on the effectiveness and legitimacy of sustainable development indicators and the reports provided by companies to disclose relevant information to the various *stakeholders*.

## Theoretical elements of the research

### Organizational performance and non-financial indicators

Measuring organizational performance is a challenge for managers and decision-makers, considering that it is unlikely that a single metric will represent it. This is because it is related to the strategy established by the company and goes beyond exclusively financial aspects (Romão & Câmara, 2022). In this regard, as discussed by Kaplan & Norton (1992), Neely, Adams & Crowe (2001), measures based on past records do not capture all the holistic perspectives necessary for prediction, correction of directions and process improvements.

In this regard, as discussed by Kaplan & Norton (1992), Neely, Adams & Crowe (2001), measures based on past records do not capture all the holistic perspectives necessary for prediction, direction correction and process improvements.

In addition, sustainable concerns have been growing among *stakeholders* since the 1970s, generating a demand for social and environmental information, which is linked to two main factors: (i) investors and *stakeholders* seek companies with social and environmental responsibility and (ii) companies that provide more information are seen as less uncertain and less susceptible to fines, lawsuits and having image problems in the market (Eliwa, Aboud & Saled, 2021).

This has indicated an influence on their market value, generating a growth in interest in companies participating in portfolios with high social, environmental and governance responsibility (Cui, Jo & Na, 2018; Eliwa, Aboud & Saled, 2021).

In this regard, indicators that provide a more holistic view, which include non-financial variables of organizations, contributing to a better decision-making process and the generation of important information to measure organizational performance (Callado & Jack, 2015).

Therefore, companies have sought to communicate strategic information of a non-financial nature, demonstrating conduct in favor of sustainability and value generation in the medium and long term, with a more futuristic approach

(Jayasiri et al., 2022; Rocha, 2022).

However, the use of these non-financial indicators often raises doubts about how to measure and which measures to select. Considering that the definition of what constitutes corporate sustainability is a non-consensual term, coming up with indicators that properly reflect it becomes a complex problem (Goyal et al., 2013).

Nevertheless, organizations are compelled, through aspects of legitimacy, to disclose non-financial reports that meet the *stakeholders* and that demonstrate a commitment to more sustainable practices and value creation (Ramos, 2019; Melo, 2023).

In this context, this study recognizes that non-financial aspects are relevant to the organizational performance and that, considering the demands and interests in sustainable aspects, they can influence the company's value in the market and lead to more complete and holistic analyses, focused on the long term.

### Voluntary disclosure of business sustainability and the market value of organizations

The purpose of accounting is to provide useful information to guide the decision-making process in organizations (Araújo & Carmo, 2022). This information must present the economic-financial and also the socio-environmental impacts resulting from the transactions carried out during the period, so that users can assess the impact of these transactions on the entity's performance (Ferreira et al., 2021).

These demands have led to an increase in *disclosure* by companies, at least in terms of quantity. *Disclosure* can be understood as the propagation of relevant and reliable information by corporations on a regular basis, covering their financial, economic and social situation (Holtz et al., 2020; Peixe et al., 2023), with some information being adjusted by law and regulations (mandatory) and some voluntary. The focus of this study is on voluntary information.

In this context, the Discretionary *Disclosure* Theory aims to understand the economic incentives and circumstances that lead managers to voluntarily disclose private information to the public (Dye, 2001). Therefore, studies that

describe a *disclosure* theory have as their main objective to explain the phenomenon of the *disclosure* of financial and non-financial information (Verrecchia, 2001; Dye, 2001), seeking to determine the effect of this propagation on the value of companies, on shares and the factors that cause certain information to be disclosed voluntarily or not (Salloti & Yamamoto, 2005).

From this perspective of *disclosure*, voluntary information is part of governance practices, which seek to communicate the company's ideas, data and positions to the *stakeholders*, thus reducing information asymmetry (Engel et al., 2019; Arantes & Dias, 2020).

However, according to the discretionary *disclosure* theory, companies tend to spread more good news than bad news (Dye, 2001; Rody et al., 2020). Nevertheless, economic agents with rational expectations may perceive that there is an adverse selection of information, thus generating distrust. Companies then disclose negative information to avoid being penalized by the market. However, good news is spread earlier and in greater quantity than bad news (Arantes & Soares, 2020; Kothari, Shu & Wysocki, 2009).

Consequently, there is an impasse for managers in assessing which, how and in what quantity they should *disclose* voluntary information. Known by the taxonomy proposed by Verrecchia (2001) as judgment-based *disclosure* (Gois, Santos, Cabral & Pessoa, 2015), this *disclosure* approach is based on the concept of adverse selection, the condition of which is the existence of information asymmetry (Kothari et al. 2009).

In this context, some factors can influence the *disclosure* of social and environmental information, including: (i) the development of corporate image, (ii) competitive advantage, (iii) legitimization of activities, (iv) the political benefits that actions can bring to the institution, and (v) the rights of *stakeholders* (Peixe et al., 2023; Elsayed & Elshandidy, 2020; Pereira et al. 2018; Souza et al., 2018).

By adapting to these requirements and parameters, organizations can receive seals, recognition and awards, thus improving their image in the eyes of *stakeholders*. Because of this,

many companies have aggregated all this information into single reports.

However, the reports that disclose this information take on different forms, approaches and names: Annual Report, Sustainability Report, Integrated Report, which are aligned with a series of systems that guide what should be disclosed. So, companies can then take several of these systems as a parameter, such as the *Global Reporting Initiative* (GRI), *Dow Jones Sustainability Index* (DJSI), *Ethos Indicators of Corporate Social Responsibility*, *B3 Corporate Sustainability Index*, for example (Imperador & Silva, 2018).

In this context, companies use a set of standard measures and indicators to assertively measure sustainable business performance (Moraes et al., 2023). The concept of business sustainability derives from the *triple bottom line*, which encompasses all efforts by companies to reduce their impact on society (Elkington, 2018; Silva, 2023).

Meanwhile, ESG (*environmental, social and governance*) adds to social and environmental concerns, the decision-making of the company's management, from the perspective of governance, considering how the decisions made affect society, the environment and organizational performance (Silva, 2023).

Considering the amplitude of systems, indicators and reports, problems such as: (i) different existing conceptions about sustainable development (changing the selected indicators) and (ii) duality between standardizing information making it comparable, but on the other hand, losing the relevance and materiality that discretion can allow (Imperador & Silva, 2018), make this measurement and *disclosure* of this information difficult and complex.

However, even with these limitations and problems, it is necessary to evaluate how this information impacts the market and companies, based on the reports published, in order to advance a theoretical and methodological construct on sustainable performance in organizations.

## Construction of research hypotheses

Companies have been pressured to disclose information, even when it comes to voluntary



information involving management and socio-environmental aspects. Theoretical and empirical evidence shows that this *disclosure* is not standardized and that companies disseminate more or less information depending on factors such as the market, competitors, pressure, and the search for awards and/or certifications (Miralles-Quirós et al., 2018; Allaya et al., 2018; Karajeh, 2020; Machado & Souza 2019).

Despite the research on the subject has opted for the use of financial indicators, it should be noted that it is also necessary to carry out studies that address non-financial indicators, since these not only provide a more holistic view of the company, but can also help to achieve financial indicators and organizational performance (Romão & Callado, 2020).

Some studies have sought to analyze whether companies listed on the Brazilian financial market have disclosed information regarding their non-financial indicators. Marquezan, Dieh & Alberton (2013) sought to identify which non-financial measures of performance evaluation are used and disclosed by the main companies participating in the IBOVESPA index (São Paulo Stock Exchange Index). They verified the use of these indicators by all companies, in most of the identified categories, realizing the importance of these indicators in the performance of operations.

The study by Vargas, Diehl & Ayres (2016) sought to identify the non-financial performance evaluation measures disclosed by companies in the telecommunications sector listed on BOVESPA. The results showed that there was a large predominance of indicators that measure and report on people-related issues, as well as evidence that the use of non-financial measures plays a fundamental role in this regard, as they complement and can often justify performance.

Checking whether there is a relationship between the *disclosure* of non-financial indicators and the market value of companies helps to understand the impact of this information. In this sense, Romão & Callado (2020) verified the relationship between the *disclosure* of non-financial performance indicators and the market value of publicly traded companies listed on B3. They found that companies with higher levels of *disclosure* of non-financial indicators have a

higher market value.

Thus, based on the literature on non-financial performance indicators and their relevance to an organization's performance, as well as the relationship between these indicators and the *disclosure* of sustainability information and ESG practices, we decided to analyze the level of *disclosure* of this information by companies listed on the ISE. With this in mind, the following research hypothesis was formulated:

H1: There is a significant statistical difference in the level of non-financial *disclosure* among companies listed on the ISE.

There is a growing number of studies that seek to demonstrate the voluntary *disclosure* of information related to corporate sustainability and the economic and financial performance of companies. This is because there is evidence of a relationship between voluntary *disclosure* and economic results (Zanoello et al., 2015). Likewise, the level of environmental *disclosure* has a positive and significant relationship with profitability, suggesting that companies with better performance tend to maximize sustainable *disclosure* (Santos & Ribeiro 2017).

Companies listed on sustainability indexes also have higher expectations of better financial results, as demonstrated by the study by Silva & Lucena (2019), which found a positive relationship between the participation of companies in the Corporate Sustainability Index and their ROA in the Brazilian market.

Investing in ESG also proves to create value for organizations. The interaction between investment criterion and value related to ESG indicates that being socially responsible is creating value for companies and investors (Cornell & Damodaram, 2020).

The impacts of environmental labeling certification on environmental and financial performance significantly influences the company's performance and its value creation, as measured by Tobin's Q (He, Ren & Zeng, 2022). Tobin's Q is the ratio between the market value of a physical asset and its replacement value. If the Q is greater than 1, the company is valued and investors will probably receive returns above costs (Butt et al., 2021).

In the context of ESG, which considers the

governance of organizations, Neves (2022) found that corporate performance in ESG has a positive influence on financial performance, especially in the environmental and governance dimensions, which improve the financial performance of companies.

However, the literature is not unanimous regarding these relationships. In this sense, the study by Costa & Correia (2018) analyzed the relationship between the voluntary *disclosure* of socio-environmental information and the company's value, in companies listed on B3. And the results of the research showed that the *disclosure* of socio-environmental information does not impact or affect the performance of companies that make up the Brazilian market.

Contrasting results involving ESG are also referenced. The study by Martins & Cunha (2022) investigated the association between the *disclosure* of ESG sustainability factor practices by publicly traded Brazilian companies and their market values and found that ESG factors were not significant in relation to market value, with the exception of the variable S (social), which showed a marginally significant and positive association with Tobin's Q metric.

Based on previous studies, we sought to verify whether companies that have a higher financial performance also have a higher level of *disclosure* of non-financial information related to aspects of corporate sustainability and ESG practices. Therefore, the following research hypothesis was formulated based on the studies by (Zanoello et al. 2015; Santos & Ribeiro, 2017; Costa & Correia, 2018; Silva & Lucena, 2019; Cornell & Damodaram, 2020; He et. al. 2022; Neves, 2022):

H2: The market value of companies influences the level of *disclosure* of non-financial information.

## Methodological Elements of the Research

### Study sample

The study sample is composed of companies that participate in the B3 ISE index in 2022, as shown in Table 1.

Table 1

### Companies listed on the B[3] ISE index in 2022

COMPANIES			
1	AES BRASIL	25	ITAUSA
2	AMBIPAR	26	ITAUUNIBANCO
3	AMERICANAS	27	KLABIN S/A
4	AREZZO CO	28	LIGHT S/A
5	AZUL	29	LOJAS RENNER
6	BRADESCO	30	M.DIASBRANCO
7	BRASIL	31	MAGAZ LUIZA
8	BRASKEM	32	MARFRIG
9	BRF SA	33	MINERVA
10	BTGP BANCO	34	MOVIDA
11	CCR SA	35	MRV
12	CEMIG	36	NEOENERGIA
13	CIELO	37	P. ACUCAR-CBD
14	COPEL	38	RAIADROGASIL
15	COSAN	39	RUMO S.A.
16	CPFL ENERGIA	40	SANTANDER BR
17	DEXCO	41	SIMPAR
18	ECORODOVIAS	42	SUL AMERICA
19	ELETROBRAS	43	SUZANO S.A.
20	ENERGIAS BR	44	TELEF BRASIL
21	ENGIE BRASIL	45	TIM
22	FLEURY	46	VIA
23	GRUPO NATURA	47	VIBRA
24	IOCHP-MAXION	48	WEG

Source: B[3] (2022).

### Study variables

Regarding the criterion for adopting and defining the research variables, empirical research was used, with the use of variables already addressed in previous studies (Neves, 2022, He et. al., 2021, Câmara et al., 2018; Romão & Callado (2020), as well as a new proposal for evaluating non-financial performance information (Faria & Pereira, 2009; Romão & Callado, 2020).

The variables that make up the non-financial performance analysis model are presented in Table 2, and are based on the study by Romão & Callado (2020), Table 2. The analysis of these indicators will be carried out by verifying the content of sustainability reports, integrated reports or management reports that aim to disclose sustainability information. In this way, a search will be carried out for terms involving the indicators mentioned, thus generating a *checklist*.

Table 2

**Checklist of the non-financial performance analysis model**

Category	Indicators
Quality	1. Actions to improve services, production and trade.
Environmental perspective	2. Recovery of degraded areas; 3. Reduction in the consumption of natural resources; 4. Relationship with <i>stakeholders</i> ;
Customer perspective	5. Number of customers; 6. Customers satisfaction rate; 7. Customer service;
Products and services perspective	8. Points of sale; 9. Volume sold; 10. Supplier management.
Social perspective	11. Number of social projects; 12. Social projects coverage.
Processes	13. Processes improvement; 14. Installed capacity utilization; 15. Employee training hours; 16. Raw material and process training; 17. Logistics.
People	18. Number of employees, turnover, education, age group, gender, training hours, women in management.
Image	19. Recognition, awards, universities, magazines.

Source: Romão e Callado (2020).

After checking whether there is information related to non-financial indicators in the reports, a percentage calculation will be performed to understand, within the sample, the levels at which the companies are, as shown in Table 3. This categorization is based on the studies by Faria & Pereira (2009) and Romão & Callado (2020).

Table 3

**Disclosure Categorization of Non-Financial Information**

Non-financial disclosure	Disclosure level
0%	No indicator
1% to 25%	Low
26% to 50%	Moderate
51% to 75%	Good
76% to 100%	Optimum

Source: Romão e Callado (2020).

With this stratification, a cluster analysis can be carried out, segregating the companies into groups within the sample, allowing them to be compared. Statistical analysis is then carried out to understand whether the market value of companies

is impacted by non-financial *disclosure*. The financial indicators in Table 4 are used to analyze market value.

The company value is the independent variable in this study. Considering previous studies, this variable was used as a proxy to measure the market value of the company available in the *economática* database (Neves, 2022).

The study has the following control variables: company size; ROA; leverage; and growth; as shown in Table 4. The control variables were added based on previous studies that addressed economic-financial performance indicators in companies, such as in the research carried out by Neves (2022), He et. al. (2021) and Câmara, Silva, Tavares & Melo (2018).

Table 4

**Study Control Variables**

Indicator	Description
Company size	The company's Total Assets were used as a proxy for the company size.
ROE	For the purposes of calculating profitability, the Return on Net Equity (ROE) was used, calculated from the relationship between net profit and net equity for the period.
ROA	ROA was calculated by the ratio of net income to Total Assets, both for each period analyzed.
Leverage	Leverage was calculated by the ratio of onerous liabilities to Total Assets.
Growth	Growth was calculated by the ratio of Revenue in (t+1) to Revenue in (t) minus 1.

Source: Adapted from Neves (2022), He et. al. (2021), Câmara et al. (2018).

The survey data was collected from *Economática*'s databases and from the reports made available by the companies.

**Data analysis**

Therefore, to test the relationship between the company value and the *disclosure* of non-financial indicators, the following regression model was



estimated:

$$DISC_{it} = \beta_0 + \beta_1 VE_{it} + \beta_2 TAM_{it} + \beta_3 ROE_{it} + \beta_4 ROA_{it} + \beta_5 ALAV_{it} + \beta_6 CRES_{it} + \mu$$

Where:

DISC = non-financial *disclosure* of the company i in period t

VE = Market value of the company i in period t

TAM = size of the company i in period t

ROE = return on equity of the company i in period t

ROA = return on assets of the company i in period t

ALAV = leverage of the company i in period t

CRES = growth of the company i in period t

$\mu$  = is the regression error

The estimation of this model aims to analyze whether the value of companies influences the *disclosure* of non-financial information on the performance of companies listed on the B3 Corporate Sustainability Index (ISE).

## Presentation and discussion of results

### Kruskal-Wallis test and analysis of non-financial indicator categories

Considering the methodological aspects mentioned to obtain the data, the nonparametric Kruskal-Wallis test was carried out, based on the the *disclosure* level of the companies studied.

The Kruskal-Wallis test is a nonparametric test used to compare two independent samples to determine to see if there is a significant difference in the normal distribution of the groups (Favero and Belfiore, 2022).

According to the data in Table 5, the companies studied fell into two levels “Good” and “Excellent”, demonstrating that the non-financial indicators disclosed by the group are similar and that by being part of the ISE they disclose more non-financial information to their users. The Kruskal-Wallis test showed a p-value of 0.2751, demonstrating that hypothesis *H1: There is a statistically significant difference in the level of non-financial disclosure between the companies listed on the ISE*, can be rejected.

Table 5

### Kruskal-Wallis test for the *Disclosure* Level and Market Value variables

<i>Disclosure level</i>	Observations	Sum
3- Good	26	573.000
4- Optimum	21	575.000
<i>p-valeu 0.2751</i>		

Source: Dados da pesquisa (2023).

Score: (0) No indicator; (1) Low; (2) Moderate; (3) Good; (4) Optimum.

This demonstrates a similarity between the companies that belong to this group, considering that in order to be part of the ISE index they need to meet the same *disclosure* standards. This allows information between companies to be better compared and evaluated by *stakeholders*, helping to reduce information asymmetries.

### Analysis of regression results

The descriptive statistics for the *disclosure* of non-financial information were then analyzed and it was found that the average level of *disclosure* of non-financial information presented by the companies analyzed in this sample reached an average of 0.75, a maximum value of 1 and a minimum value of approximately 0.53, as shown in general in Table 7.

Table 7

### Descriptive statistics of non-financial information *disclosure*

	Nº companies	Medium	Minimum	Maximum	Standard deviation
IE	47	0,75	0,53	1	0,10803
PI					83

Source: Research data (2023).

The company with the highest level of *disclosure* of non-financial information was Neoenergia, which disclosed all the indicators listed in the model proposed in this article during the period under analysis. Magazine Luíza and Minerva were the companies that disclosed the lowest number of non-financial indicators, with an index of 0.53 each.

As of the analysis of the companies' reports, it was found that there is a concern in disclosing

information related to their practices in environmental, social and governance aspects, as a mechanism to legitimize their actions with *stakeholders*.

Next, the equation proposed in this study was analyzed using multiple linear regression (OLS), as shown in Table 8, with the aim of analyzing whether the value of companies influences the *disclosure* of non-financial information on the performance of companies listed on the B3 Corporate Sustainability Index (ISE).

Tests were carried out to validate the econometric model (Gauss Markov assumptions). The Shapiro-Wilk Z test aims to assess whether a distribution is similar to a normal distribution. This assumption needs to be met when it comes to a linear regression, as most of the data must be concentrated near the mean for the model's prediction to be acceptable (Favero & Belfiore, 2022). Assumption met by the data.

Table 8  
Multiple Linear Regression (MQO)

Variable	Coefficient t	Standard error	t	Sig
Constant	0,7780089	0,0387807	0,000	Yes
VE	-2,60e-09	7,95e-10	0,002	Yes
TAM	1,11e-09	5,09e-10	0,037	Yes
ROE	-0,0001013	0,0005716	0,860	No
ROA	0,0063215	0,0054896	0,258	No
ALAV	-0,0092561	0,0045903	0,052	No
CRES	-0,0324517	0,0491274	0,513	No
Results				
R-squared				0,2996
Adj R-squared				0,1760
Prob > F				0.0466
Observations				41
<b>Tests for Validation of the Econometric Model</b>				
Test of Shapiro Wilk Prob> Z = 0,49621				
Test of White p-value = 0,8534				
Test of Ramsey Reset Prob> F = 0,3223				
Test of multicollinearity MeanVIF = 1,60				

Source: Research data (2023).

The White test is a statistical test to detect the presence of general heteroscedasticity in a mathematical model. Heteroscedasticity occurs when there is no constancy of the residuals along the independent variable and a correlation between the error and the dependent variable. As the dependent variable (Y) increases, a cone forms in

the residuals, demonstrating a relationship with the dependent variable (x) (Favero & Belfiore, 2022). Therefore, for the model to be truly predictive, the data must have homoscedasticity, that is, with constant error variance. This assumption was met, according to the White test p-value = 0.8534.

The model also does not present variable omission, since the Ramsey Reset Test presented a Prob>F greater than 0.05. This test indicates whether the assumption of correct specification is valid in the classic linear regression model. In other words, it helps to identify whether the linear model used is adequately specified or whether there is a need to include additional terms (such as non-linear terms or interactions) to capture the relationship between the variables (Lima, 2007).

The assumption of zero conditional mean was also met, taking into account that through the multicollinearity test, an average VIF of 1.60 was presented, i.e., there is no dependence interaction between the independent variables. Thus, it is found that the requirements for validating the statistical assumptions of the regression are met in the model (Favero & Belfiore, 2022).

It was found that the model presents normality in the errors and homoscedasticity, implying that, conditional on the explanatory variables, the error variance is constant.

Based on the results presented in Table 8, there is a relationship between the market value of companies (VE) and the level of *disclosure* of non-financial sustainability information, as this was shown to be statistically significant at the 5% level. However, with an inverse relationship, that is, the higher the market value of companies, the lower the level of *disclosure* of non-financial information. These results contrast with the results presented in the studies by He et. al (2022) and Neves (2022), which showed a positive relationship between the *disclosure* of information related to sustainability and ESG practices in companies.

This inverse relationship between the market value of companies (VE) and the level of *disclosure* of non-financial sustainability information is contrary to recent studies on the subject. Nevertheless, this could be explained by the fact that the Brazilian market is an emerging market and does not have the same resourcefulness

as developed markets, for example, its shareholders and investors do not consider the effects of sustainability on organizational performance and evaluate the performance of companies based on the risk levels of each one (Martins & Cunha, 2022).

Another point may be related to the costs that sustainability practices can generate for these companies. According to the neoclassical approach, investing in ESG activities creates additional costs for the company, which can mainly affect its short-term results (Duda et al., 2022). The cost of capital can also be higher in companies that have higher ESG scores, which can impact their financial indicators (Macedo et al., 2022).

Thus, being a member of the ISE and having a high level of voluntary *disclosure* has a negative impact on financial results. However, considering that sustainability impacts are long-term and financial results measured by the selected indicators have a shorter measurement period, it should be considered that the financial effects may appear in the long term (Ferreira et al., 2021; Duda et al., 2022).

Furthermore, it can be inferred that, after a certain level of *disclosure*, users no longer consider this information relevant. In other words, the growth in the number of ESG information and indicators may not have an impact on decision-making, after a certain point, and may not be disregarded by investors. As discussed by Delai (2006) and Imperador & Silva (2018), regarding the growing number of uses for the term sustainable and the growing number of metrics.

In addition, the communication of this information that only considers aspects of legitimacy, but that demonstrates little in terms of effective practices in favor of the theme of sustainability, may generate skepticism on the part of users (Holtz et al., 2020). The constant positive tone surrounding the topic may lead to a perception of adverse selection of information and the making of erroneous decisions by *stakeholders*. And when not met, the expectations generated cause the loss of reputation and credibility of the company (Souza et al., 2018; Barra et al., 2024).

Regarding the company size variable, a

positive and statistically significant relationship was found with the level of *disclosure* of non-financial sustainability information, that is, the larger the company, the higher the level of *disclosure* of this information. This result shows that the company size is a determining factor for the *disclosure* of non-financial information related to aspects of corporate sustainability, corroborating the findings of He, Ren & Zeng (2022) and Neves (2022).

Hence, through the analysis of the proposed econometric model, it is clear that hypothesis H2 cannot be rejected, since the market value of companies has a significant influence on the level of *disclosure* of non-financial information, even though this relationship is inverse.

On the other hand, the result presented could not validate hypothesis 1 of the study, showing that the non-financial indicators disclosed are similar and that the companies in the ISE portfolio disclose more non-financial information to their users in a homogeneous way.

## Final Considerations

The results found demonstrated a relationship between non-financial *disclosure* of sustainability information and financial performance in the companies that make up the sample. However, with a negative relationship, that is, the higher the level of *disclosure*, the worse the financial results.

This result differs from other studies (He et al. 2022; Neves, 2022; Silva & Lucena, 2019; Cornell & Damodaram, 2020; Macedo et al., 2022; Romão & Camara 2022) that presented divergent results in relation to the findings of this research, as they showed a positive relationship between the *disclosure* of information related to sustainability and ESG practices in companies.

Nevertheless, this is in line with studies that have also shown an inverse relationship (Martins & Cunha, 2022), which can be explained by the fact that the Brazilian market is an emerging market, as well as by the costs of implementing these actions aimed at sustainability and the cost of capital of these companies (Duda et al., 2022).

As a result, this study contributes to deepening the debate on the *disclosure* of voluntary information, from the perspective that it is not a

rule that the more information the better the financial performance and value creation in the market.

Aspects involving costs and time impact the return and market perception of practices and returns (non-financial) that involve ESG. Sustainability requires long-term practices, while financial indicators are mostly focused on a shorter period of time.

Based on this result, managers can assess the cost-benefit relationship that voluntary information can have on their *stakeholders*. They can also reflect on the impacts caused by the *disclosure* of a large amount of information that is only intended to legitimize the company and/or manage impressions, without actually putting into practice effective actions in favor of sustainability.

Without effective practices, companies will not deliver the results expected by *stakeholders*, either in financial terms (cost reduction linked to sustainability), or in operational terms (process improvement, employee well-being, etc.), much less in results related to mitigating negative environmental impacts. This leads to a loss of legitimacy in the long term.

The sustainability indicators covering non-financial aspects used in this study are of interest to all *stakeholders*. In this way, the impact of disclosing this information legitimizes corporate actions in society.

In this context, this study contributes to make it possible for *stakeholders* to visualize the impact of this information on the companies' financial results, thus helping in decision-making on investments, positions and knowledge of the company's actions to build sustainable development.

Therefore, as suggestions for future research, it is recommended to replicate the study with a longer analysis period using the ISE portfolio sample. This recommendation is necessary because a longitudinal analysis can better visualize the impact of long-term sustainable actions on financial results.

It would also be interesting to compare the results of this study, which used the ISE sample, with groups of companies that do not participate in the ISE. Adding indicators that better capture the company's value creation can also help in

understanding the impact of voluntary *disclosure* on sustainability and the practices applied in the long term.

As limitations, this study highlights the cross-sectional approach of a specific group of companies. Other more robust quantitative methods could expand and improve the model used here, allowing a greater generalization and discussion of the data.

## References

- Allaya, M., Derouiche, I., & Muessig, A. (2022). Voluntary disclosure, ownership structure, and corporate debt maturity: a study of French listed firms. *International Review of Financial Analysis*, 81. <https://doi.org/10.1016/j.irfa.2018.12.008>
- Arantes, V. A., Dias, D. P., & Soares, R. O. (2020). O que os investidores não veem, o mercado não sente: reflexões sobre a divulgação voluntária de informações prospectivas. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ*, 23(3), 118-132.
- Araújo, H. C., & Carmo, W. J. (2022). Controladoria: A busca da eficácia empresarial. *Altus Ciência*, 15(15), 239-257.
- Barra, J. P. L. Cunha, Ícaro G. F. da, Oliveira, M. J. E. de M., Policarpo, R. V. S., & Rebelatto, D. A. do N. (2024). Evidence of sustainable development goals disclosure in publicly traded Brazilian companies. *Revista ambiente contábil - Universidade Federal do Rio Grande do Norte*, 16 (1). <https://doi.org/10.21680/2176>
- Barka, Z., Hamza, T., & Mrad, S. (2023). Corporate ESG scores and equity market misvaluation: *Toward ethical investor behavior*, *Economic Modelling*, 127, 106467. <https://doi.org/10.1016/j.econmod.2023.106467>
- Lima, L. B. Um teste de especificação correta em modelos de regressão beta. (2007). Dissertação (Mestrado). Programa de Pós-Graduação em Estatística, Universidade Federal de Pernambuco, Recife, Brasil.
- Butt, M. N., Baig, A. S., & Seyyed, F. J. (2021). Tobin's Q approximation as a metric of firm performance: an empirical evaluation. *Journal of Strategic Marketing*, 31(3), 532-548.



<https://doi.org/10.1080/0965254X.2021.1947875>

Callado, A. A. C., & Jack, L. (2015). Balanced scorecard metrics and specific supply chain roles. *International Journal of Productivity & Performance Measurement*, 64(2), 288-230. <https://doi.org/10.1108/IJPPM-05-2014-0071>

Câmara, A. R. A. S., Silva, C. M., Tavares, A. L., & Melo, M. M. D. (2018). Divulgação de informações voluntárias como estratégia de crescimento e melhoria do desempenho econômico-financeiro: um estudo nas empresas listadas na bolsa de valores de São Paulo (B3). *Contabilometria - Brazilian Journal of Quantitative Methods Applied to Accounting*, Monte Carmelo, 5(2), 142-160.

Chen, Z., & Xie, G. (2022). ESG disclosure and financial performance: moderating role of ESG investors. *International Review of Financial Analysis*, 83, 102291. <https://doi.org/10.1016/j.irfa.2022.102291>

Cornell, B., & Damodaran, A. (2020). Valuing ESG: Doing good or sounding good? *NYU Stern School of Business*, 1-29. Retrieved from <https://www.pmr-research.com/content/pmrjesg/1/1/76>

Costa, I. L. S., Correia, T. S., Paulo, E., & Lucena, W. G. L. (2018). Impacto do *Disclosure* Voluntário: Valor da Empresa e Informações Socioambientais nas Companhias Abertas. *Revista Contabilidade, Gestão e Governança*, 21(2), 271-287. [https://doi.org/10.51341/1984-3925\\_2018v21n2a7](https://doi.org/10.51341/1984-3925_2018v21n2a7)

Cui, J., Jo, H., & Na, H. (2018). Does Corporate Social Responsibility Affect Information Asymmetry? *Journal of Business Ethics*, 148(3), 549-572. <https://doi.org/10.1007/s10551-015-3003-8>

Delai, I. (2006). *Uma proposta de modelo de referência para mensuração da Sustentabilidade corporativa*. Dissertação (Mestrado) - Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Universidade de São Paulo, Brasil.

Duda, E. do N., Silva, D. J. C., Lagioia, U. C. T., & Santos, M. A. (2022). Sustainable Culture Rings With Good Performance? A Study of Companies Listed in the Business Sustainability Index (Ise). *Revista De Gestão Social E Ambiental*, 16(2), 02987. <https://doi.org/10.24857/rgsa.v16n2-013>

Dye, R. A. (2001). An evaluation of 'essays on disclosure' and the disclosure literature in accounting. *Journal of Accounting and Economics*, 32(1-3), 181-235. [https://doi.org/10.1016/S01654101\(01\)00024-6](https://doi.org/10.1016/S01654101(01)00024-6)

Eliwa, Y., Aboud, A., & Saled, A. (2021). ESG practices and the cost of debt: Evidence from EU countries. *Critical Perspectives on Acco* 79, 102097. <https://doi.org/10.1016/j.cpa.2019.102097>

Elkington, J. (2018). *25 years ago I coined the phrase "triple bottom line". Here's why it's time to rethink it*. In: Harvard business review. Retrieved from <https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>

Elsayed, M., & Elshandidy, T. (2020). Do narrative-related disclosures predict corporate failure? Evidence from UK non-financial publicly quoted firms. *International Review of Financial Analysis*, 71, 1-55. <https://doi.org/10.1016/j.irfa.2020.101555>

Engel, P. J., Hack, A., & Stanley, L. J., Kellermanns, F. W. (2019). Voluntary disclosure of individual supervisory board compensation in public family firms. *Journal of Business Research*, 101, 362-374. <https://doi.org/10.1016/j.jbusres.2019.04.025>

Fafaliou, I., Giaka, M., Konstantios, D., & Polemis, M. (2022). Firms' ESG reputational risk and market longevity: a firm-level analysis for the United States. *Journal of Business Research*, 149, 161-177. <https://doi.org/10.1016/j.jbusres.2022.05.010>

Favero, L. P., & Belfiore, P. (2022). *Manual de análise de dados*. Rio de Janeiro: LTC.

Ferreira, J. C., Santos, T. C. B., First, C., & Bertolini, G. R. F. (2021). Análise do desempenho econômico-financeiro das empresas participantes e não participantes da carteira ISE – índice de sustentabilidade empresarial. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ (online)*, 26(1), 78.

Forte, H. C., Crisóstomo, V. L., & Peixoto Neto, L. M. (2023). Práticas ambientais, sociais e de governança e o desempenho das empresas brasileiras. *Sociedade, contabilidade e Gestão*, 18(3). [https://doi.org/10.21446/scg\\_ufrj.v18i3.62403](https://doi.org/10.21446/scg_ufrj.v18i3.62403)



Gois, A. D., Santos, J. G. C., Cabral, A. C. A., & Pessoa, M. N. M. (2015). *Disclosure* voluntário das informações ambientais: estudo da relação entre o nível de evidenciação e o investimento ambiental nos países do BRICS. *Revista Alcance - Eletrônica*, 22(4). <https://doi.org/10.14210/alcance.v22n4.p518-537>

Goyal, P., Rahman, Z., & Kazmi, A. A. (2013). Corporate sustainability performance and firm performance research: Literature review and future research agenda. *Management Decision*, 51(2), 361-379. <https://doi.org/10.1108/00251741311301867>

He, D., Ren S., & Zeng, H. (2022). Environmental labeling certification and firm environmental and financial performance: A resource management perspective Business. *Strategy and the Environment*, 31(3), 751-767.

Hinojosa-López, J., Ayup-González, J., & Cogco-Calderón, A. (2020). Imagen corporativa y satisfacción laboral en potenciales empleados del sector bancario. *Investigación Administrativa*, 125, 1-20. <https://doi.org/10.35426/iav49n125.04>

Holtz, L., Santos, O. M. dos, & Ohayon, P. (2020). Disclosure contábil corporativo sob a perspectiva da teoria da ação comunicativa. *REUNIR Revista De Administração Contabilidade E Sustentabilidade*, 10(3), 1-13.

Imperador, A. M., & Silva, M. V. H. (2018). Sustentabilidade empresarial: considerações sobre diferentes sistemas de mensuração do desenvolvimento sustentável. *HOLOS*, 34(3). <https://doi.org/10.15628/holos.2018.5916>

Irigaray, H. A. R., & Stocker, F. (2022). *Reflexões sobre resiliência empresarial, governança corporativa e responsabilidade social*. Fundação Getulio Vargas (FGV EBAPE) / Escola Brasileira de Administração Pública e de Empresas, 22(1). <https://doi.org/10.1590/1679-395190025>

ISEB3. (2024). *O que é o ISE B3? Índice de Sustentabilidade Empresarial*. Retrieved from <https://iseb3.com.br/o-que-e-o-ise>

Jayasiri, N. K., Kumarasinghe, S., & Pandey, R. (2022). 12 years of integrated reporting: A review of research. *Accounting & Finance*, 1–57. DOI: <https://doi.org/10.1111/acfi.12958>

Karajeh, A. I. S. (2020). Voluntary disclosure and earnings quality: evidence from ownership concentration environment. *Management Research Review*, 43(1), 35-55. <https://doi.org/10.1108/MRR-11-2018-0447>

Kaplan, R. S., & Norton, D. P. (2005). The balanced scorecard: measures that drive performance. *Harvard business review*, 83(7), 172.

Kotane, I., & Kuzmina-Merlino, I. (2011). Non-financial indicators for evaluation of business activity. *European integration studies*, 5, 213-219.

Kothari, S. P., Shu, S., & Wysocki, P. (2009). Do managers withhold bad news? *Journal of Accounting Research*, 47, 241-276. <https://doi.org/10.1111/j.1475-679X.2008.00318.x>

Lima, L. B. (2007). *Um teste de especificação correta em modelos de regressão beta*. Dissertação (Mestrado) - Universidade Federal de Pernambuco, Recife, Brasil. Retrieved from [https://repositorio.ufpe.br/bitstream/123456789/6311/1/arquivo7191\\_1.pdf](https://repositorio.ufpe.br/bitstream/123456789/6311/1/arquivo7191_1.pdf)

Macedo, P. S., Rocha, P.S., Rocha E.T., Tavares, G.F., & Jucá, M.N. (2022). O Impacto do ESG no Valor e Custo de Capital das Empresas. *Revista Contabilidade, Gestão e Governança*, 25(2), 159-175. <http://dx.doi.org/10.51341/cgg.v25i2.2802>

Machado, V. N., & Sonza, I. B. (2019). O efeito do tamanho na relação entre estrutura de controle e *disclosure* voluntário de companhias brasileiras. *Revista de Ciências da Administração*, 21(55), 21-38.

Marquezan, L. H. F., Diehl, C. A., & Alberton, J. R. (2013). Indicadores não financeiros de avaliação de desempenho: análise de conteúdo em relatórios anuais digitais. *Revista Contabilidade, Gestão e Governança*, 16(2). Retrieved from <https://revistacgg.org/index.php/contabil/article/view/533>

Martins, M., & Cunha, M. F. (2022). A Relação da Divulgação das Práticas ESG com o Valor de Mercado das Empresas Brasileiras de Capital Aberto. In: 22<sup>o</sup> USP International Conference in Accounting, São Paulo. Anais, São Paulo. Retrieved from <https://congressosp.fipecafi.org/anais/22UspInternational/ArtigosDownload/3784.pdf>

Mazzioni, S., Ascari, C., Rodolfo, N. M., & Dal Magro, C. B. (2023). Reflexos das práticas ESG e da adesão aos ODS na reputação corporativa e no valor de mercado. *RGO - Revista Gestão Organizacional*, 16(3), 59-77. <http://dx.doi.org/10.22277/rgo.v16i3.7394>

Melo, L. S. A. (2023). *Sustentabilidade das empresas com potencial poluidor: uma análise dos capitais não financeiros (integrated reporting), ODS E ESG*. Tese (Doutorado em Recursos Naturais) – Programa de Pós-Graduação em Recursos Naturais, Centro de Tecnologia e Recursos Naturais, Universidade Federal de Campina Grande, Paraíba, Brasil, 2023.

Miralles-Quirós, M. M., Miralles-Quirós, J. L., & Valente Gonçalves, L. M. (2018). The value relevance of environmental, social, and governance performance: The Brazilian case. *Sustainability*, 10(3), 574. <https://doi.org/10.3390/su10030574>

Moraes, C. L., Cunha, I. G. F., Oliveira, M. J. E. M., Abdala, E. C., & Rebelatto, D. A. N. (2024). Métricas ESG como determinantes do desenvolvimento sustentável das cidades. *RGD Revista Gestão e Desenvolvimento*, 21(1), 146-169. <https://doi.org/10.25112/rgd.v21i1.3392>

Neely, A., Adams, C., & Crowe, P. (2001). The performance prism in practice. *Measuring Business Excellence*, 5(2), 6-13.

Neves, C. B. C. (2022). O desempenho corporativo em ESG e a performance financeira das empresas brasileiras. Dissertação (Mestrado em Administração) – Universidade Federal de Pernambuco, Recife, Brasil.

Peixe, A. M. M., Araújo, J. A. R., & Pinto, J. S. P. (2023). Disclosure de informações contábeis a atualidade do mercado de capitais no Brasil. *Revista TCU*, 152. Retrieved from <https://revista.tcu.gov.br/ojs/index.php/RTCU/article/view/2018>

Peixoto, E. P. A., Santos, R. R., & Luz, J. R. M. (2017). Relação da Evidenciação dos Gastos Ambientais e Desempenho Econômico-financeiro de Empresas potencialmente Poluidoras do Brasil. *Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ (online)*, 22(3), 36-53. <https://doi.org/10.12979/rcmccuerj.v22i3.34051>

Pereira, M. L., Lucena, W. G. L., & Paiva, S. B. (2018). Determinantes da divulgação voluntária do relatório de sustentabilidade nas empresas de energia elétrica e de telecomunicações listadas na BM&FBOVESPA. *Revista de Gestão Ambiental e Sustentabilidade*, 7(2), 300-321. <https://doi.org/10.5585/geas.v7i2.687>

Ramos, T. B. (2019). Sustainability assessment: Exploring the frontiers and paradigms of indicator approaches. *Sustainability (Switzerland)*, 11(3), 1–14. <https://doi.org/10.3390/su11030824>

Redecker, A. C., & Trindade, L. D. M. (2021). Práticas de ESG em sociedades anônimas de capital aberto: Um diálogo entre a função social instituída pela lei n 6.404/76 e a geração de valor. *Revista Jurídica Luso Brasileira*, 7(2), 59-125.

Rocha, M. D. G. T. S (2022). Relato Integrado: características corporativas relacionadas à evidenciação de indicadores chave dos capitais não financeiros de companhias listadas na B3. 2022. 58 f. Dissertação (Mestrado em Ciências Contábeis) - Universidade Federal de Uberlândia, Uberlândia, Brasil. <http://doi.org/10.14393/ufu.di.2023.7003>

Rody, P. H. A., Sousa, A. F. de, Souza, T. R. de, & Reina, D. R. M. (2020). Profitability and voluntary disclosure of Brazilian equity companies. *Contextus: Contemporary Journal of Economics and Management*, 18(19), 264-274. <http://dx.doi.org/10.19094/contextus.2020.44593>

Romão, B. J. P., & Callado, A. A. C. (2020). Relação entre o *Disclosure* de Indicadores de Desempenho Não Financeiros e o Valor de Mercado das Empresas de Capital Aberto. In: *10º Congresso UFSC de Controladoria e Finanças*, Online. Anais: Santa Catarina. Retrieved from [https://ccn-ufsc-cdn.s3.amazonaws.com/10CCF/20200712142205\\_id.pdf](https://ccn-ufsc-cdn.s3.amazonaws.com/10CCF/20200712142205_id.pdf)

Romão, B. J. P., & Câmara, R. P. B. (2022). Relações entre Sustentabilidade Corporativa e Desempenho Organizacional sob a Ótica dos Objetivos do Desenvolvimento Sustentável. RC&C. *Revista de Contabilidade e Controladoria*, 14(2). Retrieved from <https://revistas.ufpr.br/rcc/article/view/82137>

Salotti, B. M., & Yamamoto, M. M. (2005). Ensaio sobre a teoria da divulgação. *Brazilian business review*, 2(1), 53-70. Retrieved from <https://www.redalyc.org/pdf/1230/123016184004.pdf>

Santos, K. R. A., & Ribeiro, F. (2017). Relação entre nível de disclosure ambiental e os indicadores econômico-financeiros de empresas listadas no ISE da BM&FBOVESPA. In *Congresso Internacional de Administração*, Ponta Grossa/PR.

Saxena, A. et al. (2023). Technologies Empowered Environmental, Social, and Governance (ESG): An Industry 4.0 Landscape. *Sustainability (Switzerland)*, 15(1).

Shakil, M. H., Mahmood, N., Tasnia, M. and Munim, Z.H. (2019). Do environmental, social and governance performance affect the financial performance of banks? A cross-country study of emerging market banks. *Management of Environmental Quality*, 30(6), 1331-1344. <https://doi.org/10.1108/MEQ-08-2018-0155>

Silva, F. C. N. S. (2023). Sustentabilidade empresarial e ESG: uma distinção imperativa. *Revista de Gestão e Secretariado*, 14(1), 247–258. <https://doi.org/10.7769/gesec.v14i1.1510>

Silva, V. M., & Lucena, W. G. L. (2019). Contabilidade ambiental: análise da participação no índice de sustentabilidade empresarial (ISE) e a rentabilidade das empresas listadas na [B]3. *Revista Gestão & Tecnologia*, 19(2), 109-125. [10.20397/2177-6652/2019.v19i2.1563](https://doi.org/10.20397/2177-6652/2019.v19i2.1563)

Souza, F. M., Arantes, V. A., Soares, R. O., & Panhoca, L. (2018). Divulgação voluntária do guidance: informações incremental ou gerenciamento de impressões? In *Anais do 12º ANPCONT*, João Pessoa. Retrieved from [https://www.anpcont.org.br/pdf/2018\\_CUE486.pdf](https://www.anpcont.org.br/pdf/2018_CUE486.pdf)

Vargas, S. B. D., Diehl, C. A., Ayres, P. R. R., & Monteiro, A. F. (2016). Indicadores não financeiros de avaliação de desempenho: análise de conteúdo em relatórios de administração de empresas de telecomunicações. *Sociedade, Contabilidade e Gestão*, 11(1). [https://doi.org/10.21446/scg\\_ufrj.v11i1.13374](https://doi.org/10.21446/scg_ufrj.v11i1.13374)

Verrecchia, R. (2001). Essays on disclosure. *Journal of Accounting and Economics*, 32, 97-180.

Zanoello, C. F., Manfroi, L., Palma, D. L., & Zeni, E. (2015). Relação entre *disclosure* voluntário e os indicadores econômicos e financeiros: um estudo

aplicado em empresas listadas na BM&FBOVESPA. *Tecnológica- Revista Científica*, 2(1).

Zhou, G., Liu, L., & Luo, S. (2022). Sustainable development, ESG performance and company market value: Mediating effect of financial performance. *Business Strategy and the Environment*, 1(1), 1-17. <https://doi.org/10.1002/bse.3089>