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Article

The impact of ESG components on brand value

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Abstract: In recent years, environmental, social and governance (ESG) issues have emerged as a significant area of focus for companies. Furthermore, the international trend is reinforced by the emergence of relevant regulations and the obligation to prepare sustainability reports in leading economies and in the European Union. The impact of ESG and its constituent elements (environmental, social, and governance) on financial performance has been the subject of extensive investigation, with the majority of studies documenting a positive correlation. This evidence substantiates the assertion that sustainability initiatives can yield financial benefits. Concurrently, research has accorded much less attention to the impact of ESG performance on brand value, which can be identified as an indicator of consumer perception. This study, based on data from 26 global corporations between 2012 and 2021, demonstrates that efforts in the areas of environmental and social responsibility have a positive impact on consumer perception, which translates into increased brand value. Nevertheless, such a relationship was not found in case of the governance component.

Keywords: ESG; environmental awareness; social responsibility; brand value

1. Introduction

The development of sustainability policies and practices, along with the obligation to prepare sustainability reports, were already enshrined in legislation in the world's leading economies and in the European Union by the 2010s. Concurrently with the corporate sector's preparation to meet expectations, the topic also attracted the attention of researchers. The majority of research is predicated on the assumption that advancement in ESG domains extends beyond mere regulatory adherence for corporations, offering quantifiable advantages. This assumption has been corroborated by a multitude of studies, some of which concentrate on the overall ESG performance, while others focus on specific sub-areas, namely the environmental, social, or governance dimensions.

The extant research on this topic indicates that the positive outcome of ESG efforts result in an improvement in the company's financial performance. This can be evidenced by an improvement in sales or profit margins, or profitability indicators (e.g. return on sales, assets or equity), or an increase in the company's market capitalisation. The latter can be regarded as an indicator of investor value judgement about the company. In light of the aforementioned evidence, it can be posited that the extant literature has already validated the supposition that organisations should endeavour to enhance their ESG performance not merely to satisfy regulatory requirements, but rather to recognise that such investments can and should be regarded as financially lucrative endeavours. Conversely, there are much fewer studies that examine the relationship between the quality of ESG activities and consumer perceptions. One of the most effective indicators of consumer perception is brand value. While it begins with the company's financial data, it differs significantly from this in terms of its final

result. It is based to a much greater extent on consumer feedback and on the general, non-professional perception of the brand and thus indirectly about the company. This study examines the effects of the three components of ESG on brand value, demonstrating that improvements in environmental and social performance lead to enhanced consumer perception, as evidenced by an increase in brand value. Nevertheless, the results indicate an absence of a correlation between managerial aspects and brand value. The study contributes to the existing literature with new empirical findings on the relationship between ESG and brand value, thereby enhancing the understanding of this relationship, which may better support managerial decisions.

2. Literature review

A substantial proportion of the pertinent literature concentrates on overall ESG performance and its influence on financial performance, without differentiating between the three components. Friede et al. (2015) identified approximately two thousand studies and concluded that up to 90% of these studies identified a non-negative relationship between ESG performance and financial performance, with the majority of them reporting a positive relationship. Velte (2017) employed data from German companies between 2010 and 2014 and reached the conclusion that there is a positive correlation between ESG performance and ROA. In a similar vein, Yu et al. (2018) emphasise the significance of ESG disclosures. Their analysis of data from nearly two thousand companies in 47 countries revealed that, for an average listed company, enhancing ESG transparency (through comprehensive and detailed disclosure of ESG practices) leads to an increase in stock market value. This positive impact outweighs the costs associated with improving disclosure. A similar conclusion was reached by Chen and Xie (2022). Gregory (2022) demonstrated the favourable impact of ESG initiatives on corporate cash flow. In a study of Malaysian companies, Lee and Isa (2023) found that improvements in ESG practices were associated with an increase in market value. A similar conclusion is reached by Falzon and Micallef (2022), who demonstrated a positive relationship between ESG and ROA and the Tobin Q indicator. However, the strength of the latter relationship was found to be statistically weak in their models.

In addition to research focusing on the overall ESG performance, there are also a number of studies that focus on a specific ESG component. The most prominent of these is the literature investigating environmental performance. In the multitude of published works, attention must be drawn to the contributions of Craig and Dibrell (2006), Leonidou et al. (2016), Wang et al. (2014), Xie et al. (2019), Zamil and Hassan (2019) and Zeng et al. (2010). These studies examined the performance of diverse companies across different geographical regions. Their conclusion was that investments in environmentally friendly technologies and the transition towards cleaner production practices can lead to tangible improvements in financial performance. Also, Olsen et al. (2014) confirmed that enhancing the environmental pillar by introducing new green products can improve brand attitudes. Moreover, the work of Takács (2023) and Takács and Erdős (2023) not only corroborated the findings of previous studies but also highlighted that the effect can be observed in the

reverse direction. This means that financially stronger companies are more likely to become leaders in cleaner production.

With regard to the second ESG component (social), a considerable body of empirical research has recently been conducted to analyse the relationship between corporate social responsibility (CSR) and financial performance. In a meta-analysis of 42 previous studies, Wang et al. (2016) demonstrated a significant positive relationship between social responsibility and financial performance. Nollet et al. (2016) investigated the relationship between CSR and accounting performance indicators, specifically the return on assets (ROA) and return on equity (ROE). Their findings suggest that the relationship between these variables is best described by a U-shaped curve, indicating that investments in CSR have a positive effect on financial performance only in the long term. The study by von Arx and Ziegler (2014) employed data from American and European companies and demonstrated that social performance is evaluated favourably by the stock market in both regions. Yusoff and Adamu (2016) investigated the influence of CSR on accounting profitability ratios (EPS, ROE) utilising data from the 100 largest listed companies in Malaysia, and identified a positive correlation between these variables. Yannan et al. (2022) conducted an analysis of stock market data from large companies in China and Saudi Arabia with the objective of highlighting the positive impact of social responsibility. This impact was observed to manifest as an increase in sales revenue, which indirectly led to an increase in enterprise value. Bardos et al. (2020) showed that visible corporate social responsibility positively affects the market perception of the firm and its products. The findings of Braune et al. (2019) substantiate the assertion that bolstering social responsibility can serve as an efficacious instrument for organisations. This becomes even more important during periods of economic crises, as the implementation of robust CSR strategies has the potential to mitigate the impact of systematic risks.

Finally, in the area of the third ESG component (governance), the composition of boards and gender equality have received the most attention. The results observed during the early 2010s were somewhat inconclusive: Mahadeo et al. (2012) examined the impact of board diversity on financial performance in a developing economy, focusing on gender, age, education, and independence characteristics. Although significant coefficients were obtained for all four explanatory variables, both positive and negative coefficients were found, thereby precluding the verification of the assumed positive relationship. A similar conclusion was reached by Chapple and Humphrey (2014), who were unable to demonstrate the existence of the phenomenon on a general level. However, they were able to show a positive relationship in some industries. Subsequent publications offered more compelling evidence. In a study based on data from Turkish listed companies, Kılıç and Kuzey (2016) found that the inclusion of women on boards of directors has a positive impact on financial performance. Brahma et al. (2021) also documented the positive impact of gender diversity on boards based on data from British companies. Puni and Anlesinya (2020) identified a positive correlation between board characteristics (size, composition, frequency of meetings, remuneration system, proportion of independent members) and financial performance based on an analysis of Ghanaian company data. Similarly, El-Chaarani et al. (2022) demonstrated the positive impact of corporate governance on

banks' financial indicators based on an examination of data from Middle Eastern and North African banks.

The review of the literature revealed that international studies, particularly those published in the latter half of the 2010s and in the 2020s, have provided compelling evidence in this field. Results indicate that initiatives aimed at enhancing overall ESG performance and specific elements (environmental, social, and governance) have a positive impact on a company's financial performance, including its stock market performance (market capitalisation). In light of the aforementioned evidence, it can be posited that the perception and the value judgement of stock market investors are reflective of the ESG performance of firms.

Concurrently, there is a paucity of attention devoted to the examination of consumer responses to ESG performance. The work of Wang et al. (2024) is one of the few studies that directly examine the relationship between ESG and brand value. Their analysis of data from 126 Chinese brands over a 10-year period revealed a U-shaped curve between ESG and brand value. This indicates that the relationship is initially negative, but only becomes positive after a certain point. Moreover, the correlation can only be demonstrated for the environmental (E) and social (S) pillars, and not for the governance (G) pillar, based on the results presented.

To summarise, it can be stated that there is a lack of publications that specifically examine the relationship between ESG-pillars and brand value, furthermore, the available studies tend to focus on specific regions. This study addresses this research gap by conducting an empirical investigation with a global focus, thereby contributing to the ESG literature with new findings with relevant practical implications, by examining the following three hypotheses:

H1: Improving the Environmental pillar of ESG positively affects brand value.

H2: Improving the Social pillar of ESG positively affects brand value.

H3: Improving the Governance pillar of ESG positively affects brand value.

The remainder of the study first presents the methodological background by defining the variables used and developing an appropriate regression model to measure the relationship between the environmental, social and governance pillars and brand equity. This is followed by a detailed explanation and discussion of the results. Finally, conclusions are drawn.

3. Methodology

The empirical analysis employs brand value as the dependent variable. A number of prominent and esteemed consulting firms are engaged in the valuation of global brands. These companies publish annual rankings of the world's most valuable brands and present the methodology used in their published reports. From these methodological descriptions, it can be concluded that the estimated brand value is based on the financial result attributable to the brand, which is supplemented by factors derived from consumers' feedback and subjective opinion about the brand. In this way, brand value is much more than the profit or cash flow generated by the brand; it therefore expresses something quite different from a simple return calculation. It seems reasonable to posit that consumer perception is influenced by a company's performance in certain areas of ESG. Consequently, the analysis is based on the

assumption that stronger companies in this area have a more favourable consumer image than other companies, thereby increasing the value of their brands. Consequently, performance on each ESG pillar (environmental awareness, social responsibility, governance factors) is included as an explanatory variable in the models.

In order to enhance the stability of the models, a number of control variables have been employed. Control variables concentrate on company size, capacity to generate cash and profitability. A company's absolute size is expressed in terms of sales revenue, its ability to generate cash is measured by the Free Cash Flow to the Firm (FCFF), while its profitability is expressed by Earnings Per Share (EPS) and Return on Assets (ROA).

The study encompasses a ten-year period, from 2012 to 2021. The selection of companies was based on the availability of brand value data. Interbrand was selected from the international brand evaluation companies that were considered to be authentic by market participants.

In accordance with Interbrand's methodological description, brand value is estimated through a combination of three principal factors: (1) the profit generated by the company ("Economic Profit"), (2) the contribution of the brand to the generation of this profit ("Role of Brand"), the product of these two showing the profit attributable to the brand ("Brand Earnings"). This figure is then multiplied by (3) the so-called Brand Strength factor to obtain the estimated market value of the brand (Interbrand, 2021). The methodology description details all aspects that are considered by Interbrand to calculate the Brand Strength factor. These aspects are based entirely on consumer perception and feedback. Consequently, the brand value obtained may differ significantly from the financial value derived from purely financial information.

Consequently, this study focuses on companies whose brand was included in Interbrand's "Best Global Brands" list of the most valuable global brands in each year between 2012 and 2021. This list is publicly available on the Interbrand website (www.interbrand.com) for several years. The initial search yielded 28 companies, which are summarized in **Table 1**.

Table 1. Brands continuously included in Interbrand's best global brands list between 2012–2021.

No.	Company name	No.	Company name	No.	Company name	No.	Company name
1.	3M	8.	Coca-Cola	15.	IBM	22.	Microsoft
2.	Accenture	9.	Colgate-Palmolive	16.	Intel	23.	Nike
3.	Adobe	10.	Disney	17.	Jonhson & Johnson	24.	Pepsi
4.	Amazon	11.	Ebay	18.	John Deer	25.	SAP
5.	Apple	12.	Ford	19.	Kellogg's	26.	Starbucks
6.	Canon	13.	General Electric	20.	McDonald's	27.	Toyota Motors
7.	Catepillar	14.	Hewlett Packard	21.	META (Facebook)	28.	UPS

The subsequent challenge was the accessibility of ESG data. In this instance, the LSEG Data & Analytics (earlier called as Refinitiv) database was utilised. In the survey of the 28 companies presented in **Table 1**, Hewlett Packard lacked ESG scores for the years 2012–2014, while Kellogg's was absent for the entire period 2012–2021. Consequently, these two companies were excluded from the sample. The remaining

26 companies were therefore subjected to the examination of their 10-year data, comprising a total sample of 260 observations (company years).

Firstly, for each year of each company observed, the dependent variable was collected. This was the brand value published by Interbrand, denoted by $BRV_{i,t}$, where *i* in the subscript denotes the company and *t* denotes the period. Subsequently, market capitalisation was sourced from the macrotrends.com website for each company year, denoted by $MCap_{i,t}$.

All other data required for the analysis were obtained from the Refinitiv database. The database contains scores for the overall ESG performance and the particular components expressed as percentages (on a scale of 0–100%). From the available data, the values of the environmental, social and governance scores were downloaded for each company year. The downloaded values are denoted by $ENV_{i,t}$, $SOC_{i,t}$ and $GOV_{i,t}$, respectively. The values of the control variables were also extracted directly from the same data source: sales revenue realised in a given company year ($Sales_{i,t}$), free cash flow generated by the company ($FCFF_{i,t}$), as well as earnings per share ($EPS_{i,t}$) and return on assets ($ROA_{i,t}$).

To examine collinearity for the selected independent variables (comprising the three explanatory variables and the control variables), a correlation matrix was built up as illustrated in **Figure 1**.

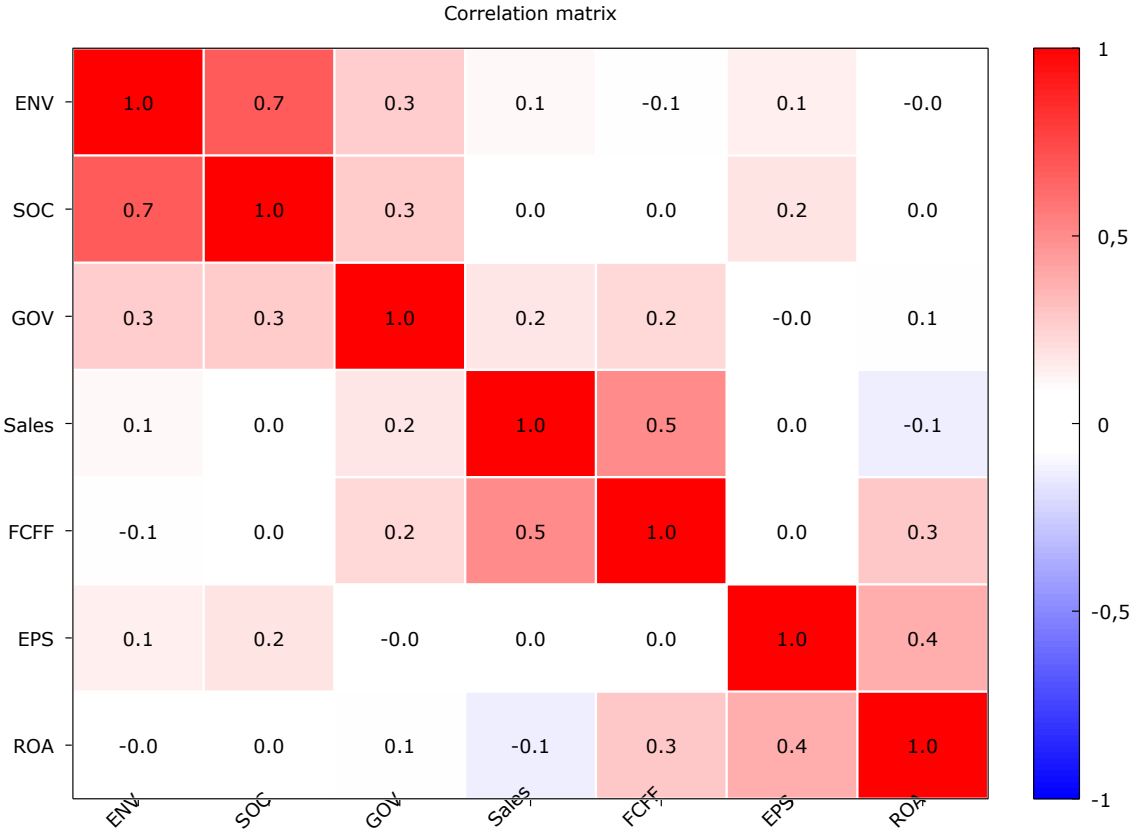

Figure 1. Correlation matrix of the independent variables.

As illustrated in the matrix, there is a robust correlation between ESG components, particularly environmental (ENV) and social (SOC), with a correlation

coefficient of 0.7. For the remaining pairs of variables, there is a correlation with variable signs, and with an absolute value of the coefficient below 0.3 or at most between 0.3 and 0.7, which is considered to be non-existent/weak, or moderate. In light of the aforementioned evidence, it appears prudent to conclude that the explanatory variables delineating each ESG pillar (ENV, SOC, GOV) should not be integrated into a single model, but rather, into distinct models. The resulting three models demonstrate that the explanatory variable and control variables are independent of each other, thereby confirming the absence of collinearity that could otherwise distort the results. This guarantees the stability and reliability of the models. The three regression models, in which brand value, sales revenue and free cash flow have been logarithmised in order to cushion remarkable differences in magnitude, are as follows:

$$BRV\_log_{i,t} = \alpha_i + \beta_1 ENV_{i,t} + \beta_2 Sales\_log_{i,t} + \beta_3 FCFF\_log_{i,t} + \beta_4 EPS_{i,t} + \beta_4 ROA_{i,t} + u_{i,t} \quad (1)$$

$$BRV\_log_{i,t} = \alpha_i + \beta_1 SOC_{i,t} + \beta_2 Sales\_log_{i,t} + \beta_3 FCFF\_log_{i,t} + \beta_4 EPS_{i,t} + \beta_4 ROA_{i,t} + u_{i,t} \quad (2)$$

$$BRV\_log_{i,t} = \alpha_i + \beta_1 GOV_{i,t} + \beta_2 Sales\_log_{i,t} + \beta_3 FCFF\_log_{i,t} + \beta_4 EPS_{i,t} + \beta_4 ROA_{i,t} + u_{i,t} \quad (3)$$

As can be observed from the subscript of the constant, all models are fixed effect models. This choice was based on comprehensive panel diagnostics, whereby both the *F*-test and the Breusch-Pagan test yielded a markedly low *p*-value ($p < 0.000$). Consequently, the former favoured the fixed effect model and the latter the random effect model over the ordinary least squares (pooled OLS) method. The choice between the fixed and the random effect models was determined by the panel specification test worked out by Hausman (1978), which rejected the null hypothesis regarding the suitability of the random effect model at the 5% level ($p < 0.05$). This indicated that the fixed effect model was the most suitable for testing the three models.

4. Results and discussion

First, descriptive statistics of the variables included in the models were defined, which are summarized in **Table 2**.

Table 2. Descriptive statistics.

Variable	Mean	Median	S.D.	Min	Max
BRV_log$_{i,t}$	7.317	7.270	0.4294	6.609	8.611
ENVi,t	0.733	0.778	0.162	0.154	0.942
SOCi,t	0.792	0.802	0.137	0.356	0.983
GOVi,t	0.684	0.721	0.202	0.102	0.966
Sales_log$_{i,t}$	7.68	7.68	0.401	6.61	8.67
FCFF_log$_{i,t}$	6.76	6.72	0.453	5.03	7.97
EPSi,t	4.29	3.55	4.18	−21.0	20.5
ROAi,t	0.0979	0.0915	0.0681	−0.0719	0.511

Subsequently, the three regression models were tested. First, Model (1), which examines the impact of environmental performance on brand value, was run. The

results of this analysis can be viewed in **Table 3**. (The asterisks next to the *p*-values indicate the level of significance: *10%, **5%, ***1%).

Table 3. Test result for Model (1).

Model (1) *n* = 260 (26 firms, 2012–2021) **Dependent variable: BRV_log$_{i,t}$**				
Variable	**Coefficient**	**Std. Error**	***t*-ratio**	***p*-value**
(constant)	0.5084	0.3408	1.492	0.1372
ENV$_{i,t}$	0.1262	0.0589	2.143	0.0332**
Sales_log$_{i,t}$	0.8164	0.0517	15.800	0.0001***
FCFF_log$_{i,t}$	0.0684	0.0215	3.182	0.0017***
EPS$_{i,t}$	0.0035	0.0026	1.315	0.1898
ROA$_{i,t}$	−0.2354	0.1438	−1.637	0.1031

The table demonstrates that, even when controlling for other variables, the variable $ENV_{i,t}$ is statistically significant for the dependent variable (brand value) at the 5% level with a positive sign. This evidence substantiates the assertion that an enhancement in environmental performance is associated with an increase in brand value. Also, this implies that consumer perceptions reflect corporate developments in environmental awareness. Although the control variables were included primarily to ensure model stability, their impact should nevertheless be analysed. It is not surprising that control variables expressing absolute size (sales and free cash flow) have a significant positive relationship with brand value at the level of 1%.

Model (2) employs social responsibility as an explanatory variable, while the dependent variable and control variables are identical to those observed in Model (1). The results of the tests are presented in **Table 4**.

Table 4. Test result for Model (2).

Model (1) *n* = 260 (26 firms, 2012–2021) **Dependent variable: BRV_log$_{i,t}$**				
Variable	**Coefficient**	**Std. Error**	***t*-ratio**	***p*-value**
(constant)	0.4508	0.3335	1.352	0.1779
SOC$_{i,t}$	0.2028	0.0712	2.847	0.0048***
Sales_log$_{i,t}$	0.8166	0.0506	16.13	0.0001***
FCFF_log$_{i,t}$	0.0668	0.0213	3.130	0.0020***
EPS$_{i,t}$	0.0035	0.0026	1.343	0.1805
ROA$_{i,t}$	−0.2589	0.1424	−1.818	0.0704*

The results are highly comparable to those observed in the preceding model. The second pillar of ESG, social responsibility (indicated by the variable SOC$_{i,t}$ in the model), also proves to be significant, with a positive sign similar to variable ENV$_{i,t}$. It is important to note, however, that the level of significance is stronger (p = 0.0048 compared to the p-value of 0.0332 for environmental performance), indicating a significant relationship at the 1% level. Furthermore, the coefficient of the variable SOC$_{i,t}$ (0.2028) is higher than that of the variable ENV$_{i,t}$ in Model (1) (0.1262). This

indicates that social responsibility exerts an even more pronounced positive influence on consumer perception than efforts to enhance environmental awareness. As with the preceding control variables, sales revenue and free cash flow have a statistically verifiable positive effect on brand equity.

Finally, Model (3) uses the governance pillar as an explanatory variable, with all other variables unchanged compared to the previous two models. Test results are presented in **Table 5**.

Table 5. Test result for Model (3).

Model (1) *n* = 260 (26 firms, 2012–2021) **Dependent variable: BRV_log$_{i,t}$**				
Variable	**Coefficient**	**Std. Error**	***t*-ratio**	***p*-value**
(Constant)	0.2642	0.3416	0.7732	0.4402
GOVi,t	−0.0839	0.0469	−1,789	0.0751*
Sales_log$_{i,t}$	0.8663	0.0520	16.650	0.0001***
FCFF_log$_{i,t}$	0.0699	0.0215	3.245	0.0014***
EPSi,t	0.0036	0.0026	1.373	0.1711
ROAi,t	−0.2376	0.1443	−1,646	0.1012

The results obtained from this model differ from those observed in Model (1) and Model (2). The variable GOV$_{i,t}$ not only fails to prove a significant explanatory variable, but its sign is also negative, which can be considered a contradictory result. This indicates that consumers are either unable to adhere to or receive inadequate information regarding the company's internal governance procedures despite disclosures, or that these disclosures are not sufficiently relevant to alter their perception of the company. It may also refer to the limitations of existing governance measurement tools or the lack of effectiveness in communicating governance performance to the wider public.

As summarized in **Table 6**, the data from the sample examined demonstrated that an improvement in environmental and social performance has a positive effect on consumer perception, reflected in an increase in brand value. However, no such relationship was found for the governance component.

Table 6. Summary of the main findings.

ESG component	**Significance**	**Coefficient**		**Conclusion**
Environmental	significant	positive	→	positive effect on brand value (H1) confirmed
Social	significant	positive	→	positive effect on brand value (H2) confirmed
Governance	not significant	negative	→	positive effect on brand value (H3) not confirmed

These findings align with those of Bardos et al. (2020), Olsen et al. (2014) and Wang et al. (2024).

It is important to note, however, that while many studies in this field have a regional focus, this study takes the investigation of the relationship between ESG and brand value to a global level, which is a novel contribution to the field.

5. Conclusions

In light of the fact that the application and regular, detailed reporting of ESG criteria has been prescribed and regulated in leading economies and the European Union, it is evident that the corporate sector has made significant organisational and financial investments to meet these expectations. In contrast to the initial, sometimes negative attitude (based on the belief that ESG regulation is just another administrative burden and unnecessary additional costs for companies), proponents of the trend perceived it as an opportunity. Additionally, researchers promptly commenced investigations in this domain. By the 2010s, a growing body of evidence demonstrated that organisations at the vanguard of ESG and its constituent areas could realise quantifiable financial and other advantages over their competitors. By the 2020s, this had become a well-established fact in the international academic literature. Concurrently, the majority of research has identified benefits as improvements in accounting performance indicators and higher stock prices and market capitalisation, with much less attention devoted to the impact of these efforts on consumer perception. This study addressed this gap in the literature by examining three regression models on a global sample of companies. The findings indicate that performance levels on the environmental and social pillars of ESG have a positive impact on consumer perception, which is expressed in brand value. However, no such relationship was identified in the case of the governance component.

The results of this study will be useful for researchers as well as for managers. Investors and policymakers can also benefit from these empirical findings, as consumer pressure for greater ESG consideration will facilitate the selection of good companies by investors and the effectiveness of further targeted government policies. The results provide insight into the relationship between ESG and brand value, and demonstrate that, from the perspective of a modern company, improving ESG performance can only be perceived as an opportunity that offers measurable benefits. In the future, it seems inevitable that this will cease to be a source of competitive advantage. Instead, it will become a fundamental expectation of companies on the part of investors and consumers, consequently, it will become an essential condition for survival.

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