



Crafting Pakistan's ESG Performance Blueprint: A Framework for Sustainable Growth

Sania Asad^{1*}, Amiya Bhaumik²

¹Lincoln University College, Malaysia

* Corresponding Author Email: saniaasad51@gmail.com – ORCID: 0009-0004-1275-8166

²Lincoln University College, Malaysia

Email: amiy2a@gmail.com – ORCID: 0000-0002-9188-2269

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Abstract:

The most commonly accepted framework to measure sustainability for the firms is ESG performance. Environmental, Social and Governance perspective is primarily linked to socially responsible and morally ethical investment. In recent years ESG performance has become the key indicator of non-financial performance, risk management and management competence. Moreover, in contrast to the conception of corporate social responsibility, ESG performance covers a wide range of issues related to environment (for instance Global warming, energy crisis, greenhouse gas emissions), social obligations (for instance labour rights, human rights, employee health and safety, product safety) and governance (for instance shareholder rights, board management and structure, financial information).

1. Introduction

The most commonly accepted framework to measure sustainability for the firms is ESG performance. Environmental, Social and Governance perspective is primarily linked to socially responsible and morally ethical investment. In recent years ESG performance has become the key indicator of non-financial performance, risk management and management competence. Moreover, in contrast to the conception of corporate social responsibility, ESG performance covers a wide range of issues related to environment (for instance Global warming, energy crisis, greenhouse gas emissions), social obligations (for instance labour rights, human rights, employee health and safety, product safety) and governance (for instance shareholder rights, board management and structure, financial information).

The significance of ESG paradigm is growing rapidly in areas of finance and economy. Both traditional and liberal investors have been following the pinnacle of ESG fever which has laid basis for a detailed comprehension of ESG performance [2]. For the first time in history investors consider climate risk as an investment risk. According to a global survey conducted in 2018 more or half of the

global asset owners are taking ESG indicators into consideration before devising their investment plans [1]. Since 2016 socially responsible investment has risen globally by 34 percent. However, ESG integration has grown by 60 percent in last two decades.

Statement addressing the question whether CSR is a precursor to ESG standardization or ESG paradigm has enveloped CSR, remains the talk of the moment among practitioners. These two notions seem to be similar but each has its own distinctive characteristics. However, the end goal for the both remains same; sustainable business growth. Precisely, CSR is firm's blue print of sustainability planning and cultural impact, while in contrast ESG is assessable result referring to a firm's overall sustainability performance. The most crucial difference between the terms CSR and ESG lies on the ability of entities to quantify the outcomes of CSR and ESG. Quantifying CSR can be hard for outside observers as it is a firm's internal framework. However, ESG can be measured easily based on the factual evidence disclosed in firm's annual reports, website, articles of association, memorandum of association, sustainability reports, sustainability and third party ESG rating agencies.

In short, CSR inclines towards quality while ESG inclines towards quantity.

The ESG paradigm has recently been subjected to a lot of criticism [10]. After witnessing a decade of unstoppable growth ESG paradigm is now on the verge of political and ideological battles. Such occurrences are the motivation to increase our understanding related to ESG paradigm. In order to guarantee a fair debate between policy makers, practitioners and society, exploring every aspect of ESG dynamics has become extremely substantial. The alteration of ESG is not only rising among practitioners but scholars are also interested in exploring its dynamics. There is a notable amount of newly published research on ESG performance and its indicators. However, the majority of studies are focused on a single or few indicators, very little geographical scope and limited data. Most of the studies have not addressed the issue of an urgent need of globally accepted and standardized statutory guidelines regarding disclosure terms of ESG performance [12][8]. The lack of internationally standardized framework regarding ESG paradigm has left a huge gap in literature which needs to be defined on a priority basis. Due these discrepancies and inconsistencies, the determinants of ESG performance are not sufficiently addressed which is why it is still very difficult to trace what actually determines and steers ESG performance.

Individuals in emerging and underdeveloped economies are living in deleterious social conditions. People in underdeveloped countries are continuously facing hunger, inadequate supply of water, insufficient healthcare and toxic polluted surroundings [30]. Communities all around the globe are facing socio-economic challenges. However, businesses around the world are causing severe damage to the environment. The world is on the verge of rapid changes, specifically taking increasing lack of water, energy crisis, air pollution, global pandemics and environmental degradation into consideration [26]. Given that these rapid changes are threatening human civilization, a conscious and coordinated effort is required from all three (Environmental, Social, Governance) fronts for the expansion of a circular economy.

In 2015 United Nations established 17 Sustainable Development Goals (SDGs). The ultimate objective of these goals is to target global challenges like inequality, environmental protection, poverty, climate change. Governments are directed to accomplish these goals through the involvement of social organizations and businesses. SDGs are not primarily focused on businesses which explains why they cover a wide range of other topics too. This is where ESG framework when tailored to fit the unique needs of different industries and firms,

help make broad concepts like sustainability and social responsibility more relevant and actionable. Consequently, ESG serves as a basis for implementing, quantifying and standardizing certain activities for each business appertaining to overarching sustainable Development Goals, initially aimed by businesses to be achieved.

According to world Bank's ESG index Pakistan stands at 161 out of all the countries worldwide with respect to Environmental, Social and Governance (ESG). Global Climate vulnerability index marks Pakistan on number eight, highlighting the fact that Pakistan lags notably in this regard. According to a survey conducted by PICG (Pakistan Institute of Corporate Governance) in 2019, most of the respondents of this survey included senior management executives i.e. 70.96%. The respondents of this survey were encouraging to integrate ESG in their strategic leadership models. However, only 38.05% of the responders stated that ESG implementation is reported to the board by the CEO of their respective companies. Almost 60% of the respondents disclosed that the board of their companies is fully aware of its responsibilities towards ESG. Although only 46.28% of the respondents reported the existence of statutory guidelines and policies regarding ESG. Given that 60% of the responders stated that their boards were aware of their obligations towards ESG, this discrepancy is quite taxing. An overwhelming number of respondents highlighted that their companies do not issue non-financial information in their annual reports. According to the survey non-financial reporting is not a widely accepted practice among the corporates of Pakistan. This is the core reason why this area needs to be institutionalized at its very core in Pakistan.

This study aims to develop a framework constituting all the possible determinants/indicators of ESG performance. We aim to analyse all the internal and external factors that drive ESG performance. This study lays an array of all the indicators that are further arranged into three main pillars namely Environmental Pillar, Social Pillar and Governance Pillar. This breakdown provides a standardized procedure to analyse ESG performance of firms. In this study we have developed an Index named as ESG-index in order to calculate and measure ESG performance of the firms. The by-product of this index is an ESG score which demonstrates how well a company's ESG performance is. This study in our knowledge is the first research to provide a standardized breakdown and an index to quantify ESG performance of the firms.

2. Literature Review

The lack of standardization in terms of ESG performance has led to extreme discrepancy in this domain. There are substantial disagreements when it comes to ESG ratings provided by various contributors [4]. It has caused uncertainty among ESG profiles of the companies when compared to one and other. These discrepancies have made it almost impossible to synthesize the findings of various studies regarding ESG. As far as research on ESG performance is concerned both developed and under developed economies have accumulated significant scrutiny around the subject [22][6]. However, the determinants of ESG performance vary from country to country specifically in terms of firm's characteristics and governance. This has made it extremely difficult to generalize findings of certain studies.

Generally, most of the studies conducted on ESG performance emphasize more on internal determinants rather than external determinants of ESG performance. This is mainly because internal factors are easy to be controlled and measured while it is extremely difficult to quantify external factors. In order to understand and establish long term sustainability it is very crucial to analyse external determinants of ESG performance. According to a study conducted by Liang and Renneboog (2017), qualities of ESG should not only be dependent upon companies' individual decision but it should be connected intrinsically to institutional framework, statutory regulations and societal responsibilities. Focusing on an individual pillar rather than the whole ESG paradigm can weaken the significance of research in this realm. Hence, it is necessary to pan out the importance of each pillar of ESG along with their respective determinants. In order to address these inconsistencies, we aim to identify and investigate both internal and external determinants of ESG performance in order to foster sustainability in the firms. This study contributes towards the disparity regarding impact of ESG performance and absence of standardization of ESG. Particularly, this study can help to create a basis for an extensive synopsis of the ESG framework.

The historical debate on ESG performance is categorized into two main spheres, firm's internal characteristics and its external environment. These factors define why some firms perform better than the other firms and how firms increase their corporate social performance overtime [27]. Internal determinants refer to all financial characteristics [19] and non-financial characteristics for instance resources, structure, board attributes, CEO's mindset [6][15][3]. External factors refer to statutory regulatory

frameworks, industrial effects, country's macro and micro economic effects and time [32]. According to the literature of strategic management both firm and industry specific characteristics impact corporate's financial performance. Although firm specific characteristics predicts higher proportion of deviation. However, in terms of ESG performance it is still ambiguous whether we can draw same conclusions.

It is evident from the literature that external factors can provide a company with various incentives in order to facilitate ESG practices in their operations [16]. The policies regarding ESG practices have been prominently regulated among European Union. Despite that economic crises and inflation have precipitated companies to rejuvenate their sustainability policies. Moreover, many studies have highlighted the significance of country-specific cultural dogmas in moulding ESG performance of a firm [16][28][6]. Grace and Gehman (2022) emphasize on the fact that industry specific variables have conspicuous influence on ESG performance. Although the implementation and execution of ESG strategies completely depend on the company's internal decision making. A firm's leadership, business strategies, cultural beliefs and risk management processes can have a significant influence on its ESG performance.

Pakistan's corporate sector has always been socially responsible due to its philanthropic endowments. Although, out of 540 listed companies only 50 companies are issuing sustainability reports [17]. Sectors and companies vary in terms of disclosure of ESG reporting. Most of the firms in Pakistan are constantly upgrading their labour laws and standards, investing in the education of local communities and protecting biodiversity by plantation of trees [20]. Contrary to this, all of these firms are lacking regulations for gender equality, anti-corruption, child labour and workforce representation [25]. ESG reporting is in its preliminary stages in Pakistan however it is developing gradually. ESG reporting is essential for Pakistan to compete in international market and to attract multinational firms into Pakistani market segments [20].

To encourage ESG reporting in Pakistani firms Association of Chartered Certified Accountants (ACCA) and World Wildlife Fund (WWF) initiated environmental reporting awards in 2002. The best sustainability report award had been commenced in year 2011 by Institute of Chartered Accountants of Pakistan (ICAP) and ICMAP (Institute of Cost and Management Accountants of Pakistan) in order to recognize distinction in ESG reporting in Pakistan. CPI (Cleaner Production Institute) in collaboration with Royal Netherlands Embassy commenced a

programme namely, PISD (Pakistan Industrial Sustainable Development) to facilitate sustainability reporting in industrial sector of Pakistan. Many other organizations such as Responsible Business Initiative (RBI), CSR Pakistan, Pakistan Centre for Philanthropy (PCP), Global Compact Pakistan are working towards the promotion of ESG reporting in the firms of Pakistan. The ESG reporting is largely influenced by the external organizations, while statutory guidelines regarding ESG reporting are lagging from internal governance bodies of the firm [23]. The corporate sector of Pakistan is in a substantial need of addressing ESG reporting and disclosure exigencies owing to stakeholder's enhanced accentuation upon ESG performance. For this purpose, SECP (Securities and Exchange Commission of Pakistan) provisioned Corporate Social Responsibility Order in 2009 followed by Corporate Social Responsibility Voluntary Guidelines, 2013 in order to make ESG performance more homogenous among the firms of Pakistan [18]. The statutory guidelines mentioned in these provisions require firms of Pakistan to disclose their campaigns related to customer awareness and education, community investment, product life cycle, employee health and safety, climate change and gender equality. However, ESG paradigm is not only restricted to these activities. SECP has also emphasized board of the firms to make sure that local legislations in terms of sustainability performance are being taken into consideration. Yet sustainability reporting is still a discretionary activity in Pakistan since there is no actual framework or guidelines which envelop the mandatory requirements of ESG performance. Hence, there is a need of addressing this issue and developing a proper system to be able to quantify ESG performance of the firms in Pakistan.

3. Methodology

ESG scores are outlined to explicitly and impartially measure a firm's ESG performance, dedication and potency across 23 main themes based on reported information by the firms. An ESG score is granular

enough to effectively distinguish among firms that have very limited reporting, employ minimum implementation, are not transparent and have nominal execution, in contrast to firms that practice what is being preached and transpire as the leaders of their respective industries.

We have used Thomson Reuters Model in order to create an ESG-Index. We have deliberately selected a set of 196 most analogous and significant measures to power the scoring process and firm's overall assessment. Industry relevance, comparability and data availability are the basis of underlying measures. These measures are classified into 23 categories (Appendix-A). These categories are weighted proportionately to the total number of measures within each category (Table 1), articulating three pillar scores (environmental score, social score & governance score) and finally the ESG score. This ESG score is a reflection of the firm's ESG performance, dedication and potency. The ESG score calculates ESG performance based on the data available in the public domain. The categories are classified into three pillars namely Environmental Pillar, Social Pillar and Governance Pillar.

4. Category Weights

To calculate the ESG score automated and data centric dialectics that determine that determine the weight of each category is employed. The category weights have been assigned by the total number of measures that formulate each category. This concludes that higher weight has been assigned to the categories that are more evolved in terms of disclosure and comparability. As a consequence of this, categories with higher disclosure and transparency like shareholder capital, financial information, board and management structure etc. have relatively higher weights when compared to the categories having minimal to no disclosure for instance human rights, corruption etc. The number of measures per category and their respective weights ($\{ \text{Measure} / \text{Total number of Measures} \} * 100$) have been provided in Table 1.

Table 1. Measuring Individual Category Scores

Pillar	Category	Measures	Weights
Environmental	Environmental Pollution	7	3.571429%
Environmental	Natural Resource	14	7.142857%
Social	Management policy and Performance	8	4.081633%
Social	Employee Relation/Job Creation	6	3.061224%
Social	Labor Rights	7	3.571429%

Social	Employee Health and Safety	5	2.55102%
Social	Equal Opportunity	7	3.571429%
Social	Union Relations	1	0.510204%
Social	Human Rights	1	0.510204%
Social	Community Investment	4	2.040816%
Social	Product Safety	1	0.510204%
Social	Anti-Trust	1	0.510204%
Social	Customer Outreach & Product Quality	7	3.571429%
Governance	Shareholder Capital	15	7.653061%
Governance	Shareholder Rights	13	6.632653%
Governance	Financial Information	30	15.30612%
Governance	Operational Information	11	5.612245%
Governance	Board and Management Structure	39	19.89796%
Governance	Board and Management Remuneration	7	3.571429%
Governance	Corporate Governance	3	1.530612%
Governance	Corruption	1	0.510204%
Governance	Leadership	4	2.040816%
Governance	Business Ethics	4	2.040816%
	Total	196	100%

All the underlying measures are being treated as a Boolean question resulting in the values 0 and 1. If a firm has disclosed information regarding the selected measure, it is assigned a value of 1 and vice versa. All the Boolean data is then transformed into percentile values in order to create an ESG score. For all those measures having a Boolean value of 1 following formula (New category weight of the

measure/100) is applied to provide a percentile value. By adding all those percentile values assigned to underlying measures the final category scores are determined. Appendix B (Table B) illustrates an example of calculating category scores using the data available on firm's annual reports, website, NGO website, stock exchange filings and CSR reports.

Table 2. Steps to Calculate Final ESG Score

Pillar	Category	Category Scores	Category Weights	Sum of Category Weights	New Category Weights	Pillar Score
Environmental	Environmental Pollution	0.9741	3.57%	11%	32.47%	3.690
	Natural Resource Use	5.1952	7.14%		64.94%	
Social	Management policy and Performance	0.3402	4.08%	24%	17.01%	0.248
	Employee Relation/Job Creation	0.1276	3.06%		12.76%	
	Labor Rights	0.4464	3.57%		14.88%	
	Employee Health and Safety	0.1063	2.55%		10.63%	
	Equal Opportunity	0.1488	3.57%		14.88%	
	Union Relations	0	0.51%		2.13%	
	Human Rights	0	0.51%		2.13%	
	Community Investment	0.085	2.04%		8.50%	
	Product Safety	0	0.51%		2.13%	
	Anti-Trust	0	0.51%		2.13%	
	Customer Outreach & Product Quality	0.4464	3.57%		14.88%	
Governance	Shareholder Capital	1.2947	7.65%	65%	11.77%	3.799
	Shareholder Rights	0.51	6.63%		10.20%	
	Financial Information	3.5325	15.31%		23.55%	
	Operational Information	0.3452	5.61%		8.63%	
	Board and Management Structure	8.8769	19.90%		30.61%	
	Board and Management Remuneration	0.1647	3.57%		5.49%	
	Corporate Governance	0.0705	1.53%		2.35%	

	Corruption	0.0078	0.51%		0.78%	
	Leadership	0.0628	2.04%		3.14%	
	Business Ethics	0.0942	2.04%		3.14%	

Sum of Category Weights:

Illustration to determine sum of category weights is given below:

For Environmental Pillar:

Environmental Pollution (3.57%) + Natural Resource Use (7.14%) = 11%
(Similarly, Sum of Category Weights for social and governance pillar can be calculated)

For New Category Weights:

For calculating new category weights, we are required to have sum of category weights.

New Category Weight= Category Weight/Sum of Category weight of corresponding pillar.

Calculating New Category Weight for Environmental Pillar:

Environmental Pollution: $3.57\%/11\% = 32.47\%$
Natural Resource Use: $7.14\%/11\% = 64.94\%$
(Similarly, New Category Weights for social and governance pillar can be calculated)

Pillar Score Calculation: Sum of Category score* New Category Weights

Illustration to determine pillar score is given below:

Calculating Environmental Pillar Score:

Category score of Environmental Pollution* New Category Weight + Category Weight of Natural Resource Use * New Category Weight.
 $0.9741*0.3247 + 5.1952*0.6494 = 3.690$

(Similarly, Pillar scores for social and governance pillar can be calculated)

Calculating ESG Score:

Sum of all the pillar scores constitute a final ESG score

Environmental Pillar Score+ Social Pillar Score+ Governance Pillar Score

$3.690+0.248+3.799 = 7.737$

5. Discussion

ESG is essential for driving a firm's long-term shareholder value. ESG is of extreme importance not only to the researchers, academicians but also investment practitioners. Major corporations also impact society as a whole. ESG is crucial for people who are not only concerned about the financial returns but are also determined to ensure that capitalism is for everyone. ESG is also necessary to safeguard public's confidence in businesses [13]. Over the past decade, the significance of ESG information has remarkably increased. Market practitioners and academicians are of an opinion that Securities Exchange Commission (SEC) should consider providing a standardized disclosure plan for ESG. Mandatory disclosures will result in cost reduction and standardization for firms currently rendering voluntary disclosure. However, firms that neglect ESG disclosures could face high cost and heightened stakes. Standardization is consequential in terms of making ESG information definitive and functional, making target comparable to other disclosures supervised by SEC. While these regulations might create provocation and introduce new threats, it can be claimed that they can also produce short term amplification in the potency of capital markets and entities of corporate governance. The current proposition of voluntary disclosures and self-regulations, which is resulting in demented metrics and ratings for investors, is considered untenable in the longer run.

Deficiency of conventional metrics and standards among ESG rating organizations breed heterogeneity and disagreement in the definition and measures of ESG. This poses a difficulty for investment industry, as the recognition of sustainable investment portfolios and selection of pertinent benchmarks or indexes rely on these ratings [5]. We propose that developing a unison among rating organizations on a standardized set of criteria for ESG would result in the progression of a consolidated benchmark or an assemblage of ESG indexes that showcase substantial overlap. As a result of this the financial performance of the ESG portfolios will be enhanced. Hence it is imperative to define precise ESG benchmarks. The probable solution to this issue is generating a roadmap for the adoption and implementation of common reporting practices and regulations in disclosing and reporting ESG indicators. An inspiration can be taken from International Financial Reporting Standards (IFRS)

used in terms of accounting, wherein all the practitioners have definitive guidelines for **Environmental Pillar** disclosure and reporting.

Appendix- A

Category	Measures
Environmental Pollution	<ol style="list-style-type: none"> 1. Does the firm disclose the emission of greenhouse gases? 2. Does the firm disclose that it is emitting ozone depleting substances? 3. Does the firm disclose the emission of NO_x, SO_x? 4. Does the firm disclose any risks related to climate change whether physical or regulatory? 5. Does the firm have a committed policy on management of the emissions? 6. Does the firm define a target when it comes to dealing with the emissions? 7. Does the firm have a fully committed carbon credit policy?
Natural Resource Use	<ol style="list-style-type: none"> 1. Does the firm provide a breakdown of energy consumption followed by the primary source of energy? 2. Does the firm emphasize on the reusable sources of energy? 3. Does the firm focus on efficiency improvements in order to conserve energy? 4. Does the firm induce energy audits or take various initiatives to decrease consumption of energy? 5. Does the firm have defined targets related to the conservation of energy? 6. Does the firm provide any information regarding types of raw materials used? 7. What percentage of raw materials used by the firm are recycled? 8. Does the firm take initiatives to improve efficiency of materials being utilized? 9. Does the firm have a policy for water management? 10. Does the firm disclose total water usage? 11. Does the firm disclose the source of total water usage? 12. Does the firm have a policy for the management of hazardous water? 13. Does the firm have a policy for the discharge of waste water? 14. Does the firm produce products that are energy efficient (E.g. Solar Pannels)?

Table A-1

Social Pillar

Category	Indicators
Management Policy & Performance Indicators	<ol style="list-style-type: none"> 1. Does the firm disclose all the information regarding the lifecycle of the product? 2. Does the firm disclose information regarding incidents or fines occurred or non-monetary penalties for non-compliance with environmental rules and regulations? 3. Does the firm disclose information on the type of transportation used for logistical reasons based on its environmental impact? 4. Does the firm have an explicit policy on environmental protection? 5. Does the firm put efforts to preserve biodiversity for instance plantation of trees? 6. Does the firm hold certification ISO 14001 related to environmental practices? 7. Does the firm have a policy regarding disaster management? 8. Does the firm have EMS in all the facilities?
Employee Relation	<ol style="list-style-type: none"> 1. Does the firm introduce career development programs? 2. Does the firm take initiatives to introduce communication at intra management level and involve its employees in decision making processes? 3. Does the firm disclose information regarding the benefits (non-financial) given to its employees? 4. Does the firm share information related to policy on healthcare? 5. Does the firm share information regarding policies of employee lay off and employee separation? 6. Does the firm have a policy of profit sharing with lower management for example stock options?
Labor Rights	<ol style="list-style-type: none"> 1. Does the firm have a certification SA 8000 regarding employment and labor regulations?

	2. Does the firm have a code of conduct regarding protection of human rights? 3. Does the firm take firm actions to enforce above mentioned policy? 4. Does the firm disclose information regarding total number of employees involved in strikes and lock out? 5. Does the firm hold SA 8000 certification al all of its facilities? 6. Does the firm disclose a reference of ILO core convention in its code of conduct? 7. Does the firm follow a code of conduct in its supply chain management?
Health & Safety of Employees	1. Does the firm have a policy regarding employee health and safety? 2. Does the firm provide any information regarding workplace injury or incidents? 3. Does the firm actively take initiatives regarding health and safety of employees? 4. Does the firm have knowledge-based training sessions regarding health and treatment or prevention of HIV? 5. Does the firm hold certification OHSAS 18000 regarding practices of health and safety?
Equal Opportunity	1. Does the firm have an explicit policy regarding equal opportunity? 2. Does the firm provide information regarding the breakdown of personnel? 3. Does the firm provide information regarding workforce breakdown based on employee's caste or ethnicity? 4. Does the firm take initiatives to promote women employment or employment of disabled? 5. Does the firm have a policy for discrimination in workforce and does it provide treatment options to employees suffering from HIV? 6. Does the firm have rules to deal with issues related to sexual harassment? 7. Does the firm have a woman among the board of directors as an independent director?
Union Relations	1.Does the firm disclose information regarding the number of unionized employees?
Human Rights	1.Does the firm have a definite policy regarding human rights?
Community Investment	1. Does the firm have a clear policy regarding community investment? 2. Does the firm take initiatives for the awareness of the community and awareness of the community? 3. Does the firm actively participate in public/private initiatives for the development of community? 4. Does the firm disclose information related to donations or contributions towards charitable organizations?
Product Safety	1.Does the firm have a policy regarding the recall of the product?
Anti-Trust	1.Does the firm have policies regarding fair and monopolistic work practices?
Customer Outreach & Quality of the Product	1.Does the firm disclose information on the total expenditure made annually for initiatives taken related to customer awareness? 2. Does the firm disclose information regarding the total number of customer satisfaction surveys being conducted annually? 3. Does the firm have coping mechanism to address grievances and does it take regular feedback from its customers? 4. Does the firm ensure confidentiality of its customers and have policies to protect customer's privacy? 5. Does the firm adhere to voluntary codes, laws and procedures with regard to advertising, marketing communications, sponsorship and promotion? 6. Does the firm have policies related to educating its customers regarding product and services being provided? 7. Does the firm have a certification ISO 9000 with respect to quality of its product?

Table A-2 **Governance Pillar**

Category	Indicators
Shareholder Capital	1. Does the firm disclose the total number of outstanding ordinary shares/shares issued? 2. Does the firm disclose total number of non-voting or preferred shares? 3.Does the firm disclose par value of each issued share?

	<p>4. Does the firm disclose the largest shareholder identity?</p> <p>5. Does the firm disclose the large (blocking 25 percent & controlling 50 percent) stakes holder identity?</p> <p>6. Does the firm disclose identity of the shareholders with a holding of at least 25 percent?</p> <p>7. Does the firm disclose identity of the shareholder with a holding of at least 50 percent?</p> <p>8. Does the firm disclose identity of the shareholder with a holding of at least 75 percent?</p> <p>9. Does the firm disclose identity and number of shareholders holding more than 10 percent?</p> <p>10. Does the firm disclose shareholding by senior managers in the company?</p> <p>11. Does the firm disclose shareholding by directors individually?</p> <p>12. Does the firm provide a description of share classes?</p> <p>13. Does the firm provide a review of shareholder by its type?</p> <p>14. Does the firm provide information regarding cross ownership?</p> <p>15. Does the firm have by laws and articles of association that can be accessed easily on web?</p>
Shareholder Rights	<p>1. Does the firm disclose contents of corporate governance and its code of conduct regarding best practices?</p> <p>2. Does the firm have a code of ethics and code of business conduct?</p> <p>3. Does the firm disclose the contents of its code of ethics and code of business conduct?</p> <p>4. Does the firm disclose all the changes being made in its articles of association?</p> <p>5. Does the firm disclose voting rights with respect to both voting and nonvoting shares?</p> <p>6. Does the firm have transparent procedures regarding nomination of board of directors?</p> <p>7. Does the firm have transparent procedures related to conducting an extra ordinary general meeting?</p> <p>8. Does the firm have a transparent procedure for initiating any sort of inquiries with the board of directors?</p> <p>9. Does the firm have a transparent procedure for forwarding proposals at shareholders meeting?</p> <p>10. Does the firm have a standardized dividend policy?</p> <p>11. Does the firm have accessible review of last shareholding meeting?</p> <p>12. Does the firm have provided full access to general shareholder minutes?</p> <p>13. Does the firm provide a calendar highlighting important shareholders events?</p>
Financial Information	<p>1. Does the firm disclose its accounting policy?</p> <p>2. Does the firm disclose which accounting standards are being used for its accounts?</p> <p>3. Do the firm's accounting standards meet the locally practiced accounting standards?</p> <p>4. Does the firm make its financial statements according to internationally accepted accounting standards (IFRS/GAAP)?</p> <p>5. Does the firm make notes to financial statements according to internationally accepted accounting standards?</p> <p>6. Do the firm's independent auditors compile a report following internationally accepted auditing standards?</p> <p>7. Does the firm have an unqualified audit opinion with respect to financial statements being made according to IFRS/GAAP standards?</p> <p>8. Does the firm disclose its related party transactions (receivables/payables and sales to/purchases from)?</p> <p>9. Does the firm disclose if its related party transactions are based on market or non-market terms?</p> <p>10. Does the firm make its interim financial statements according to internationally accepted accounting standards?</p> <p>11. Do the firm financial statements contain notes to such financial statements?</p>

	<p>12. Are the firm's financial statements being reviewed or audited?</p> <p>13. Is there any kind of earnings per share forecast disclosed in firm's financial statement?</p> <p>14. Is there any detailed earnings forecast disclosed in firm's financial statements?</p> <p>15. Does the firm provide its financial information on quarterly basis?</p> <p>16. Is there any sort of segment analysis disclosed in the firm's financial statements?</p> <p>17. Do the firm's financial statements disclose a complete revenue breakdown?</p> <p>18. Do the firm's financial statements disclose a complete cost structure?</p> <p>19. Does the firm disclose the name of its auditing firm?</p> <p>20. Does the firm provide a copy of its auditor's report?</p> <p>21. Does the firm disclose the fee paid to the auditor?</p> <p>22. Does the firm disclose any non-audit fee that is being paid to the auditor?</p> <p>23. Does the firm provide consolidated financial statements or audit is being conducted at only holding company?</p> <p>24. Does the firm disclose its asset valuation methods?</p> <p>25. Does the firm disclose its method for calculating fixed asset depreciation?</p> <p>26. Does the firm disclose a list of affiliates representing all the minority stake held by it?</p> <p>27. Does the firm disclose structure of ownership with regard to its affiliates?</p> <p>28. Does the firm's independent auditor report directly to at least 66 percent independent audit committee?</p> <p>29. Does the firm disclose whether auditor provided non-audit services more than 25 percent of the accumulated audit fee?</p> <p>30. Does the firm disclose whether or not the auditor has performed non-audit services?</p>
Operational Information	<p>1. Does the firm disclose the information regarding the type of business it engages in?</p> <p>2. Does the firm mention its output in the physical terms?</p> <p>3. Does the firm disclose information about the properties of fixed assets being deployed?</p> <p>4. Does the firm mention efficiency indicators?</p> <p>5. Does the firm employ any industry specific ratios?</p> <p>6. Does the firm discuss its corporate strategy?</p> <p>7. Does the firm disclose its investment plans for upcoming years?</p> <p>8. Does the firm provide a detailed investment plan for upcoming years?</p> <p>9. Does the firm provide an output forecast?</p> <p>10. Does the firm lay out an outline of trends in its own industry?</p> <p>11. Does the firm disclose information regarding market share for any or all of its ventures?</p>
Board Management Structure and	<p>1. Does the firm disclose list of the members of board?</p> <p>2. Does the firm provide other details about the directors except their name and title?</p> <p>3. Does the firm disclose information about the other employment and position held by its independent directors?</p> <p>4. Does the firm provide information about the previous positions and employment held by its directors?</p> <p>5. Does the firm disclose when a director joined the board?</p> <p>6. Does the firm list a named chairman?</p> <p>7. Does the firm disclose other details about the chairman except his name and title?</p> <p>8. Does the firm disclose any information about the role of board of directors?</p> <p>9. Does the firm provide a list of matters that is being reserved for the board?</p> <p>10. Does the firm provide a list of the board committees?</p> <p>11. Does the firm disclose names of the existing committee members?</p> <p>12. Does the firm employ internal audit operations other than an audit committee?</p> <p>13. Does the firm provide a record for the attendance of the board meetings?</p> <p>14. Does the firm provide a list of senior managers that are not on the list of board of directors?</p>

	<p>15. Does the firm provide any information regarding background of its senior management?</p> <p>16. Does the firm disclose non-financial information related to the contract of CEO?</p> <p>17. Does the firm disclose the number of shares held by its managers in other affiliated firms?</p> <p>18. Whether or not over 33 percent of the board constituted by independent directors?</p> <p>19. Whether or not over 50 percent of the board constituted by independent directors?</p> <p>20. Whether or not over 67 percent of the board constituted by independent directors?</p> <p>21. The size of the board of the firm is not less than 7 members and not more than 18 members.</p> <p>22. The firm does not have same person as CEO and chair.</p> <p>23. Does the voting in AGM happens through a poll in spite of show of hands?</p> <p>24. Whether or not over 50 percent of the audit committee independent?</p> <p>25. Whether or not over 66 percent of the audit committee independent?</p> <p>26. Whether or not 100 percent of the audit committee independent?</p> <p>27. Whether or not over 50 percent of the nomination or governance committee independent?</p> <p>28. Whether or not over 66 percent of the nomination or governance committee independent?</p> <p>29. Whether or not 100 percent of the nomination or governance committee independent?</p> <p>30. Whether or not over 50 percent of the compensation committee independent?</p> <p>31. Whether or not over 66 percent of the compensation committee independent?</p> <p>32. Whether or not 100 percent of the compensation committee independent?</p> <p>33. Is there a risk management committee existing at board level?</p> <p>34. Whether or not any director is being employed at more than three public firm boards?</p> <p>35. Do all members of the board attend at least 75 percent of board meetings?</p> <p>36. Do all members of the board attend at least 90 percent of board meetings?</p> <p>37. Does the board conduct a self-evaluation on a regular basis?</p> <p>38. Do the independent board members meet often without the presence of executive management?</p> <p>39. Does the board meet at least 4 times every year?</p>
Board and Management Remuneration	<p>1. Does the firm disclose the decision-making procedures for deciding director's pay?</p> <p>2. Does the firm disclose specifics of director's pay along with salary levels?</p> <p>3. Does the firm disclose whether the director's salary is being paid in the form of cash or shares?</p> <p>4. Does the firm disclose decision making procedures to decide managerial level pay?</p> <p>5. Does the firm provide specifics of senior management salary for instance levels or bonuses?</p> <p>6. Does the firm provide any performance indicators that can guide regarding compensation of senior management?</p> <p>7. Does the board have a formal training program for its directors or does the board provide an external training?</p>
Corporate Governance	<p>1. Does the firm have an explicit policy regarding whistle blowing?</p> <p>2. Does the firm have an explicit policy regarding insider trading?</p> <p>3. Does the firm contribute towards political parties?</p>
Corruption	<p>1. Does the firm have a clear policy regarding corruption and bribery?</p>
Leadership	<p>1. Does the firm showcase a commitment towards corporate social responsibility?</p> <p>2. Does the CEO provide statement related to corporate governance?</p> <p>3. Does the CEO provide statement related to corporate social responsibility?</p> <p>4. Does the firm recognize conventions of global CSR?</p>
Business Ethics	<p>1. Does the firm have a published CSR report?</p> <p>2. Is the CSR report being audited or assured independently?</p> <p>3. Is the CSR report constituted according to GRI framework?</p>

4. Does the firm emphasize on environmental or social performance in MD&A?

Table A-3

Appendix-B

Category	Measure	Boolean Value	Percentile Value	Category Score
Environmental Pollution	Does the firm disclose the emission of greenhouse gases?	1	0.3247	0.9741
	Does the firm disclose that it is emitting ozone depleting substances?	0	0	
	Does the firm disclose the emission of NO _x , SO _x ?	0	0	
	Does the firm disclose any risks related to climate change whether physical or regulatory?	1	0.3247	
	Does the firm have a committed policy on management of the emissions?	1	0.3247	
	Does the firm define a target when it comes to dealing with the emissions?	0	0	
	Does the firm have a fully committed carbon credit policy?	0	0	
Natural Resource Use	Does the firm provide a breakdown of energy consumption followed by the primary source of energy?	0	0	5.1952
	Does the firm emphasize on the reusable sources of energy?	1	0.6469	
	Does the firm focus on efficiency improvements in order to conserve energy?	0	0	
	Does the firm induce energy audits or take various initiatives to decrease consumption of energy?	1	0.6469	
	Does the firm have defined targets related to the conservation of energy?	1	0.6469	
	Does the firm provide any information any information regarding types of raw materials used?	1	0.6469	
	What percentage of raw materials used by the firm are recycled?	0	0	
	Does the firm take initiatives to improve efficiency of materials being utilized?	1	0.6469	
	Does the firm have a policy for water management?	0	0	
	Does the firm disclose total water usage?	1	0.6469	
	Does the firm disclose the source of total water usage?	1	0.6469	
	Does the firm have a policy for the management of hazardous water?	0	0	
	Does the firm have a policy for the discharge of waste water?	1	0.6469	
	Does the firm produce products that are energy efficient (E.g. Solar Pannels)?	0	0	

Table B

Table B provides an illustration of calculating category scores. Same method will be use for the others pillars in order to determine category scores. Percentile value has been assigned using the formula: New category Weight/100. New category weight for Environmental Pollution is 32.47% so the percentile value becomes 32.47/100 which is equal to 0.3247. Similarly, the percentile value for

Natural Resource Use is 0.6469. Category score is calculated by adding the percentile values of all the measures stating the Boole

Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.

- **Conflict of interest:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper
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- **Data availability statement:** The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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