Linking Business Strategies to ESG Practices

Sady Mazzioni[1], Víctor Frillich Soares[2], Caroline Keidann Soschinski[3], Mara Vogt[4], Ilse Maria Beuren[5]

Abstract

Stakeholders have been pressuring companies to adopt effective Environmental, Social, and Governance (ESG) practices. To understand corporate engagement beyond financial aspects, this study draws on the business strategies of Miles and Snow (1978). The article analyzes the influence of the prospector business strategy on the ESG practices of publicly traded Brazilian companies. In the archival research, data were collected from 2015 to 2023, totaling 2,154 observations, which were analyzed using Tobit regression, with industry fixed effects controlled and standard errors estimated robust to heteroskedasticity. The results indicate that companies with a more innovative and exploratory profile (prospectors) tend to exhibit better performance in ESG practices, especially in governance. The research findings contribute to managerial literature and business practice by providing insights for reflecting on business strategies and the incorporation of ESG practices that are more closely aligned with their strategic profiles.

Keywords: *Prospector strategy. Defender strategy. Environmental, Social, and Governance. ESG.*

Introduction

The autocorrelation of the residuals was verified using the Durbin–Watson test, which is important for identifying temporal dependence in the errors, as such dependence would compromise the independence and reliability of the estimates. These procedures ensure the robustness of the model and the reliability of the statistical inferences related to the adoption of ESG practices in relation to business strategies (Emma et al., 2024).

In unreported results, additional tests were conducted. Initially, only prospector and reactor companies were considered in the sample. According to Miles and Snow (1978), analyzer companies combine characteristics of defenders and prospectors, while reactor companies are considered residuals in the classification, as they do not fit into any of the other three categories. Therefore, analyzer and reactor companies were excluded to compare considerably opposite business strategies. Additionally, a dummy variable was tested, assigning a value of 1 to defender companies and 0 to the others (prospectors, reactors, and analyzers), in order to examine whether defenders exhibit behavior opposite to the other strategies.

Organizational performance has expanded its perspective from traditional financial indicators to

---

[1] Community University of Chapecó Region – Unochapecó (Brazil) Professor of the Graduate Program in Accounting and Management, Email: sady@unochapeco.edu.br https://orcid.org/0000-0002-8976-6699

[2] Community University of Chapecó Region – Unochapecó (Brazil) Student of the Graduate Program in Accounting and Management, Email: victor.soares@unochapeco.edu.br https://orcid.org/0009-0005-4316-064X

[3] Community University of Chapecó Region – Unochapecó (Brazil) Professor of the Graduate Program in Accounting and Management, Email: carolinesoschinski@unochapeco.edu.br https://orcid.org/0000-0002-0135-0729

[4] Community University of Chapecó Region – Unochapecó (Brazil) Professor of the Graduate Program in Accounting and Management, Email: mara.v@unochapeco.edu.br https://orcid.org/0000-0002-3951-4637

[5] Federal University of Santa Catarina – UFSC (Brazil) Professor of the Graduate Program in Accounting, Email: ilse.beuren@ufsc.br https://orcid.org/0000-0003-4007-6408

socioeconomic outcomes (Cek & Eyupoglu, 2020). In this context, Environmental, Social, and Governance (ESG) emerges, initially discussed by 20 financial institutions in 2004 in response to the appeal of Kofi Annan, then Secretary-General of the United Nations (Pinheiro et al., 2024). ESG, supported by the pillars of environmental, social, and governance issues, enables the creation of long-term corporate value and fosters legitimacy with stakeholders (Nirino et al., 2021).

Companies with high ESG scores tend to have investments in research and development (R&D), human capital, and information transparency, in addition to a more diversified shareholder structure (Zhan et al., 2025). Setiarini et al. (2023) identified that innovation attributes and the ability to seize market opportunities are associated with business strategies. Companies with a prospector strategy prioritize innovation and R&D, quickly adapt their products and market niches to new technologies, and continuously seek new growth opportunities (Anwar et al., 2021).

Setiarini et al. (2023) analyzed the relationship between business strategies and ESG practices and found that the prospector approach facilitates the implementation of these initiatives. Feng et al. (2024) examined the influence of ESG ratings on business innovation and identified a positive impact. Both studies converge in indicating that companies with a prospector strategy, focused on innovation, growth, and adaptation, adopt robust ESG practices, as they consider them essential for their competitiveness and resilience.

Soschinski et al. (2024) analyzed the capital structure of companies listed on the Brasil, Bolsa, Balcão (B3) and identified Miles and Snow (1978) business strategies as determinants of managerial practices. Alvia et al. (2020) investigated career success and the connection between business strategies and organizational performance, highlighting the influence of strategies on the business environment. Setiarini et al. (2023) analyzed the influence of ESG determinants on managerial practices in ASEAN countries. Mazzioni et al. (2024) investigated factors that impact ESG performance and its pillars in companies from emerging markets.

In these studies, a research gap is observed regarding the influence of business strategies on companies' engagement with ESG practices. Thus, our study seeks to answer the following question: What is the influence of business strategies on ESG practices? The objective of the study is to analyze the influence of the prospector business strategy on the ESG practices of Brazilian publicly traded companies. To this end, an archival research was conducted with Brazilian publicly traded companies from 2015 to 2023, resulting in a sample of 291 companies, generating 2,154 firm-year observations, distributed in an unbalanced panel and analyzed using the Tobit regression technique.

The relevance of this study lies in considering the theoretical premise that business strategies influence ESG practices, as well as in empirically examining this relationship in the Brazilian context. Despite growing attention to sustainability and business strategy topics, a gap remains regarding how these approaches impact their integration (Chevrollier et al., 2020). The business strategies proposed by Miles and Snow (1978) are widely recognized in the academic literature, providing a consistent theoretical framework and relevant perspectives for understanding organizational dynamics.

This study contributes to the literature by exploring the business strategies of Miles and Snow (1978) in the Brazilian context, enhancing the understanding of the impact of these strategies on ESG practices. For companies, the research reflects business strategies and the incorporation of ESG practices aligned with strategic profiles, aiming at achieving competitive advantage, attracting investors, and enhancing market reputation. The research findings also inform

investors about companies more engaged in ESG practices and their strategic profiles, which can influence resource allocation decisions.

Understanding which types of companies signal lower investment in ESG practices can prompt stakeholders and regulatory bodies to pressure these companies to adopt more innovative and sustainable strategies. From a social perspective, the study benefits society by showing how companies, through their strategic orientations, can expand their engagement with ESG practices, contributing to the Sustainable Development Goals (SDGs), particularly SDG 8 – Decent Work and Economic Growth.

2. Theoretical framework and hypotheses

Climate change, audience diversity, and perceptions of financial benefits have been demanding a new vision for business (Zeng et al., 2024). This scenario requires organizations to identify the best practices to achieve performance and returns that satisfy both shareholders and society (Csapi et al., 2024). ESG, a comprehensive framework, allows for the assessment of organizations' social and environmental performance (Nirino et al., 2021). ESG is based on three pillars: (i) environmental, which evaluates the organization's impact on the environment; (ii) social, which encompasses the organization's relationships with society and its stakeholders; and (iii) governance, which analyzes the organizational structure and the mechanisms of control, both internal and external (Yu et al., 2024).

In response to environmental challenges, organizations have been investing in environmental innovation, adopting clean technologies and circular business models to minimize their environmental impacts and improve their public image, demonstrating a commitment to sustainability (Zeng et al., 2024). In the social dimension, investment in labor-related issues strengthens the organization's relationship with society and positively reflects the quality of its products (Zeng et al., 2024). Governance, in turn, is widely recognized as a cornerstone for the stability and longevity of organizations, as it ensures responsible management and the creation of sustainable value (Zeng et al., 2024).

The disclosure of ESG information is crucial for driving corporate competitiveness and enhancing stakeholder satisfaction (Csapi et al., 2024). From this perspective, the ESG ranking or score represents a key indicator in assessing the credibility and reliability of companies, especially for investors and shareholders (Zhang & Zhang, 2024). ESG encompasses measurable criteria that guide stakeholder decisions, directing business strategies to ensure not only regulatory compliance but also the strengthening of reputation (Seok et al., 2024).

ESG is fundamental in the organizational structure, especially when planned and implemented strategically to promote the sustainable growth of companies, ensuring competitive longevity (Cohen, 2023). Companies that invest in ESG tend to make innovative investments in human capital, information transparency, and a less concentrated shareholder structure (Zhan et al., 2025). However, engagement with ESG practices may be related to business strategies (Setiarini et al., 2023).

The business strategies proposed by Miles and Snow (1978) are characterized by decision-making and actions aimed at maximizing the company's strengths and leveraging results (Priscillia et al., 2022; Soschinski et al., 2024). With a view to achieving objectives sustainably and aligning resources, business strategies are fundamental for growth, competitive advantage, and adaptability in a dynamic and challenging environment from the stakeholders' perspective (Alvia et al., 2020).

Soschinski et al. (2024) emphasize the interdependence between the proper choice of strategy

and an organization's objectives, as well as highlighting the presence of various variables that can impact the business. Miles et al. (1978) present four types of business strategies: prospectors, analyzers, defenders, and reactors. Each of these implies a distinct organizational configuration, including structure, processes, and technology, which adapt to different conditions.

A company with a defender strategy seeks business stability and emphasizes control to achieve maximum efficiency, which can lead to difficulties if the chosen market territory, focused on a single niche, is not well-selected (Mat et al., 2021). A company with a prospector strategy assumes that the reputation for being innovative in developing products and services is as valuable as its financial results and relies on significant investments in researchers seeking potential opportunities (Beuren & Gomes, 2022).

The analyzer company aims to minimize risk while maximizing profit opportunities, seeking innovations and opportunities aligned with its competencies already validated by the market, rather than developing its own, thereby taking on less risk and experiencing slower growth (Miles et al., 1978). In turn, a reactor company tends not to have a consistent strategy, as it adopts a residual approach due to uncertainties and instabilities, leading to negative performance (Mat et al., 2021). Moreover, it lacks actions focused on innovation or other value-creation strategies (Maury, 2022).

The hypothesis of this study is based on the business strategies proposed by Miles et al. (1978). Chevrollier et al. (2020) conducted an analysis of how companies' strategic orientation influences their ESG performance. The results indicated that companies with a robust strategic orientation tend to exhibit prominent ESG performance, achieving better outcomes than those adopting a more instrumental approach.

Setiarini et al. (2023) point out that these dynamics are better explored through the characterization of the prospector and defender business strategy concepts applied to ESG performance. Organizations that adopt a defender strategy choose a more centralized risk management model, avoiding expansion into new markets. Their purpose is to maximize existing resources and strengthen their position in the current market, prioritizing predictability of outcomes (Herusetya et al., 2023).

Prospector companies stand out for their constant pursuit of trends and new economic niches, which requires significant investment in solutions and R&D (Soschinski et al., 2024). Priscillia et al. (2022) argue that these companies adopt sustainable strategies in product development, integrating new technologies and production methods in an agile manner with low resistance. Feng et al. (2024) indicate that ESG performance drives corporate innovation, especially when aligned with the company's scale and supply chain resilience, regardless of its profitability.

According to the literature review, companies with a prospector orientation tend to provide greater incentives for adopting ESG practices, as they possess more developed strategic resources (Setiarini et al., 2023). In this regard, the Brazilian context presents an opportune environment for investigation, particularly because it is characterized by lower regulatory and institutional pressure, as well as more limited stakeholder engagement. Despite some progress, the country still faces significant challenges in improving its regulatory framework, making it relatively more flexible compared to other nations (Bandeira et al., 2024). In light of this, it is considered that:

H_1: The prospector business strategy is positively related to ESG performance.

3 Methodological procedures

The research population consists of companies listed on the Brasil, Bolsa, Balcão (B3). Archival research was conducted using data from Refinitiv Eikon®. The sample was defined by excluding companies without the necessary data to calculate the variables and those with negative equity,

considered unsuitable for analysis (Table 1). In addition, a sectoral classification was carried out based on the Global Industry Classification Standard (GICS), excluding companies without a sector classification and those in the financial sector due to characteristics that could distort strategy comparisons (Zhang, 2021).

The period analyzed spans from 2015 to 2023; however, data were collected from 2010 onward to calculate the moving average of the business strategy variable (see Table 3). It is worth highlighting the milestone of the mandatory adoption of the International Financial Reporting Standards (IFRS) in Brazil in 2010. This change brought greater quality to the information and, consequently, improved comparability.

Table 1
Classification of sample companies by sector over the years

Sectors	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Telecommunications	6	6	6	6	7	9	14	14	14	82
Discretionary Consumption	56	56	59	59	63	70	76	76	72	587
Basic Products	15	15	16	16	16	19	23	23	23	166
Energy	7	7	7	7	7	8	9	9	9	70
Healthcare	9	9	9	11	11	12	17	17	17	112
Industry	37	37	40	42	41	48	55	56	56	412
Technology	3	3	3	3	3	5	13	13	12	58
Materials	24	24	24	24	24	24	27	27	27	225
Real Estate	12	12	12	12	13	17	19	19	19	135
Utilities	32	32	33	33	35	35	35	36	36	307
Total	201	201	209	213	220	247	288	290	285	2.15

As shown in Table 1, the research sample consists of an unbalanced panel, totaling 2,154 observations distributed across 10 sectors, comprising 291 companies. The consumer discretionary and industrial classifications account for the highest number of observations, while the technology sector is the least represented. The variables considered are presented in Table 2, along with their descriptions, measurement methods, and sources.

Table 2
Research variables

Variable	Description	Calculation	Authors
Dependent Variable			
ESG	ESG performance	Scale from 0 to 100. The higher the score, the greater the company's commitment to ESG practices.	Bao et al. (2024)
Independent Variable			
EN	Classify companies as either prospectors or advocates.	*Ranking of six variables presented in Table 3*.	Bentley-Goode et al. (2019)
Control Variables			

Sector	Represents the company's main activity.	Dummies for each sector classified by the GICS Sector Code.	Zhang (2021)
Year	Represents the analysis period (2015 to 2023).	Dummies for each year.	Authors of the research.
SIZE	Size of each company.	Logarithm of the company's total assets.	Khalil et al. (2024)
MBV	Compares a company's market value to its book value.	Total market capitalization divided by total net worth.	Tumewang et al. (2024)
AGE	Total number of years the company has been listed.	Natural logarithm of years since registration.	Khalil et al. (2024)
ROA	Company profit relative to assets.	Net profit divided by average total assets.	Khalil et al. (2024)
COVID	Impact of the COVID-19 pandemic.	Dummy, with 1 for years considered pandemic by the World Health Organization and 0 otherwise.	Authors of the research.

The dependent variable ESG was assigned a score ranging from 0 to 100, reflecting the degree of a company's engagement in environmental, social, and governance practices (Naseer et al., 2024). This score was structured around the environmental (ENV), social (SOC), and governance (GOV) pillars, subdivided into various subdimensions, such as resource use, emissions, human rights, community relations, and corporate management practices (Refinitiv, 2024).

The ESG score provided by Refinitiv® s widely recognized and used in academic research, considered a reliable indicator of companies' ESG performance (Uyar et al., 2020; Eliwa et al., 2021). The score provides an assessment of a company's sustainability, allowing for comparisons between companies and tracking their progress over time, with higher scores indicating greater alignment with ESG principles (Soschinski et al., 2024).

For the independent variable *business strategy*, the typology of Miles and Snow (1978) was considered, in which the prospector strategy is oriented toward innovation and the exploration of opportunities. As a proxy, an adapted ranking was used based on the variables R&D, operating expenses, sales growth, production efficiency, capital intensity, and organizational stability, forming an index of six variables, as shown in Table 3.

Table 3
Detailed explanation of the business strategies variable

Variable	Measure	Measurement	Expected
EN1	New product development	Ratio of R&D expenses to sales	Higher returns are expected for prospectors, given the strong investment in R&D for new opportunities.
EN2	Exploring new product market opportunities	Ratio of general, administrative, and sales expenses to sales	Higher returns are expected for prospectors, due to high marketing spending.

EN3	Growth opportunities	Annual sales growth rate	Higher returns are expected for prospectors, as they exhibit rapid and opportunistic growth.
EN4	Production and distribution efficiency	Ratio of number of employees to sales	Higher returns are expected for prospectors, who prioritize innovation over efficiency.
EN5	Capital intensity	Ratio of fixed assets to total assets	Lower returns are expected for prospectors, due to their low capital intensity and productive flexibility.
EN6	Managerial stability	Standard deviation of the number of employees	Higher returns are expected for prospectors, due to high turnover and external hiring of managers.

Source: adapted from Bentley-Goode et al. (2019), Zhang (2021) and Setiarini et al. (2023).

After defining the six measures, the composite index Sindex was adopted, using a five-year moving average to smooth fluctuations and a logarithmic transformation to reduce outliers (Zhang, 2021). For the calculation of the year 2015, the variation from 2010 to 2014 was considered; for 2016, the variation from 2011 to 2015, and so on. Subsequently, the moving average of each variable was grouped by quintile, considering sector and year. To ensure that EN5 represented the characteristics of prospector companies, the variable's scale was reversed. The quintiles were summed to generate a score from 6 to 30, where higher values indicate prospector companies (Bentley-Goode et al., 2019). Following Zhang (2021), the business strategy score was transformed into a binary variable, assigning 1 to companies with a score above the 75th percentile (18 points) and 0 otherwise. With this procedure, 656 observations (30.5%) were classified as prospectors.

Initially, detailed descriptive analyses were conducted to characterize the variables, including the dependent variable ESG and those related to business strategies. For this purpose, missing values were replaced with zero, and extreme values of the continuous variables were adjusted, limiting them to the 1st and 99th percentiles through winsorization, in order to handle missing data and minimize the impact of outliers on the analysis.

Tobit regression was chosen due to the censored nature of the ESG variable, which ranges from 0 to 100, making it suitable for data with upper and lower limits and allowing the estimation of relationships between variables while accounting for data censoring. In the model, sector fixed effects and robust standard errors were controlled. Ordinary Least Squares (OLS) regression was used to calculate the Variance Inflation Factor (VIF) and the Durbin-Watson (DW) test, as this calculation is not feasible in the Tobit model due to the impact of censoring on variance and residuals, thereby enabling the assessment of multicollinearity among independent variables. However, the OLS regression is not presented in the results analysis, as it is used solely for assumption testing.

The autocorrelation of the residuals was verified using the Durbin–Watson test, which is important for identifying temporal dependence in the errors, as such dependence would compromise the independence and reliability of the estimates. These procedures ensure the robustness of the model and the reliability of the statistical inferences related to the adoption of ESG practices in relation to business strategies (Emma et al., 2024).

In unreported results, additional tests were conducted. Initially, only prospector and reactor companies were considered in the sample. According to Miles and Snow (1978), analyzer

companies combine characteristics of defenders and prospectors, while reactor companies are considered residuals in the classification, as they do not fit into any of the other three categories. Therefore, analyzer and reactor companies were excluded to compare considerably opposite business strategies. Additionally, a dummy variable was tested, assigning a value of 1 to defender companies and 0 to the others (prospectors, reactors, and analyzers), in order to examine whether defenders exhibit behavior opposite to the other strategies.

4. Analysis of the results

Table 4 displays the descriptive statistics of the sample.

Table 4
Descriptive statistics

	Mean	Median	Standard deviation	Minimum	Maximum	25p	75p
ESG	16.1163	0.0000	26.4009	0.0000	90.8070	0.0000	32.3639
SIZE	21.9280	21.9693	1.8601	16.2637	26.0572	20.7257	23.1688
MBV	1.9094	1.1741	3.0116	-4.4365	19.8933	-4.4365	2.3122
AGE	43.3774	39.5000	29.6976	-4.0000	151.0000	17.0000	64.0000
ROA	0.0082	0.0284	0.1415	-0.6330	0.4155	-0.0192	0.0723
Observations	2.154						

Note: significant at the *0.10, **0.05, ***0.01 level. Note 2: 25p = 25th percentile; 75p = 75th percentile.
Legend: ESG = environmental, social and governance performance; SIZE = size of each company; MBV = market capitalization compared to the book value of each company; AGE = total number of years each company has been listed; ROA = each company's profit in relation to its return on investment in its assets.

The variable SIZE has a mean of 21.93 and a standard deviation of 1.86, indicating that, on average, the companies in the sample have asset sizes ranging between 16.26 and 26.06 on the logarithmic scale of assets. The ESG variable has a mean of 16.12 and a standard deviation of 26.40, indicating substantial variation in environmental, social, and governance practices among companies. The 25th percentile of ESG is 0.00, showing that 25% of the companies have no ESG score, while the 75th percentile is 32.36, indicating that 75% of the companies have scores below this value.

The variable MBV, with a mean of 1.91 and a standard deviation of 3.01, shows a great variability in the market perception of the companies book value, indicating that some are being valued well above (below) the book value. The ROA, with a minimum value of -0.63, indicates that some companies in the sample are not managing to generate profit with their assets, while others, with a positive ROA of 0.41, demonstrate consistent profitability. Finally, AGE, with a mean of 43.37 years and a standard deviation of 29.69, reveals a great variability in the age of the companies, some being established longer and others for a shorter time, which may influence the dynamics of their performance.

Table 6 presents the results of the logistic regressions to identify the relationship between business strategies and ESG practices.

Table 6
Relationship between business strategies and ESG practices

Variables	Model 1 – ESG (PROSP)			Model 2 - ESG (PROSP + Control)			Model 3 - ESG (PROSP + Control + Sector)		
	Coef.	*t*	β	Coef.	*t*	β	Coef.	*t*	β
Constant	-38,18***	-13,85		-652,79***	-38,31		-698,09***	-32,69	
PROSP	31,75***	9,33	0,13	6,19**	2,57	0,11	5,34**	2,23	0,11
SIZE				28,36***	39,14	0,21	30,33***	35,49	0,22
MBV				2,13***	5,62	0,08	1,80***	5,04	0,07
AGE				-0,16***	-3,88	-0,13	-014***	-3,36	-0,11
ROA				17,23	1,38	0,04	26,84*	2,09	0,06
COVID				6,67***	2,85	0,09	5,43**	2,37	0,07
EF Sector							Sim		
R²-Pseudo		0,84%			14,58%			15,40%	
VIF máx.		1			1,12			4,36	
DW		0,38			0,63			0,63	
White		0,00***			0,00***			0,00***	
Obs.		2.154			2.154			2.154	

Note 1: significant at the *0.10, **0.05, ***0.01 levels.
Note 2: maximum VIF between variables is the test for multicollinearity. DW is the Durbin Watson test for autocorrelation of residuals. White is the test for homoscedasticity of residuals.
Legend: Coef. = coefficient; β = standardized beta; PROSP = categorical variable, representing the prospecting companies; ESG = environmental, social and governance performance; SIZE = size of each company; MBV = market value compared to the book value of each company; AGE = total number of years each company has been listed; ROA = profit of each company in relation to the investment in its assets; COVID = coronavirus disease; EF = fixed effect; R²- Pseudo = assess the fit of the non-linear model.linear.

In Models 1, 2, and 3, the variable PROSP shows a positive and significant coefficient, indicating that ESG performance is associated with this business strategy. In Model 1, which does not take other variables into account, the PROSP coefficient stands out, with a t-value of 9.33 and a standardized coefficient β of 0.13, suggesting that a change in business strategies results in a moderate positive change in ESG performance, with a more pronounced impact in this model compared to the others.

To confirm these results, control variables were added in Model 2, which showed significant effects, except for ROA. The variable COVID, with a positive coefficient, suggests that during the pandemic, companies directed more resources to environmental, social, and governance aspects. In Model 3, the inclusion of the sector fixed effect control resulted in slight adjustments to the variable coefficients, but the main effects remained similar, reaffirming the importance of business strategies on ESG performance, even when these additional variables are considered.

Table 7 presents the results of the regressions, with the ESG performance pillars as dependent variables.

Table 7
The relationship between business strategies and the pillars of ESG.

Variables	Model 4 - ENV			Model 5 - SOC			Model 6 - GOV		
	Coef.	t	β	Coef.	t	β	Coef.	t	β
Constant	-728,96***	-32,21		-754,42***	-32,94		-700,58***	-29,93	
PROSP	5,29**	2,11	0,03	5,06*	1,94	0,05	7,11***	2,71	0,00
SIZE	31,27***	34,07	0,00	32,66***	35,54	0,00	30,46***	32,36	0,00
MBV	1,79***	4,66	0,00	1,86***	4,91	0,00	1,88***	5,06	0,00
AGE	-0,10**	-2,39	0,01	-0,15***	-3,36	0,00	-0,20***	-4,28	0,00
ROA	34,55**	2,55	0,01	30,30**	2,15	0,03	21,34	1,50	0,13
COVID	7,02***	2,94	0,00	6,25**	2,49	0,01	4,22*	1,68	0,09
EF Sector		Sim			Sim			Sim	
R^2 Pseudo		15,68%			14,88%			14,07%	
VIF máx.		4,36			4,36			4,36	
DW		2,00			1,99			1,98	
White		0,00***			0,00***			0,00***	
Obs.		1502			1474			1474	

Note 1: significant at the *0.10, **0.05, ***0.01 levels.
Note 2: maximum VIF between variables is the test for multicollinearity. DW is the Durbin Watson test for autocorrelation of residuals. White is the test for homoscedasticity of residuals.
Legend: Coef. = coefficient; β = standardized beta; PROSP = categorical variable representing prospective companies; ESG = environmental, social and governance performance; SIZE = size of each company; MBV = market value compared to the book value of each company; AGE = total number of years each company has been listed; ROA = profit of each company in relation to the investment in its assets; COVID = coronavirus disease; EF = fixed effect; R² Pseudo = assess the fit of the non-linear model.linear.

The environmental pillar is analyzed in Model 4, the social pillar in Model 5, and the governance pillar in Model 6, all showing significant positive coefficients, indicating that a prospector strategy positively contributes to companies' performance in all three pillars. Regarding the explanatory power of each variable in each model, Model 4 suggests a more modest impact magnitude, with a β coefficient of 0.03, while Model 5, with a β coefficient of 0.05, shows a stronger relationship between business strategies and social performance.

Regarding the model adjustments, the Pseudo R2 reveals that Model 4 best explains the variance in the dependent variables, referring to the environmental pillar (15.68%), followed by the social pillar (14.88%) and, lastly, the governance pillar (14.07%). The VIF values are all equal to 4.36, indicating that there are no significant multicollinearity issues between the independent variables. The White test indicates significant heteroscedasticity in all models, suggesting that the variability of errors is not constant across the observations. To correct the heteroscedasticity in

the models, as indicated by the White test, robust standard errors were used in all regressions.

5. Discussion of the results

The results indicated that companies with prospector characteristics perform better in ESG practices compared to others. This difference was statistically significant and confirms hypothesis H1, supporting that business strategies significantly influence engagement with sustainable practices. Companies with a prospector strategy, by prioritizing innovation and growth, demonstrate a greater capacity to adapt to environmental changes and greater ease in incorporating sustainable practices into their routines. These empirical patterns are consistent with the strategic typology proposed by Miles and Snow (1978) and aligned with the evidence from Herusetya et al. (2023), who linked strategic orientation to the level of ESG performance.

The research findings indicate that the social pillar is particularly favored by the prospector strategy. This result may be related to the encouragement of employee participation, the appreciation of internal well-being, and the creation of organizational environments conducive to innovation. According to Feng et al. (2024), initiatives focused on the social aspect of ESG help reduce turnover, strengthen institutional image, and generate greater team engagement, promoting innovation and competitiveness in unstable markets.

In the Brazilian context, the positive relationship between the prospector strategy and ESG performance becomes particularly relevant in light of a less stringent regulatory environment and lower institutional pressure. Even with limited external incentives, innovative companies demonstrate a greater commitment to sustainable practices, suggesting that internal strategic decisions can offset weak external pressures. This finding reinforces the results of Setiarini et al. (2023), who identified a significant influence of strategic orientation on ESG performance in ASEAN countries, and Mazzioni et al. (2024), who show how structural factors (e.g., corruption and legal weaknesses) shape business behavior in emerging markets.

The business strategies proposed by Miles and Snow (1978) are recognized for providing a theoretical framework capable of identifying organizational characteristics associated with engagement in sustainable practices, as corroborated by Priscillia et al. (2022) and Soschinski et al. (2024). Anwar et al. (2021), considering business strategies and variables reflecting the Brazilian institutional context, confirmed the importance of strategic choices in adopting ESG practices. Even in economies with weak institutions, the adoption of strategies focused on innovation and flexibility is observed, which favors sustainable development. These findings strengthen the understanding that business strategies are key determinants in internalizing the ESG agenda, overcoming institutional limitations, and responding to corporate sustainability demands.

6 Conclusions

The research results indicated that the business strategies proposed by Miles and Snow (1978) influence the implementation of ESG practices. Prospector companies, which focus on innovation and the search for new opportunities, tend to perform better in ESG. The social pillar is the most sensitive to the prospector strategic orientation, highlighting the relevance of factors such as employee well-being, community engagement, and social responsibility. This is followed by the environmental pillar, reflecting efforts aimed at mitigating ecological impacts and innovation in sustainable processes. The governance pillar showed a more subtle influence, perhaps due to its reliance on institutional factors.

The models demonstrated variation in the strength of the relationship between business strategies

and ESG proxies, with the relationship being stronger in the social dimension. This result reveals important theoretical implications, highlighting that business strategies guide companies towards ESG practices. In line with stakeholder theory, which advocates for the need for companies to create value for all stakeholders, the evidence reinforces that alignment between strategic orientation and social expectations is a decisive factor for organizational success and longevity, especially in fragile institutional contexts, such as the Brazilian one.

Insights for managers are provided on how a company's strategic profile influences its choices regarding sustainable development. For prospector organizations, integrating stakeholder demands into their growth and innovation objectives can create value and strengthen their market position. The findings also indicate the relevance of business strategies as an internal factor capable of compensating for institutional gaps. In a regulatory environment with lower demands and weak stakeholder pressure, such as the Brazilian one, the proactive strategic stance of prospector companies shows that it is possible to advance the ESG agenda. This finding reinforces that strategic orientation can drive corporate sustainability in emerging markets.

This research was limited to comparing the prospector business strategy with the others, determined by the moving average of each strategic orientation, considering the previous five years. Future studies could adopt a different theoretical model and methodology from this study. Expanding the time period to obtain more comprehensive results is another recommendation. As the study is limited to the Brazilian context, it is possible that the results may not be replicated in countries with different institutional structures. The analysis of the ESG score was based on a single data source, so future research could incorporate multiple indexes to verify potential variations in the relationship between business strategies and ESG performance.

References

Alvia, A. K., Jabeena, Z., Jawaidd, A., & Kaure, P. (2020). Relationship of career success and organizational performance through the path of business strategy. Revista Internacional de Economia, Gestão e Contabilidade, 28(1), 1-33. https://doi.org/10.31436/ijema.v28i1.675

Anwar, J., Hasnu, S. A. F., Butt, I., & Ahmed, N. (2021). Miles and Snow typology: Most influential journals, articles, authors and subject areas. Journal of Organizational Change Management, 34(2), 385-402. https://doi.org/10.1108/JOCM-07-2018-0190

Bandeira, M. L., Gonçalves, R. C., Corrêa Filho, C. R. R., & Santos, M. M. (2024). Challenges and opportunities for improving infrastructure regulation in Brazil. Revista do Serviço Público (RSP), 75(2), 311-339. https://doi.org/10.21874/rsp.v75i2.10341

Bao, X., Sadiq, M., Tye, W., & Zhang, J. (2024). The impact of environmental, social, and governance (ESG) rating disparities on corporate risk: The mediating role of financing constraints. Journal of Environmental Management, 371. https://doi.org/10.1016/j.jenvman.2024.123113

Bentley-Goode, K. A., Omer, T. C., & Twedt, B. J. (2019). Does business strategy impact a firm's information environment? Journal of Accounting, Auditing and Finance, 34(4), 563-587. https://doi.org/10.1177/0148558X17726893

Beuren, I., & Gomes, T. (2022). Manager resilience and network formation: Effects of the

strategic priority of innovation. Brazilian Business Review, 19(4), 414-430. https://doi.org/10.15728/bbr.2022.19.4.4

Cek, K., & Eyupoglu, S. (2020). Does environmental, social and governance performance influence economic performance? Journal of Business Economics and Management, 21(4), 1165-1184. https://doi.org/10.3846/jbem.2020.12725

Chevrollier, N., Zhang, J., van Leeuwen, T., & Nijhof, A. (2020). The predictive value of strategic orientation for ESG performance over time. Corporate Governance (Bingley), 20(1), 123-142. https://doi.org/10.1108/CG-03-2019-0105

Cohen, G. (2023). ESG risks and corporate survival. Environment Systems and Decisions, 43(1), 16-21. https://doi.org/10.1007/s10669-022-09886-8

Csapi, V., Ulbert, J., & Tóth-Pajor, Á. (2024). Golden ratio-based leverage targeting and the ESG performance of US and European listed firms. Research in International Business and Finance, 71. https://doi.org/10.1016/j.ribaf.2024.102469

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

Emma, G. M., Emiliano, R. B., & Jennifer, M. F. (2024). High-quality assurance, ESG legitimacy threats and board effectiveness. British Accounting Review. https://doi.org/10.1016/j.bar.2024.101385

Feng, R., Ma, L., & Wu, D. (2024). ESG performance and corporate innovation under the moderating effect of firm size. International Review of Economics and Finance, 97. https://doi.org/10.1016/j.iref.2024.103774

Herusetya, A., Sambuaga, E. A., & Sihombing, S. O. (2023). Business strategy typologies and the preference of earnings management practices: Evidence from Indonesian listed firms. Cogent Business and Management, 10(1). https://doi.org/10.1080/23311975.2022.2161204

Khalil, M. A., Khalil, S., & Sinliamthong, P. (2024). From ratings to resilience: The role and implications of environmental, social, and governance (ESG) performance in corporate solvency. Sustainable Futures, 8. https://doi.org/10.1016/j.sftr.2024.100304

Mat, T. Z. T., Subri, A. S., & Fahmi, F. M. (2021). The Miles and Snow business strategy typology and the adoption of management accounting practices. Asia-Pacific Management Accounting Journal (APMAJ), 16(2), 232-264

Maury, B. (2022). Strategic CSR and firm performance: The role of prospector and growth strategies. Journal of Economics and Business, 118. https://doi.org/10.1016/j.jeconbus.2021.106031

Mazzioni, S., Soschinski, C. K., Leite, M., Dal Magro, C. B., & Sanches, S. L. R. (2024). ESG performance in emerging economies. Macro Management & Public Policies, 6(1), 21-35. https://doi.org/10.30564/mmpp.v6i1.6202

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1978). Organizational strategy, structure, and process. Academy of Management Review, 3(3), 546-562.

Naseer, M. M., Guo, Y., Bagh, T., & Zhu, X. (2024). Sustainable investments in volatile times: Nexus of climate change risk, ESG practices, and market volatility. International Review of Financial Analysis, 95. https://doi.org/10.1016/j.irfa.2024.103492

Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices. Technological Forecasting and Social Change, 162.

https://doi.org/10.1016/j.techfore.2020.120341

Pinheiro, A. B., Behm, A. J. B., do Prado, N. B., & Mazzioni, S. (2024). The impact of board composition on ESG performance: Comparing results from symmetrical and asymmetrical approaches. Business Strategy and Development, 7(3), 424. https://doi.org/10.1002/bsd2.424

Priscillia, C. M., Tjahjadi, B., & Wulani, F. (2022). The effects of business strategy (prospector and defender) on business performance with entrepreneurial orientation as mediating variable and social media usage as moderating variable on MSME at Surabaya. Advances in Social Sciences Research Journal, 9(7), 632-647. https://doi.org/10.14738/assrj.97.12786

Refinitiv Eikon. (2024). ESG Scores. https://www.refinitiv.com/pt/finançassustentáveis/pontuações-esg

Seok, J. H., Kim, Y., & Oh, Y. K. (2024). How ESG shapes firm value: The mediating role of customer satisfaction. Technological Forecasting and Social Change, 208. https://doi.org/10.1016/j.techfore.2024.123714

Setiarini, A., Gani, L., Diyanty, V., & Adhariani, D. (2023). Strategic orientation, risk-taking, corporate life cycle and environmental, social and governance (ESG) practices: Evidence from ASEAN countries. Business Strategy and Development, 6(3), 491-502. https://doi.org/10.1002/bsd2.257

Soschinski, C., Ames, A. C., & Beuren, I. (2024). Relationship between business strategy and capital structure. Revista de Educação e Pesquisa em Contabilidade (REPeC), 18(1). https://doi.org/10.17524/repec.v18i1.3258

Soschinski, C. K., Mazzioni, S., Dal Magro, C. B., & Leite, M. (2024). Corporate controversies and market-to-book: The moderating role of ESG practices. Revista Brasileira de Gestão de Negócios, 26(1). https://doi.org/10.7819/rbgn.v26i01.4255

Tumewang, Y. K., Ayunda, K. P., Azzahra, M. R., & Hassan, M. K. (2024). The effects of diversity and inclusion on ESG performance: A comparison between Islamic and conventional banks. Borsa Istanbul Review. https://doi.org/10.1016/j.bir.2024.10.001

Uyar, A., Karaman, A. S., & Kilic, M. (2020). Is corporate social responsibility reporting a tool of signaling or greenwashing? Evidence from the worldwide logistics sector. Journal of Cleaner Production, 253. https://doi.org/10.1016/j.jclepro.2020.119997

Yu, Z., Farooq, U., Alam, M. M., & Dai, J. (2024). How does environmental, social, and governance (ESG) performance determine investment mix? New empirical evidence from BRICS. Borsa Istanbul Review, 24(3), 520-529. https://doi.org/10.1016/j.bir.2024.02.007

Zeng, M., Zhu, X., Deng, X., & Du, J. (2024). ESG rating uncertainty and institutional investment - evidence from China. Borsa Istanbul Review. https://doi.org/10.1016/j.bir.2024.07.001

Zhan, H., Shen, H., & Guo, H. (2025). Research on the impact of ESG scores on corporate substantive and strategic green innovation. Innovation and Green Development, 4(1). https://doi.org/10.1016/j.igd.2024.100194

Zhang, A. Y., & Zhang, J. H. (2024). Renovation in environmental, social and governance (ESG) research: The application of machine learning. Asian Review of Accounting, 32(4), 554-572. https://doi.org/10.1108/ARA-07-2023-0201

Zhang, R. (2021). Business strategy, stock price informativeness, and analyst coverage efficiency. Review of Financial Economics, 39(1), 27-50. https://doi.org/10.1002/rfe.1101.