

The Impact of ESG on Sales Revenue: From Customers' Perspective

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Abstract: In today's increasingly competitive business market, the significance of environmental, social, and governance (ESG) factors has emerged as a crucial non-financial aspect influencing corporate performance. This study aims to investigate the correlation between ESG indices and sales growth, with a particular focus on customers' perspectives. To achieve this, the research leverages data from the reputable WIND and CSMAR databases and employs statistical analysis and regression techniques. The findings of this study reveal a noteworthy positive association between ESG indices and sales revenue, indicating that a strong ESG performance positively influences customer attitudes towards products. This outcome underscores the value of environmental, social, and governance considerations for businesses. It encourages corporations to place more emphasis on these factors, thereby fostering social and environmental sustainability in the corporate world. Ultimately, this study emphasizes the importance of integrating ESG principles into corporate strategies to drive growth and foster a positive impact on both business performance and society at large.

Keywords: ESG, Corporate sustainability, Customer, Sales growth.

1. Introduction

Within increasing competition between corporates on market, sellers, researchers, and investors are always seeking factors which play role on customers behaviors for maximizing profit. Environmental, social, governance (ESG), a non-financial factor which mainly indicates corporate contribution to social sustainability, have been conceptualized and starts receiving attention. After being mentioned by United Nation Global Report "Who Cares Wins" published in 2004, ESG starts to gain more attention and become a popular and important term nowadays in business world.

This study investigates the relationship between ESG and sales revenue from the perspective of consumers. The study hypothesizes that better ESG performance has positive correlation with corporate sales revenue by impacting consumers. For verifying this relationship, the study mainly applies regression analysis on information including ESG index, asset liability, profit, cash flow, information, comprehensive governance information, executive count, shareholding, and salary of selected Chinese listed corporates. While acknowledging series of limitations, the study successfully verifies the hypothesis.

While there are considerable numbers of literature discuss the relationship between ESG index and sales revenue, a scant number of literatures are focusing on the perspectives of customers. The exploration of this study fills in this gap and enriches the extant literature. Further, the study also provides practical insight for corporates in current and future business competition. Since most of corporate are dedicated to attracting customers by applying financial advantages, such as anticipating more discount event, and reluctant to make contributions on social sustainability, the result of study offers a new approach to corporate's goal. Therefore, with more and more corporates applying this approach, the study actively encourages social and environmental sustainability.

The paper is organized as follows. The literature review section mentions relevant literature mostly focuses on the direct relationship between ESG index and sales revenue, strengthening the lack on extant literature which focus on customers. Section 3, 4, and 5 illustrate the hypothesis, sample, methodology, data, analysis, and result.

2. Literature review and hypothesis development

2.1 Literature review

ESG index evaluates the performance of a corporate based on three dimensions: environmental, social, and governance. The social dimension addresses the impact of a corporation on environmental sustainability, such as water and air pollution. It tells analysts how well the corporate fulfils its social and environmental obligation [1]. The social dimension reflects the internal management of a corporate, such as employees' relations, gender diversity, and equality. The governance dimension mainly signifies the correct authorization of executive members, such as board independence and risk management. Governance could have an impact on the other two dimensions [2].

Even though as part of non-financial evaluation of corporation, ESG index has been verified by many studies that it has association with financial performance could make influence of it based on ESG level. Zhao et al. (2018) [3] investigate correlation between ESG and financial performance, evidencing from Chinese listed corporates. By applying Return on capital employed (ROCE) to regression of ESG and financial performance, the study substantiate contribution of ESG performance to corporate financial performance. Wong et al. (2018) [4] explore the impact of ESG to the value, evidencing from several listed corporations in Malaysia. The study examines a regression model of corporates' Weighted average cost of capital (WACC) from 2005 to 2018, period with rapid growing of ESG inclusion. The research concludes the contribution of ESG inclusion to corporate capital and market value. Within increasingly use in business world as part of non-financial evaluation of corporates since 2005, ESG becomes a crucial factor when investors forecast corporate earnings [5]. Based on data of all listed stock exchange corporates in Shanghai and Shenzhen, China, Luo and Wu (2022) [6] measure how accurate analyst' financial forecast by evaluating error, difference between forecast and actual earning, and bias, whether prediction optimistic enough. The study argues a strong relationship between disclosure of ESG index and earning forecast accuracy.

Several extant literatures explore the impact of ESG information on costumers' behavior. For verifying the relationship and impact by ESG factor to costumer, Koh et al. (2022) [7] perform a survey in a professional marketing research corporate in Seoul, South Korea, receiving 458 valid returns for analysis. The survey includes two customer-selecting rounds which differ in participant's knowledge of ESG and neutralized demographic factors by balancing participant's number in gender, age, income, education, and occupation. By using partial least squares (PLS) and variance-based structural equation (SEM) model, the study proves association between ESG and customer. Kim et al. (2021) [8] consider ESG factor into e-commerce during pandemic. Other than financial performance such as delivery service, price competitiveness, reliability etc., the study states that non-financial factors, such as environmental, social, and governance could play a role in customer preference. By applying conjoint analysis on online survey through KakaoTalk, the study argues that ESG could impact customers and contribute to e-commerce corporates. To look at ESG effect to consumers' brand choice, Lee and Rhee (2023) [8] combine and examine each component of ESG with common impact factor of brand loyalty: brand image, attitude, and attachment. The study concludes that Social and Governance do have impact to brand loyalty whereas Environmental does not.

2.2 Hypothesis development

Customer plays a crucial role in any kind of business. Been selected by most of the customers could thrive a corporate, providing corporate with substantiate profit and opportunities to expand. In contrast, being denied by customers would cause crisis of corporate, losing market share, reputation, revenue, and in extreme situation, bankrupt of a corporate. Therefore, ensuring customers retain a positive impression is always a necessary part of a successful corporate. One common factor which could make an impact on customers' attitude is promoting financial performance, such as well quality of product, service, and price. While creating financial and practical advantage could have direct

positive influence, limitation of this method also appears. With basic production cost and serious competition on the market, it is extremely hard for a corporate to set a product at a clear financial-advantaged price than competitions and ensure quality in the same time. Based on stakeholder theory, some studies argue that non-financial performance could also influence customers' attitude and ultimately corporate revenue.

ESG covers environmental, social, and governance perspective of a corporate. Earning a high ESG index for a corporate represents a corporate's enough influence on sustainability, stability of employees, and appropriate governance. Therefore, the publication ESG index will give customers extra information about a corporate. Based on reputation theory, this information will build up a positive, reputable image in customers' impression, gaining their positive attitude toward a corporate. These positive attitudes could also be easily passed on by communication. Based on social proof theory, while individuals are unsure about their decision, they are likely to follow others' choice, purchasing product that is popular. Therefore, making a positive impression of customers affects even further the final profit of seller, and vice versa.

In summary, this study argues ESG index has a positive association with corporate revenue by building impression among customers. The hypothesis states that:

Hypothesis 1. From the customer perspective, better ESG performance improves sales revenue.

3. Research design

3.1 Sample and Data Sources

The sample consists of Chinese listed corporations in perspective of asset liability, profit, cash flow, information, comprehensive governance information, executive count, shareholding, salary, and ESG information, Within the ESG index available for Chinese listed corporations since 2010 and for avoiding impact of pandemic since 2021, the data contains information across from 2010 through 2020. Two certain steps have also been taken when processing data: (1) none of financial corporate have been included due to special environment, regulation, and rules; (2) listed corporates which having financial difficulties (ST) due to abnormal status. The data include data of in total 33182 of listed corporates. ESG index and related information are acquire from WIND database; All financial and governance information is obtain from China Stock Market and Accounting Research (CSMAR) database.

3.2 Empirical model

The main approach of this study is to verify whether better performance in ESG index could improve sales revenue of corporate. Within casual factors could make impact on corporate revenue, the study constructs an OLS model, formula (1), to take these factors into consideration. Factors in each side of equation model have mutual cause and effect relationship, and vice versa, which is also known as reverse causality.

$$Revenue_{i,t+1} = \alpha_0 + \beta_1 ESG_{i,t} + \gamma X_{i,t} + \delta_{r,t} + \varphi_{j,t} + \varepsilon_{i,t} \quad (1)$$

3.3 Dependent variable

The dependent variable $Revenue_{i,t+1}$ represents corporate revenue change compared to the previous year t in corporate i . Revenue change $Revenue_{i,t+1}$ could also be computed by evaluating proposition of difference between corporate current and last year revenue to the last year revenue.

3.4 Independent variable

The ESG index $\beta_1 ESG_{i,t}$ of year t in corporate i represents the independent variable in the OLS model (1). ESG information is based on WIND database which scored based on releasing report

of corporates across three dimensions: environmental, social, and governance. The better ESG index represents the better performance of corporate in these dimensions. The study acknowledges that ESG index for same corporation may vary while evaluated by different agency.

3.5 Control variable

$X_{i,t}$ represents a series of control variable of firm i on year t , which include firm size (*Size*), firm age, return on assets (*ROA*), return on equity (*ROE*), board size (*Board*), proportion of independent directors, and institutional ownership (*InsOnwership*).

$\delta_{r,t}$ denotes firm fixed effects, $\varphi_{j,t}$ denotes year fixed effects, and $\varepsilon_{i,t}$ denotes the standard error of the regression model.

4. Empirical Results

Table 1. Variable definitions

Variable	Definition and measurement
ROAA	The net asset divided by total asset at the beginning of the year
ROAB	The net asset divided by total asset at the end of the year
ESG	ESG index divided by 100
Size	Natural logarithm of total asset
PPE	Net value of fixed assets after the accumulated depreciation and depreciation of fixed assets are excluded
Cfo	Cash flows generated by all transactions and events other than business investment activities and financing activities.
Lev	Total debt divided total asset
Indep	Proportion of independent director
Board	Number of board of directors

Table 2 indicates observation of 33182 listed corporates and within a series of statistical data. The net asset divided by total asset at the beginning of the year (ROAA) has a mean of 0.034, with standard deviation of 0.07 and interquartile range (IQR) from 0.013 to 0.066. Similarly, net asset divided by total asset at the end of the year (ROAB) has lightly greater means 0.04 within same standard deviation with ROAA. The IQR of ROAB is located at 0.013, 0.038, and 0.072. The table also shows the mean of ESG score, 6.454 and standard deviation 1.117, within IQR at 6,6, and 7. The firm size refers to a mean of 22.146 with moderate variability as standard deviation 1.439. The mean of PPE which indicates the tangible asset is 0.21 with standard deviation of 0.165; The Cfo has observed with 0.043 on mean and 0.075 standard deviation. Firm leverage has a mean of 0.439 and standard deviation of 0.223. Independent director number (Indep) has a mean of 0.38 and a standard deviation of 0.071. Board number has a mean of 2.288 and standard deviation of 0.258.

Table 2. Statistical analysis

Variable	N	Mean	SD	p25	p50	p75
ROAA	33182	0.034	0.07	0.013	0.036	0.066
ROAB	33181	0.04	0.07	0.013	0.038	0.072
ESG	33182	6.454	1.117	6	6	7
Size	33182	22.146	1.439	21.14	21.923	22.886
PPE	33182	0.21	0.165	0.08	0.175	0.303
Cfo	33182	0.043	0.075	0.005	0.044	0.086
Lev	33182	0.439	0.223	0.261	0.428	0.602
Indep	33182	0.38	0.071	0.333	0.364	0.429
Board	33182	2.288	0.258	2.197	2.303	2.485

Table 3 indicates fitness level of regression of ROAA compared with regression ESG index. Column (1) compare the regression of ESG index and ROAA without considering control variables listed below; Column (2) does consider control variables, including consideration of firm size, fixed asset, cash flow, debt ratio, proportion of independent director, and number of board director. “****” represents the coefficient is significancy on 1% level and number inside brackets indicate t-value. Within large t-value: 12.16 (non-control variable) and 7.54 (with control variable) at 1% level, the positive regression coefficient of ESG index and ROAA: 0.009 (non-control variable) and 0.005 (with control variable) are statistically significant. It implies that ESG index could stimulate the growth of sales revenue.

Table 3. ROAA regression analysis

	(1)	(2)
ESG	0.009*** (12.16)	0.005*** (7.54)
Size		0.018*** (13.53)
PPE		-0.069*** (-9.29)
Cfo		0.164*** (19.39)
Lev		-0.172*** (-29.07)
Indep		0.014** (2.33)
Board		-0.013*** (-5.83)
Constant	-0.022*** (-4.74)	-0.288*** (-9.73)
Firm FE	YES	YES
Year FE	YES	YES
N	32801	32801
R ²	0.299	0.414

Table 4 presents the robustness test pacifically. All features from table 4 are same as table 3, except using ROAB instead of ROAA. Replacing ROAA with ROAB provides the regression analysis a more reliable result since the model compares and conclude regression for entire year. Similar to result from ROAA, ROAB present with large t-value: 11.53(non-control variable) and 6.79 (with control variable) at 1% level, meaning the positive regression coefficient of ESG index and ROAB: 0.009 (non-control variable) and 0.005 (with control variable) are statistically significant. Therefore, with extremely consistent regressions between ROAA and ROAB, table 4 reinforce the conclusion from table 3, concluding that ESG index could stimulate the growth of sales revenue. While the

growth of sales revenue effectively implies the same growth on costumers' interest toward corporate products, ESG factor has been verified that have impact on customer behavior.

Table 4. ROAB regression analysis (Robustness test)

	(1)	(2)
ESG	0.008*** (11.53)	0.004*** (6.79)
Size		0.016*** (13.19)
PPE		-0.084*** (-12.01)
Cfo		0.166*** (20.44)
Lev		-0.164*** (-29.88)
Indep		0.013** (2.14)
Board		-0.012*** (-5.52)
Constant	-0.010** (-2.42)	-0.245*** (-8.83)
Firm FE	YES	YES
Year FE	YES	YES
N	32800	32800
R ²	0.341	0.455

5. Discussion and Conclusion

Within increasing growing of global temperature, governments across the world are dedicate for maintaining environmental sustainability, spending numerous resources, and encouraging corporate participation. However, while corporate shareholders are more willing to spend time and effort on business competition for maximizing revenues, corporates always undermine the importance of environmental sustainability and therefore reluctant following government's appeal. It is crucial for corporate shareholder and decision maker to recognize the true value of sustainability and potential positive impact it could bring for corporate. Several extant literatures have mentioned the association between sustainability and corporate sales revenue, while scant study firmly mention the impact of released ESG index and ESG information to costumer. This study firmly verifies this causality and provide corporate decision maker with a new insight on how to optimize positive impression of customers to corporate.

This study focus on the impact of suitability factors to corporate's sales revenue in perspectives of costumers. Specifically, the study investigates the correlation between sales revenue, ESG index, and customer behavior. The study constructed an OLS model to evaluate the trend of ESG index, corporate sales revenue, and several control factors, which obtain based on WIND and CSMAR database. The finding of the study demonstrates the positive correlation between corporate ESG index and sales revenue, implying that ESG index could have impact on customer behavior. The vital reason explains this phenomenon is that while customers do evaluate similar products across each corporate in term of finance, their decision also influenced by the credibility and image that corporate provides. The publishing of ESG index along with other released ESG related information such as contribution to society and environmental sustainability shows the credibility, responsibility, and sustainability, boosting the confidence when customers make their purchase.

This paper addresses the impact that ESG factors could make to customer behavior and corporate sales revenue and documents the important role that ESG factor plays on corporate sale market. The result of experience and analysis verify and synchronized with the hypothesis. However, while the data samples of the study are according solely on Chinese listed corporate, which inevitably have generalized features according to Chinese policy, researchers in further study that explore similar problem should consider using cross-country data. Overall, the finding of the study suggests that growth of ESG index could effectively improve corporate sales revenue by impacting consumer behavior. Corporate stakeholders and managers should understand the value and benefits that sustainable development could bring for corporates.

References

- [1] Gillan, S., Hartzell, J. C., Koch, A., & Starks, L. T.: Firms' environmental, social, and governance (ESG) choices, performance, and managerial motivation. Unpublished working paper, 10 (2010). https://www.researchgate.net/profile/Maretno-Harjoto/publication/265849879_Board_Diversity_and_Corporate_Social_Responsibility/links/56024b2e08aeb30ba7355cda/Board-Diversity-and-Corporate-Social-Responsibility.pdf
- [2] Aboud, A., & Diab, A.: The impact of social, environmental, and corporate governance disclosures on firm value: Evidence from Egypt. *Journal of Accounting in Emerging Economies* (2018). <https://www.emerald.com/insight/content/doi/10.1108/JAEE-08-2017-0079/full/html>
- [3] Zhao, C., Guo, Y., Yuan, J., Wu, M., Li, D., Zhou, Y., & Kang, J.: ESG and corporate financial performance: Empirical evidence from China's listed power generation companies. *Sustainability*, 10(8), 2607 (2018). <https://www.mdpi.com/2071-1050/10/8/2607>
- [4] Wong, W. C., Batten, J. A., Mohamed-Arshad, S. B., Nordin, S., & Adzis, A. A.: Does ESG certification add firm value?. *Finance Research Letters*, 39, 101593 (2021). <https://www.sciencedirect.com/science/article/abs/pii/S1544612319312735>
- [5] Giese, G., Lee, L. E., Melas, D., Nagy, Z., & Nishikawa, L.: Foundations of ESG investing: How ESG affects equity valuation, risk, and performance. *The Journal of Portfolio Management*, 45(5), 69–83 (2019). <https://www.pm-research.com/content/iijpormgmt/45/5/69>
- [6] Luo, K., & Wu, S.: Corporate sustainability and analysts' earnings forecast accuracy: Evidence from environmental, social, and governance ratings. *Corporate Social Responsibility and Environmental Management*, 29(5), 1465–1481 (2022). <https://onlinelibrary.wiley.com/doi/abs/10.1002/csr.2284>
- [7] Koh, H. K., Burnasheva, R., & Suh, Y. G.: Perceived ESG (environmental, social, governance) and consumers' responses: The mediating role of brand credibility, Brand Image, and perceived quality. *Sustainability*, 14(8), 4515 (2022). <https://www.mdpi.com/2071-1050/14/8/4515>
- [8] Kim, J., Kim, M., Im, S., & Choi, D.: Competitiveness of E-Commerce firms through ESG logistics. *Sustainability*, 13(20), 11548 (2021). <https://www.mdpi.com/2071-1050/13/20/11548>
- [9] Lee, H. J., & Rhee, T. H.: How Does Corporate ESG Management Affect Consumers' Brand Choice?. *Sustainability*, 15(8), 6795 (2023). <https://www.mdpi.com/2071-1050/15/8/6795>