

ACM Research's ESG Information Disclosure and Its Impact on Corporate Performance

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Abstract. Effective environmental, social, and governance (ESG) disclosure and its rating can promote the sustainable development of enterprises and improve financial performance. The semiconductor equipment manufacturing industry is one of the most promising industries in China, and the ACM Research (Shanghai), Inc (ACM Research) is one of the most iconic companies in this industry. The article takes ACM Research as a research case and analyzes the company's ESG performance from 2022 to 2023. It then investigates whether the ESG performance of ACM Research has a positive impact on corporate financial performance, in order to provide suggestions for the improvement of ESG disclosure among related enterprises in the same industry.

Keywords: ESG; Finance performance; Information disclosure; ACM Research.

1. Introduction

The report of the 20th Party Congress points out that it is necessary to widely form a green production and living style, accelerate the green transformation of the development mode, and realize sustainable development. As the main body of China's market economy, enterprises must formulate a high-quality green transformation development strategy, and strive to grasp the opportunities in the economic and social changes. Enterprises, as the micro subject of ESG construction, should conform to the trend of the times, meet the requirements of social development, actively practice ESG concepts, re-examine the company's business model and operation mode, and make corresponding adjustments and optimization [1]. ESG rating is an evaluation of the performance of enterprises in ESG, and it is an information disclosure, and evaluation system that combines environmental protection, social responsibility and corporate governance. Widely recognized by all sectors of society, it has become an important means to promote green transformation and upgrading of enterprises [2]. Most studies in the literature show that there is a positive correlation between ESG practices and corporate performance. For example, Xu et al. believe that enterprises in the process of protecting the environment increase research and development innovation, enhance the competitiveness of enterprise products and added value, and have a positive effect on profitability [3]. It can also expand the scale of production, promote revenue growth, and enhance enterprise value [4]. Li et al. (2021) found that corporate ESG performance and its three dimensions can significantly enhance corporate performance [5], and corporate innovation has a mediating effect in the relationship between corporate ESG performance and corporate performance.

This paper takes ACM Research (Shanghai), Inc. (called ACM research for short in the later section) as an example, as a leading enterprise in China's semiconductor equipment manufacturing industry that has the ability to represent the overall performance of the industry. This paper will analyze the company's ESG performance including ESG information disclosure and ESG rating and explore the impact of its ESG performance on corporate performance, aiming to provide experience for similar companies to implement ESG.

2. ACM Research's ESG Rating and Information Disclosure

Starting in 2023, ACM Research begins publishing an ESG Report, which includes detailed disclosure of ESG investments and achievements.

2.1. Overall ESG Performance

Based on the ESG rating data disclosed by CSI Shanghai in 2023, ACM Research's ESG rating is BB, ranking 27th out of 153 companies in the semiconductor products and equipment industry, which shows that ACM Research's overall ESG performance is at a leading level in the industry. In terms of the actual performance of the Company in the three dimensions of environment, society, and corporate governance as disclosed in the CSI Stock ESG Rating, the Company ranked 62nd in the industry with a score of 66.33 in the environment dimension, 55th in the industry with a score of 75.65 in the social dimension and 88th in the industry with a score of 81.99 in the corporate governance dimension. Specific changes in ESG scores and ratings in the three dimensions for the four years of 2023 for ACM Research. In terms of the environmental dimension, according to the quarterly environmental ratings provided by Chidding in the past two years, ACM Research's environmental rating is relatively stable, with the score fluctuating in a small range of 57-58 in 2022-2023, and the ranking tends to be in the middle of the industry. It can be seen that the company has not had any major malicious environmental violations in the past two years, but it lacks the motivation and behavior to take the initiative to carry out external environmental certification, and it is relatively passive in terms of environmental information disclosure, so the company still needs to improve its environmental management.

In terms of the social dimension, ACM Research's ESG ratings disclosed by Chidian and CSI in 2023 are among the top in the industry, with ACM Research's ratings in the two companies being A and BB respectively. This shows that ACM Research has been recognized by Chiding in terms of social responsibility and has improved in the areas of economic and social contribution.

On the governance dimension, ACM Research's scores on governance structure as well as external sanctions have been relatively stable in recent years. From the data disclosed in the ESG ratings of both Chidian and CSI Equities, the 2022-2023 ACM Research's total governance rating score is maintained at 70-80, which is in the middle-upper level and shows an upward trend (see Table 1).

Table 1. ACM Research ESG overall rating

	2023Q1	2023Q2	2023Q3	2023Q4
E score	65.8	65.93	66.33	66.33
E rating	CCC	CCC	CCC	CCC
S-score	72.75	73.03	73.42	75.65
S rating	B	B	B	BB
G-score	81.39	80.86	80.86	81.99
G rating	BBB	BBB	BBB	BBB
ESG overall rating	B	B	B	BB

Source: China Securities ESG Ratings.

2.2. ESG Specific Performance

2.2.1 Environmental Dimension

According to Table 2, ACM Research has continuously improved its environmental management system, standardized waste disposal, paid attention to the management of hazardous chemicals, and gradually established a sound energy saving and emission reduction and energy management system. ACM Research's ESG report focuses on the company's EHS management system; in terms of green production, it discloses the management of wastewater, exhaust gases, and noise; and helps energy saving and emission reduction.

ACM Research has set up an EHS committee under the policy of "R&D and Innovation, Health and Safety, Clean Production and Continuous Improvement", and has established a corresponding environmental protection management system. In order to be able to effectively manage the wastewater generated by the company, the company has formulated the Wastewater Management Procedures and other systems to ensure that the company effectively manages the wastewater and

waste gas in the process of production and life, to reduce the pollution of the environment and to avoid jeopardizing human health, and the company has invested a lot of money in the maintenance of waste gas and waste water treatment facilities. The company's data on the management of hazardous chemicals has become more detailed, and the data on sewage discharge during the reporting period is clear. In terms of energy saving and emission reduction, ACM Research emphasizes energy management in its own production and operation processes and continues to promote the establishment of a systematic energy management system. The company describes the year-on-year increase in purchased electricity and the year-on-year decrease in total water consumption in 2023 by comparing the data with the same period in 2022. The company also discloses more specific energy-saving and emission reduction programs and lists considerable practical results. Every year, the company carries out energy-saving technological reforms for existing production processes and equipment to avoid a surge in energy consumption caused by the unilateral pursuit of emission reduction and focuses on balancing economic, social, and environmental benefits.

Table 2. The environmental dimension disclosed in the ESG report of ACM Research

General disclosure level	Specifics of Disclosure
Environmental management system	(1) In 2023, the management of the Company's energy conservation and emission reduction and the application of energy-saving technologies were disclosed, while the remaining years were not disclosed for the time being. (2) The Company's discharge of wastewater and waste gas was disclosed, and the treatment method was given, and the management of industrial discharge of solid wastes and hazardous chemicals was disclosed
External environmental certification	In 2023, the company acquired ISO 14001 environmental management system certification
Green business objectives	The 2023 target disclosure is presented in the form of tables and cases, which are implemented on refined indicators and data, and the target corresponds to the indicator document.
Environmental violations	No major environmental accidents occurred during the reporting period, and there were no major administrative penalties imposed by the relevant authorities for violation of laws and regulations, and no environmental penalties were imposed.

Source: ESG report of ACM Research.

2.2.2 Social Dimension

The main social issues in the ESG report include employee rights and benefits and charity management (see Table 3). In terms of employee rights and benefits, the report focuses on the composition of the company's workforce, employee health and safety, employee development and promotion, and employee welfare benefits; in terms of social welfare, the report details ACM Research's charitable and philanthropic donations.

ACM Research's ESG Report 2023 discloses in detail the employee health and development plans, and the company clearly discloses the composition of employees through charts and graphs. ACM Research also shows the detailed process of employee promotion management in charts and graphs. The company discloses its investment in training and practical measures to ensure the safety and health of its employees through a number of case studies, fully demonstrating ACM Research's practical concern for and fulfillment of the training and development of the company's employees.

In terms of social welfare, ACM Research not only disclosed the number of social donations and awards received in public welfare but also introduced the company's public welfare program focusing on children - The "Core Liver Baby Project". It was used to subsidize poor children with end-stage

liver disease who underwent pediatric liver transplants at Renji Hospital. At the same time, the company also actively participates in donation activities and contributes to medical care, poverty alleviation, education, and other fields through donations. The company's continued increase in disclosure of information on social welfare and employee benefits reflects the company's concern for society while developing itself, and injects rich emotional value into the company's brand.

Table 3. The social dimensions disclosed in the ESG report of ACM Research

General disclosure level	Specifics of disclosure
Institutional system	2023 ACM Research disclosed the company's first social responsibility report, the report's content is complete, and the data and processes are relatively clear.
Occupational health and safety	(1) Detailed disclosure of the company's health and safety management system, and compilation of the company's various production safety management systems and operational standards in accordance with the ISO45001 Occupational Health and Safety Management System. (2) Disclosure of the preventive measures for safety accidents and the standards for safety protection in various types of production sites.
Social contribution	(1) Detailed disclosure of the amount of charitable donations, participation in public welfare projects and awards; disclosure of the amount invested in the "Core Liver Baby Program" and service projects, school aid and other diversified public welfare projects. (2) Disclosure of the composition of the workforce. (3) Disclosure of the R & D and innovation system, investment and awards in the form of charts and graphs. (4) Employee growth rate was not disclosed.
Quality management	(1) Detailed disclosure of the company's product quality management system certification, quality policy, quality objectives, and quality management structure. (2) Disclosure of the relevant content of supplier cooperation and the structure of industry associations in which the company participates.

Source: ESG report of ACM Research.

2.2.3 Governance Dimension

In recent years, ACM Research's major issues in corporate governance include management systems, party-building leadership, and R&D innovation. In the aspect of corporate governance, it focuses on the detailed organizational structure of the company, and specifies the internal control and risk management; in the aspect of party-building leadership, it explains how the party organization will carry out thematic studies and special party building activities in 2023, and strengthens the education of employees' ideals and beliefs. In terms of R&D and innovation, it clearly explains the research and innovation system, R&D and innovation achievements, R&D and innovation investment as well as changes in the number of R&D personnel.

ACM Research has detailed the compliance governance dimension of the company and disclosed the ratio of directors and supervisors. In addition, ACM Research takes the initiative to disclose the company's party building, and fully grasp the general requirements of party building in the new era. 2023 in the form of cases added to the disclosure of the company's internal control and risk management so as to continue to reduce business risks and enhance corporate value.

In terms of R&D innovation, ACM Research adheres to the development strategy of "technological differentiation", and not only discloses in detail the R&D innovation system of the enterprise but also combines the charts to disclose the changes in the total amount of R&D investment in recent years, as well as the trend of changes in the number of R&D team members. It is easy to see that in recent years, ACM Research has been increasing its investment in R&D and innovation and focusing on the introduction of R&D and technical personnel. In order to continuously improve customer satisfaction

and meet customer needs, the company has established a systematic quality control process, enhanced the innovation ability of its employees and its internal R&D and technological innovation system, and is committed to improving the reputation and competitiveness of the enterprise.

3. Impact of ACM Research's ESG Performance on Corporate Performance

The fulfillment of corporate responsibility in ESG will inevitably affect the social reputation and investment and financing activities of the enterprise, which in turn will affect the value of the company and the financial performance of the enterprise.

3.1. Impact Analysis on Enterprise Value

Table 4 shows the data of Tobin's Q value from 2021 to 2023. Tobin's Q value is an important indicator to measure the market value of an enterprise, which is the ratio of the market value of an enterprise to the replacement cost of its assets. In the past three years, ACM Research's Tobin Q value has shown a decreasing trend of change, and the ESG score of the company has formed a lagged period of convergence of the trend of change, the ESG score of ACM Research has shown a decreasing trend in the period of 2021-2023, but the Tobin Q value has only begun to decline from 2022 and has continued to last until 2023.

Table 4. Changes in Tobin Q value of ACM Research from 2021 to 2023

	2021	2022	2023
Tobin Q A	1.62	1.61	1.7
Tobin Q B	1.63	1.63	1.71
Tobin Q C	8.98	4.56	5.00
Tobin Q D	9.07	4.61	5.04

Note: According to the CSMAR database, Tobin's Q value A = market value A/Total assets at the end of the period when the numerator has no value, expressed in NULL, Tobin Q value B = market value A / (total assets - net intangible assets) when the numerator has no value, expressed in NULL, Tobin Q value C = market value B / total assets at the end of the period, expressed in NULL when the numerator has no value, Tobin Q value D = market value B / (total assets - net intangible assets) when the numerator has no value, expressed in NULL.

It can be seen that there is a certain positive correlation between ACM Research (Shanghai), Inc.'s ESG score and the change of corporate Tobin's Q value, and the ESG score plays the role of a leading indicator, which can keenly reflect the change of corporate Tobin's Q value in the later stage one year in advance, and has a certain predictive effect on the change of corporate market capitalization [6].

3.2. Profitability

Table 5 reflects the changes in ACM Research's profitability and earnings quality. The return on net assets (haircut) fluctuates slightly in the range of 9% to 15% during the period of 2020-2023, generally showing an upward trend, and the return on total assets fluctuates slightly in the range of 6% to 10% in the past three years, generally still showing an upward trend, and from the point of view of these two profitability indexes, the profitability of the enterprise is steadily increasing, and the trend of change is contrary to the ESG score. From the perspective of indicators reflecting the quality of corporate profitability, since 2023, after ACM Research improved ESG performance, the ratio of sales cash flow to revenue, in addition to the decline in last year, rebounded in 2023, and the ratio of operating cash flow to revenue has been on a downward trend in general, and the trend is basically the same as that of the changes in the ESG scores of the last few years.

Table 5. Changes in the profitability of ACM Research from 2019 to 2023

	Return on total assets (weighted) (%)	Return on Net Assets (Deducted/Weighted) (%)	Net cash flow from sales/revenue	Operating cash flow/revenue
2019	13.88	30.67	0.253	0.096
2020	12.49	9.96	0.13	-0.088
2021	6.51	13.23	0.034	-0.117
2022	9.21	13.4	-0.013	-0.094
2023	10.16	14.47	0.089	-0.11

Source: <https://quote.eastmoney.com/kcb/688082.html>

It can be seen that corporate ESG performance can more objectively reflect and improve the quality of corporate earnings [7].

3.3. Solvency

Table 6 reflects the changes in ACM Research's solvency, the current ratio and quick ratio show a trend of first decline, then recovery, and then decline, the current ratio and quick ratio in 2023 is lower than the level of 2019, which indicates that during the economic downturn, the enterprise tries to speed up the inventory turnover and accounts receivable turnover to recycle funds, reduce the occupation of tangible funds in the operation, and improve the efficiency of capital use, which leads to a rapid decline in the current ratio and quick ratio, but in 2019, due to the epidemic, the enterprise will be more objective and improve the quality of profitability [7]. It led to a rapid decline in the current ratio and quick ratio, but in 2019, due to the impact of the epidemic, the de-quickening of the enterprise's inventory and accounts receivable has been reduced, and the enterprise has become conservative in its financing strategy due to the impact of the macroeconomic environment and other factors, so it tries to minimize the cost of financing and control the risk of debt repayment.

Table 6. Changes in the solvency of ACM Research from 2019 to 2023

	Gearing ratio	Current ratio	Quick ratio
2019	36.55	2.93	2.185
2020	43.12	2.391	1.357
2021	24.02	4.592	3.451
2022	32.43	2.629	1.506

Source: <https://quote.eastmoney.com/kcb/688082.html>

Overall, ESG scores can basically and acutely reflect the changes in enterprises' willingness to repay debt and debt-servicing risk, revealing the correlation between ESG performance and the shift in enterprises' financing strategies [8].

3.4. Operating Capability

Table 7 reflects the changes in ACM Research's operating capacity, with the inventory turnover rate decreasing, the total asset turnover rate showing a decreasing trend, and the turnover rate of accounts receivable also slightly decreasing. It can be seen that the turnover speed of the enterprise's inventory and total assets has been slowing down, and the net cash flow from operating activities during the turnover process of the enterprise's tangible assets has been decreasing, which, to a certain extent, reflects that the quality of the enterprise's tangible assets is relatively poor. The main reason is the epidemic in the past three years led to the backlog of Shengmei's Shanghai line inventory, and the company was not able to collect the accounts receivable in a timely manner, although bad debt provision was made for the accounts receivable.

Table 7. Changes in ACM Research's operating capacity from 2019 to 2023

	Inventory turnover ratio	Accounts receivable turnover	Total assets turnover ratio
2019	1.453	3.946	0.779
2020	1.228	4.324	0.639
2021	0.905	4.061	0.396
2022	0.706	3.572	0.396
2023	0.561	2.927	0.434

Source: <https://quote.eastmoney.com/kcb/688082.html>

The decreasing trend of the ratio of net cash flow from operating activities to total assets and the changes in ESG scores in recent years basically converge, indicating that the ESG scores of enterprises can objectively reflect the quality of working capital turnover [9].

3.5. Growth capacity

Table 8 reflects the changes in ACM Research's growth capacity. 2019 to 2022 operating income shows a growth trend. The fluctuation of the year-on-year growth rate of net profit is very obvious, and the year 2022 is abnormally high due to the impact of the epidemic; the year-on-year growth rate of total assets shows a decreasing trend, and the change is also extremely unstable, and the asset investment shrinks in 2023. This indicates that ACM Research's market demand is unstable, the stability and sustainability of operating income growth is poor, and the enterprise implements a conservative investment strategy [10].

Table 8. Changes in the growth capacity of ACM Research from 2019 to 2023

	Year-on-year growth rate of total assets (%)	Year-over-year growth rate of operating income (%)	Year-on-year increase in attributable net profit (%)
2019	12.22	37.52	45.78
2020	6.68	33.13	45.88
2021	-0.8	60.88	35.31
2022	0.26	77.25	151.08
2023	-3.05	35.34	36.21

Source: <https://quote.eastmoney.com/kcb/688082.html>

4. Summary

This paper takes ACM Research's ESG disclosure information in 2022-2023 as the research object to analyze the relationship between ESG disclosure and financial indicators, and conducts research on the impact of ESG disclosure on corporate performance. The study shows that: First, corporate ESG disclosure is positively correlated with corporate performance, and the richer and more comprehensive corporate ESG disclosure is, the more significant the improvement of corporate performance is. The enhancement of ESG disclosure not only implies that enterprises take responsibility in the three dimensions of environment, society and governance, but also means that more stakeholders will be attracted to pay attention to the development of the enterprise, improve the reputational capital, strengthen the external supervision, and thus optimize the allocation efficiency of social resources. Second, ESG ratings have a significant positive promotion effect on corporate green transformation, ESG scores have a certain predictive effect on changes in corporate value, and the promotion of green innovation is even greater. ESG scores can keenly reflect the changes in the late Tobin's Q value in advance, which can help investors judge and transmit the signal of good corporate performance. Third, ESG scores can truly and objectively reflect the enterprise's real Financial status and earnings quality can help company management to obtain reputational capital,

strengthen the identification and prevention of financial risks, improve corporate governance, and enhance corporate value.

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