A Comparative Study on ESG Performance of the top 100 Bombay Stock Exchange (BSE) Listed Companies in India

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Abstract:- This study examines the performance, drivers, challenges, and best practices in ESG reporting from 10 different sectors in 30 BSE listed companies. A mixed methodology approach was used find the results of research questions and objectives by adopting the PWC ESG framework. Secondary data were collected from all publicly available reports (Integrated Annual, Annual, Sustainability, ESG, BRSR, and CSR policy reports. Primary data were collected through a structured questionnaire from 17 companies' top management-level employees. Our analysis shows that companies have better governance policy disclosure and reporting than environment and social. In the case of sectoral analysis, ICT companies have higher ESG disclosure with broad area coverage of qualitative and quantitative data, next to the Finance & Insurance and Oil & Gas sectors. This paper also found that customers, government regulations are the key drivers of ESG performance in India. On the other hand, lack of quality data, inefficient human resources, and lack of coordination at company levels are the significant challenges to ESG integration in Indian companies. Future researchers can conduct scientific research-oriented studies that companies prefer in place of consulting studies for integrating sustainability into working and improving disclosure.

Keywords:- *ESG performance; ESG drivers in India; best practices; BSE listed companies.*

I. INTRODUCTION

ESG issues are significant for investors and other stakeholders in a consumer driven market. Previously investors used to be concerned about the financial performance of companies but in the current scenario of sustainability the investors are considering non-financial parameters as well in the form off environmental, social, and governance fields (Taliento et al, 2019). ESG deals with three pillars of sustainability: environment, social, and governance, which could directly be linked with people, planet, and profit (Tarmuji et al, 2016). ESG practicing and reporting not only helps to attract investors and other internal and external stakeholders but also creates a good reputation for national and international business opportunities. ESG data quality and performance is always questionable. Most of the ESG data for investors is collected by third-party agencies. However, companies are also reporting ESG data either through their sustainability, ESG, or integrated reports.

Recently, ESG and organizational performance have taken sharp interest of researchers, academicians and policymakers. The study conducted in Sweden by Arvidsson, S., & Dumay, J. (2021) found that before the year 2015, there has been a positive correlation between ESG and stock performance, operational efficiency, and lower cost of capital; however, in 2020, the figure had exponentially grown in ESG (Aybars. et al., 2018). Companies are scoring higher in ESG issues in responding to new pandemic challenges in terms of human capital, societal awareness, and environmental initiatives. The disruption of Covid-19 has exposed ESG risks, activities related to social aspects have been impacted more, additionally it has been recorded that ESG risk factors related to an employee, product, and consumer safety were significant issues. Nevertheless, the epidemic in 2020 was not the only agent of ESG risk acceleration and illumination. Social unrest, widespread unemployment, and economic pressures on racial injustice in the United States and worldwide have brought 'S' to the attention of investors in the ESG (Sustainability yearbook, 2021).

Several scholarly articles talk about ESG performance and critical drivers of ESG in sustainability of business practices. Bill Murphy, the partner of KPMG in Canada, concluded that the leading asset owners and institutional investors are increasingly focusing on ESG performance by investors to evaluate their short- and long-term portfolio strategies. It has directly impacted Canadian corporate's expectation of revealing certain levels of sustainable performance (Tempero, 2019). Similarly, Indian investors are also increasingly appealing to these non-financial performance factors as part of their investment decision and future growth potential of firms.

Investors act as key drivers of ESG issues. They are always pushing businesses to disclose about various initiatives taken by the organization. Raising awareness of ESG data and adopting strategy may not fulfil the investors requirement, while increasing data transparency and accountability could lead to momentum in non-financial reporting. Investors look to continue grow various aspects of ESG issues for example, emission scenarios of organization, human rights, and biodiversity. In the era of the growing concern of global climate change, investors are looking around how companies implement recommendations of the climate finance disclosure (EY, 2021). The improvement of the ESG reporting framework could increase ESG investment for making better business ecosystems and resilience for the future. Similarly, UN-SDGs and UNGC also try to influence organizations to achieve environmental sustainability.

India is contributing remarkably to sustainability, ESG, and other environmental initiatives taken by the government and multinational development agencies. Pareek, S. (2021) claims that after implementing the mandatory CSR Act 2013 in India, company's CSR activities, transparencies, and responsibilities had increased. Engelhardt et al (2021) supported this statement and noted that good quality CSR makes firms more resilient when market uncertainty is high, and therefore managers should increase their commitment to developing an appropriate CSR strategy. Many Indian companies are focusing on ESG investment because of investor awareness of climate change and social issues. However, Indian firms have challenges of ESG integration in terms of appropriate strategies because of limited resources, higher population density, political instability, limited physical and social infrastructure (Behl et al, 2021). The need for environmental, social, and governance and firm reputation relationships is attaining momentum in Asia. Investors believe that companies that follow sustainable practices are suitable for long-term value creation (Alsayegh et al, (2020) & Alkaraan et al, (2022).

Existing literature did not answer to the following questions, what are the barriers of ESG and drivers of ESG performance in India? What are the best practices in the fields of ESG reporting? How can we measure the performance of firm with ESG? How ESG performance creates better financial and non-financial performance?

Keeping in view the above, this study was framed and it aimed at examining the detailed ESG performance of 30 companies across 10 sectors that include, Finance and Insurance, ICT, Pharmaceuticals and Healthcare, FMCG, Energy and Power, Oil and Gas, Conglomerate, Metal, Cement & Mining, Miscellaneous, Automobile. This study has adopted S&P Global database which includes an advanced scoring methodology for the annual evaluation of ESG performance of the top 100 BSE listed companies in India.

A. The objectives of this paper are as follows

- To documents best practices for ESG performance and reporting
- To examine the various drivers and barriers for ESG performance for BSE top 100 companies

II. LITERATURE REVIEW

The literature collected for this study includes research papers, reports, policy documents. Various databases were accessed that include Scopus and Web of Sciences. In total 150 documents were retrieved and only 40 documents (research papers, policy documents and reports) were included based on their relevance **(Table 1)**.

Table 1: Summary of the Research Papers on ESG (2012-2022)

Keywords	Country of Study	Sample Data	Number of Papers
ESG, ESG Performance and non-financial Performance, ESG and Brand Value, CSR	Sweden	30	1
	Worldwide	1000+ studies	7
	India	30+	20
	Asian	Over 1000 companies	2
	Spain	30	1
	Europe	600	3
	Bangladesh	384	1
	USA	SE database	1
	UK	UK firms	1
	China	SE database	2
	Netherland	SE database	1
Total number of papers			40

A. Global Context

UN defines ESG "Environmental, social, and governance (ESG) criteria as a set of standards for a company's operations that socially conscious investors use to screen potential investments". Environmental standards consider how a company acts as a steward of nature, where social models examine how it manages relationships with employees, suppliers, customers, and the community where it works, governance deals with a firm's leadership, executive pay, audit, internal control, and shareholder rights Chen, 2020 & IFAC, 2012 supported this statement and pointed out that environmental, social, and governance (ESG) criteria describe the ESG issues that are considered to influence corporate behaviour in their investment decisions. PWC concluded that ESG is more than a ticking box. ESG creates distinctions among business and the rest of the world, creating sustainable outcomes that strengthen the environment and society. Many third-party agencies[1] provide ESG ratings to understand the ESG performance.

Environmental, social, and governance are driving corporate strategies and performance. This performance has been increasing due to the stakeholders' demand for environmental and social issues (Husted & de Sousa-Filho, 2017; Le-Van, Viet Nguyen, & Nguyen, 2019). There is already available literature on ESG data quality, quantity, and performance (Arvidsson et al, (2021). They found that ESG information quality has improved slightly, but the performance remained unchanged around 2015. Organizational financial performance has been improving due to inclusion of ESG in the company's strategic policy (Aybars et al., 2018). Management believes that their ESG reporting practice is the actual corporate performance (Rajesh & Rajendran, 2020) but sometimes, the perceived performance does not meet the exact performance expectations. Thus, mandatory reporting sometimes improves performance; even if companies are expected to enhance overall performance, it may not be possible due to environmental constraints (Leong and Hazelton 2019).

Top-level management plays an essential role in ESG performance related initiatives (Crace & Gehman 2022). Considering expectations from the investors' side, the management body is focusing on investing in environmental, social, and governance issues. For example, the world's biggest investment fund, BlackRock, is shifting its investment strategy to focus on sustainable development because investors now recognize 'that climate risk is investment risk' (Edelman, 2020; Fink, 2020). Leadership truly matters, and executives serve a crucial role in driving ESG towards achieving ESG performance in organizations (BlackRock, 2017 & 2021).

Organizational environment disclosure also positively impacts financial performance. Some environmental and social disclosure shows to external stakeholders what organizations are going to do. Liu et al (2022) found that companies which indicate a high level of social and ethical practices are able to enhance their financial performance by a high level of environmental disclosure, and ESG issues are called to increase strategic directions and reforms guiding to all parties concerned in value maximization. Similarly, Xie et al (2018), Dalal, & Thaker. (2019), Almeyda & Darmansya (2019), Chouaibi et al, (2022), Lisin et al (2022), Alkaraan et al (2022) explored there is a positive relationship between corporate organizational environmental disclosure and financial performance. However, Zhao et al (2018) have shown no significance and Duque and Grisales (2021), Ruan et al (2021) have indicated a negative relationship of ESG activities on financial performance.

ESG reporting has increased dramatically over the past few decades because of the demand of stakeholder for corporate transparency and accountability. Firms are putting maximum effort into internal improvement by adopting strategies, policies, and practices. Reporting acts as a communication tool for organizations and other external stakeholders. Sanchez-Planelles et al. (2021) claim that integrating sustainability into their business practices positively impacts their reporting while improving transparency, accountability, brand value, and legitimacy for a competitive advantage from the market. ESG issues also create brand value for products, people, performance, advertising R&D and social media Lee et al (2022). Additionally, researchers claim that the more or better environmental disclosure, ensure stronger brand's equity (Sarkar et al, 2017). ESG concerns are highly embedded in stakeholder theory, which assumes the satisfaction of the interests of different groups of entities bound to a company in an interdependence network (Freeman, R. E. 1984). Consistent with the stakeholder theory, the company assumes that entities operate within society and thus, the shareholder will work sustainably on their way to satisfaction as expected.

Using the Bloomberg database, a critical study was conducted among 1244 Asian firms over 12 years (2005-2017) by Rahman et al., 2021 and found ESG reporting was affected by higher economic performance, higher profitability, and higher leverage. Corporate managers are keen to use strategies to validate ESG activities, especially the factors that guide the company's ESG reporting. With support to this existing literature KPMG, 2021, the professionals' reviewers of sustainability reports demonstrate that ESG reporting is becoming the foundation of large companies' efforts to bring greater purpose to their activities, globally 80 percent companies now report on it, KPMG Report (2020). Globally, ESG investment reached new highs of 34.7 trillion in five major markets in 2018. The investment has grown 36% since 2016, and the flow continues its upward trajectory (GSIA 2018). Developed countries like the USA and EU continue to be the most significant contributors to ESG investment, including Asia. The Pacific region also exponentially expanded major ESG investment over the few years. ESG Investment helps market expansion, meets future needs of stakeholders, and creates long-term value for the company. It also plays a role in all aspects of business decision making and policy implementation.

B. Indian Context

India became the first country to mandate CSR by the company Act 2013. Previously, National Voluntary Guidelines (NVGs) suggested social, environmental, and economic responsibility of business. During that time, the top 500 companies listed by market capitalization were instructed by SEBI guidelines to disclose Business Responsibility Reporting. SEBI was responsible for market regulation, protecting shareholders' rights, and implementing appropriate ESG policies. After May 2021, SEBI issued a circular by introducing Business Responsibility and

[1] Sustainalytics, Corporate register.com, Thomson Reuters,

MSCI ESGI, ESGRisk.ai

Sustainability Report (BRSR); this reporting format outlines the mandatory ESG policies and requirements for the top 1000 listed companies. This format is based on nine basic principles specified in the National Guidelines on Responsible Business Conduct (RBC Guidelines). The RBC guidelines are influenced by the leading global standards for example; UNCG, UN SDGs, Paris agreements and ILO conventions. The companies are following those guidelines for securing ESG parameters and sustainability related risks.

India is also considered a critical hub of sustainability practices in the South Asian context. There are lots of CSR and sustainability initiatives taken by multinational and local companies. The CSR practices in companies enhance transparency, responsibility, and accountability of business to stakeholders (Pareek, S. 2021). Roy et al (2022) argued that mandatory CSR regulations can reduce data inconsistencies and lead to improved social and reputable capital and thus improve the stock market liquidity of CSR firms, have higher stock market liquidity, and get a higher market valuation in the long run.

High impact industries like Oil and gas, mining, airlines, transportation have taken many initiatives for CSR and ESG activities. The literature contributed by Behl et al. (2021) at high impact industry like energy sector results indicated that in the Indian energy sector, exposures were highest for the Governance score, followed by Social and Environment.

A similar study has conducted by Sharma et al (2019) at Bombay Stock Exchanges listed 500 companies where 122 random samples had been collected for study, representing 93% of the total market capitalization on BSE. They found that ESG performance and performance of individual components had significant positive indicators of creditworthiness as estimated through credit rating. Governance score had a positive and insignificant combination with credit ratings. ESG mainly affected credit rating in the desired direction only for small- and medium enterprises; for large firms with higher credit ratings, ESG revealed no impact. It has been indicated that credit rating itself notably defined the importance of comprehensive ESG reporting and disclosure of its components. Similar study conducted by Poddar et al (2019) among 500 companies found that the financial sector in India spent the highest amount on CSR related funds next to power, oil and gas sectors.

Indian corporations are increasingly incorporating ESG factors into their business decision-making process. For example, Axis Mutual Fund, ICICI Prudential, and Aditya Birla Sun Life are significantly adopting ESG standards into investment decision-making processes (Jethmalani 2021). Moreover, the ESG reporting in India has significantly increased from 2013 to 2022 **(Fig-1)**. Till financial year 2022, almost 3500 companies disclosed and reported there ESG performance. Data from the National Stock Exchange (NSE) shows that ESG-listed companies have outperformed non-ESG-listed companies. A study conducted by (NSE 2020) to carry out the result of evaluation of top 50 companies ESG performance and found that companies have performed comparatively better in policy disclosure than other ESG factors like Environment, social and Governance. Governance as the ESG factor has emerged as the most prominent of all the factors, with social factors having the lowest priority.

Fig. 1: Current ESG reporting companies, 29 April 2022 (updated)

Source: Nifty 100

C. Summary of Literature Review

Several studies are available related to ESG, Environmental disclosures, and CSR performance in different counties and regions. For example, Sweden, India, UK, USA, Poland, China, South Asia, East Asia, Asia Pacific, Europe, Latin America, and the Middle East. A variety of sample sizes is used, ranging from 30 to more than 1000 companies. Different databases and research methodologies have been chosen to extract the research result. Most of the studies were completed by the secondary sources from 2019 to 2022 (except Anser et al, 2020, and Sultana et al., 2018), where one study was found by Sarangi G. K. 2021 to use a mixed methodology. Above this vast literature, maximum studies found a significantly positive relationship between organizational ESG performance and financial performance without Ruan et al. (2021). Some studies (Prasad et al (2017), Dalal et al, (2019), and Roy et al (2022) also found that ESG disclosure has a positive effect on firm non-financial disclosure like brand values and market-based measures. Organizational ESG activities and disclosure protect and save from the financial and global crises Singh, R. (2013). In the short run, higher ESG disclosure may not improve firm value (Behl et al (2021), but it has significant impacts on society in the long run. Also, Spulbar et al (2019) agreed that the winner would be a constant winner in the short run, and losers would be in the same position. ESG investment should be considered a socially and environmentally responsible investment. Higher environmental disclosures come from strong social and ethical commitment Chouaibi et al. (2021), which helps increase ESG scores and brand equity. Therefore, it can be concluded that those companies are taking different ESG and CSR initiatives; they are doing well in both financial and non-financial measures, for instance, brand value, social acceptance, long terms sustainability, good governance, environmental protection, and biodiversity.

D. Literature Gaps

Existing literature reveals that more studies need to be conducted by primary methods. Behl et al., 2021 supported considering mixed methods (primary and secondary) analysis by including data from direct interviews, structured questionnaires, and thematic analysis of publicly available reports. This study conducted structured questionnaire interviews and heard from top management about ESG issues. In addition, two studies (NSE, 2020 & Sarangi 2021) have found companies are doing better in terms of policy disclosures than other ESG issues likewise: as environment, social, and governance. Also, while collecting ESG score data of top 100 BSE listed companies from the S&P database **(Annexus-1)**[2], it was noticed that few large multinational consumer goods companies had lower ESG scores (Unilever 18, Marico 26, Nestle 20, Asian paints 24, Barger Paints 12), four ICT companies with no ESG disclosures (B.9, B.11, B.13. B.15) and three companies (B.6, C.6, E.7) did not disclose their ESG data publicly on S&P global database portal. This observation will add new literature on why companies focus only on policy disclosure and not ESG issues. What are the barriers to achieving each factor of ESG inside organizations? Why do multinational companies have lower ESG performance?

This research work has adopted mixed methods approach considering the above literature gaps. Secondary data has been analysed from 30 **(Annexus-2)** companies' publicly available reports among ten different sectors. Additionally, primary data was collected from selected set of respondents of 17 companies **(Annexus-3)**.

III. METHODOLOGY

This study investigated ESG activities and compared primary and secondary data to identify critical answers to research questions and objectives. Previous academic studies have been conducted using various dimensions of measuring performance. Arvidsson & Dumay (2021) developed the ESG dimensions framework according to position, development, and implementation. Positions describe the present status of ESG initiatives, development shows progress-related initiatives, and performance highlights target-related initiatives. Additionally, Xiong et al (2016), Pan et al (2018), and Behl et al (2021) used panel structural equation modeling to develop hypotheses for their study. In contrast, the S&P Global ESG Score has been measured based on 0-100 and includes E, S, and G dimension scores, peer comparisons, historical changes, and material ESG criteria data. For analyzing secondary data, **firstly**, this study has taken the top 100 BSE listed companies (Accessed 24-01-2022, 23: 03 IST) and divided them into ten different sectors (**Table 2)**

Table 2: Different Sectors for analysing secondary data

1	Finance and Insurance
2	Information and Communication Technology (ICT)
3	Pharmaceuticals and Healthcare
4	FMCG
5	Energy and Power
6	Oil and Gas
7	Conglomerate
8	Metal, Cement & Mining
9	Miscellaneous
10.	Automobile

Secondly, each company's ESG score has been collected from S&P global ESG score (2021) portal, and the data set has been categorized as highest, average, and lowest among the sectors for sample analysis. Moreover, 30 companies have been selected from ten different sectors according to scoring criteria. Finding out the research result, this study followed Poddar et al (2019) and Arvidsson & Dumay (2021) methodologies on companies with limited, qualitative, and quantitative disclosure criteria. PWC (**Fig 2**) framework has been used for analyzing secondary and primary data.

[2] All annexes are available in supplementary materials

Environment		Social		Governance
Climate change	Product carbon footprint	Human capital	Chemical safety	Corporate governance
Natural resource	Biodiversity and land use	Product liability	Access to finance	Corporate behaviour
Pollution & waste	Packaging material and waste	Stakeholder opposition	Human capital development	Board diversity
Environment opportunities	Opportunities in green building	Social opportunity	Financing product safety	Business ethics
Carbon emissions	Financing environmental impact	Labour management	Access to healthcare	Executive pay
Water stress	Raw materials sourcing	Product safety and quality	Supply chain labour standards	Anti competitive practics
Toxic emission & waste	Electronic waste	Controversial sourcing	Privacy and data security	Ownership
Opportunities in clean tech	Opportunities in renewable energy	Access to communication	Opportunities in nutrition and health	Corruption & instability
Climate change vulnerabilities		Health & safety	Responsible investment	Accounting
		Health & demo. risk		Finance system instability
				Tax transparency

Fig. 2: PWC model for measuring ESG performance

Source: PwC

PWC indicator-wise data has been collected from each selected company's publicly available reports, for example: integrated annual, annual reports, sustainability, ESG, and CSR policy reports. Microsoft Excel has been used in data collection, analysis, and graphical presentations.

Under the PWC framework, ESG issues are classified into three sections. Environment issues have 17 indicators, Social 19 and governance have 11 indicators. This paper has analysed each indicator closely and put details in reference section which is available in supplementary materials. If indicator found in the publicly report then given 'Yes' if indicator does not find the given 'No'.

IV. RESULTS AND DISCUSSION

A. *Objective Number 1*

For analyzing secondary data, we downloaded 80 publicly available reports from selected 30 companies for the financial year 2020-2021. Among these 30 selected companies, the highest, 26.25%, have a separate annual report, and the lowest, 5%, have separate ESG. Whereas BRSR, CSR policy, sustainability, and integrated reports 21.25%, 18.75%, 16.25%, and 12.5% consecutively (Table 3). While analyzing secondary data from all reports, this research observed that organizational corporate governance performance has higher qualitative and quantitative disclosures than environmental and social disclosures. This research observation supports similar finding (Sarangi, 2021) "Companies have performed better in term of policy disclosure and governance issues than environmental and social issues".

Table 3: Selected 30 companies available report 2020-2021

Sectors		Name of the companies	Integrated Reporting (IR)	Annual Report (AR)	ESG Report	Sustainability Report (SR)	BRSR report (BRR)	CSR Policy (CSRP)
Finance	A.11	INDUSIND BANK LTD.	ü	ü			ü	ü
	A.9	ICICI Prudential Life Insurance Company Ltd		ü	ü		ü	ü
	A.21	BAJAJ HOLDINGS & INVESTMENT LTD.		ü			ü	ü
ICT	B.4	TECH MAHINDRA LTD.	ü			ü	ü	ü
	B.5	Larsen & Toubro Infotech Ltd	ü	ü		ü	ü	ü
	B.7	INFO EDGE (INDIA) LTD.		ü				ü
Health & Insurance	C.3	DR. REDDY'S LABORATORIES LTD.		ü				ü

	C.1	SUN PHARMACEUTICAL INDUSTRIES LTD.		ü		ü	ü	
	C.5	APOLLO HOSPITALS ENTERPRISE LTD.		ü	ü		ü	
FMCG	D.5	GODREJ CONSUMER PRODUCTS LTD.		ü			ü	ü
	D.7	Tata Consumer Products Ltd	ü			ü	ü	ü
	D.4	DABUR INDIA LTD.	ü				ü	ü
Energy & Power	E.5	TATA POWER CO.LTD.	ü				ü	
	E.4	NTPC LTD.	ü					
	E.6	ABB India Limited		ü			ü	
Oil and Gas	F.5	GAIL (INDIA) LTD.	ü			ü		ü
	F.3	INDIAN OIL CORPORATION LTD.	ü			ü		ü
	F.1	Oil and Natural Gas Corporation Ltd		ü		ü		
Conglomerate	G.2	WIPRO LTD.	ü		ü	ü	ü	ü
	G.3	LARSEN & TOUBRO LTD.		ü			ü	
	G.6	SIEMENS LTD.		ü		ü		
Metal, Cement & Mining	H.8	AMBUJA CEMENTS LTD.		ü			ü	
	H.7	SHREE CEMENT LTD.		ü			ü	
	H.5	COAL INDIA LTD.		ü		ü		
Miscellaneous	I.12	DLF LTD.		ü	ü			ü
	I.11	MOTHERSON SUMI SYSTEMS LTD.		ü		ü		
	I.3	PIDILITE INDUSTRIES LTD.		ü			ü	
Automobile	J.3	MAHINDRA & MAHINDRA LTD.		ü		ü		ü
	J.1	MARUTI SUZUKI INDIA LTD.	ü					
	J.4	BAJAJ AUTO LTD.		ü		ü		

Source: Author develop by analysing secondary data

B. Sectoral Comparison from Secondary Data

Among ten different sectors, Information & Communication Technologies (ICT) and Oil and Gas sectors have the highest ESG disclosures, both sub-total of 114 indicators out of 141 from three companies (Annexus-4). The second most heightened disclosures were found in conglomerate sectors having 112 indicator disclosure from three companies. At the same time, automobile sectors have found only 91 indicator disclosure out of 141 from three different companies.

In comparison to Indian companies, Tech Mahindra limited has the higher ESG disclosure with details area coverage of their secondary reports. The second position was held by Oil India Limited and Larsen & Toubro Infotech Ltd, having 41 disclosures. However, the lowest disclosure was in Bajaj auto limited, with 19 indicators out of 47. Indusind bank ltd from the financial sector and Tech Mahindra ltd from the ICT sector were the highest indicators of disclosures and best practices among 30 companies. Indusind bank limited disclosed 39 indicators and did not disclose eight indicators. Among 39 indicators, only one is poor, where eight indicators are moderately, and 30 indicators are highly disclosed, with a broad area coverage of a total of 47 indicators. Similarly, Tech Mahindra limited disclosed 42 indicators. Overall sectoral comparison can be shown in (Fig 3)

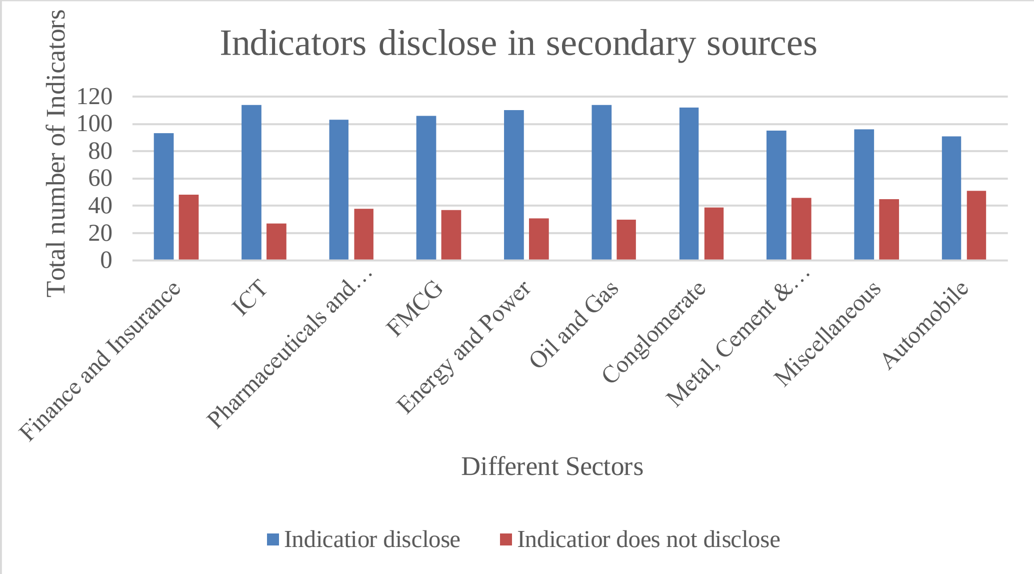

Fig. 3: Indicator disclosure in available reports

The above figure shows the total number of indicator disclosure from 30 companies in the publicly available reports in the financial year 2020-2021. The X-axis contains indicators disclosed denoted by blue colours, and indicators do not disclose denoted by orange colours. On the other side, Y-axis says the total number of indicators. Each sector contains three companies (per company, 47 indicators) with a total of 141 indicators according to the PWC model. Overall, there was a fluctuation in each sector in the case of indicators disclosure and does not disclose as per PWC model. In the bar chart, it can be seen that the ICT and Oil and Gas sectors in the highest indicator disclosures available publicly, with a number of 114 out of 141 indicators. While automobile sector disclosures score is very low.

Identifying the quality of indicators, this research followed Poddar et al (2019), Habibi et al (2014), & Zedeck et al (1980) the three-scaling model technique with limited qualitative and quantitative disclosures in the available reports (Fig-4).

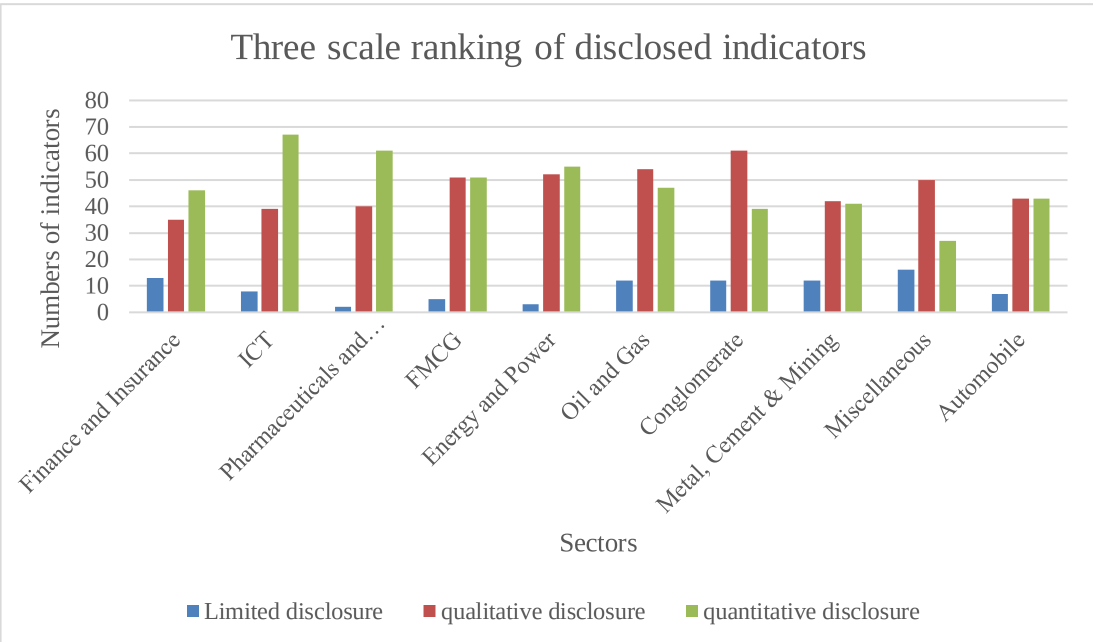

Fig. 4: Strength of disclosure in the available reports.

Source: Author developed by analysing secondary data

The above figure depicts the three scales ranking of disclosed indicators. The X-axis indicates the different quality of indicators, and Y-axis indicates the number of indicators disclosed. In this bar graph, ICT sectors are the highest 67 in case of indicators disclosed quantitatively with data and different graphs in publicly available reports next to pharmaceuticals and healthcare 61 indicators. The miscellaneous sector is the lowest, with 27 indicators disclosed quantitatively in the broad coverage of available reports. For qualitative disclosure, the conglomerate is the higher 61 indicators disclosures, and the Oil and Gas sector is the second higher disclosure with 54 disclosure. In contrast, Finance and Insurance is the lowest 35 indicators disclosure qualitatively. Alternatively, miscellaneous (16) is the higher limited disclosure, and pharmaceuticals and healthcare are the more insufficient limited disclosure with narrow area coverage in publicly available reports.

C. Objective Number 2

To examine the various drivers and barriers at the company level, structured questionnaires **(Annesxus-5)** have been shared via email and Linkedin to selected 30 companies. Total 17 response recorders (response rate 57 percent) from top-level employees of the respected organization.

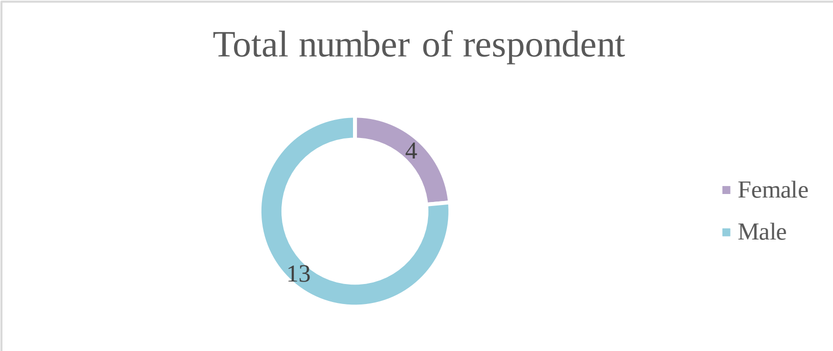

Fig. 5: Demographic background of respondent

A total of 76% male and 24% female ware responded **(Fig-5)** where most of them from top management level employees (**Fig-6)**: for instant sustainability and CSR manager 82%, Industry expert, ESG officer, Human Resource Manager were 6% respectively.

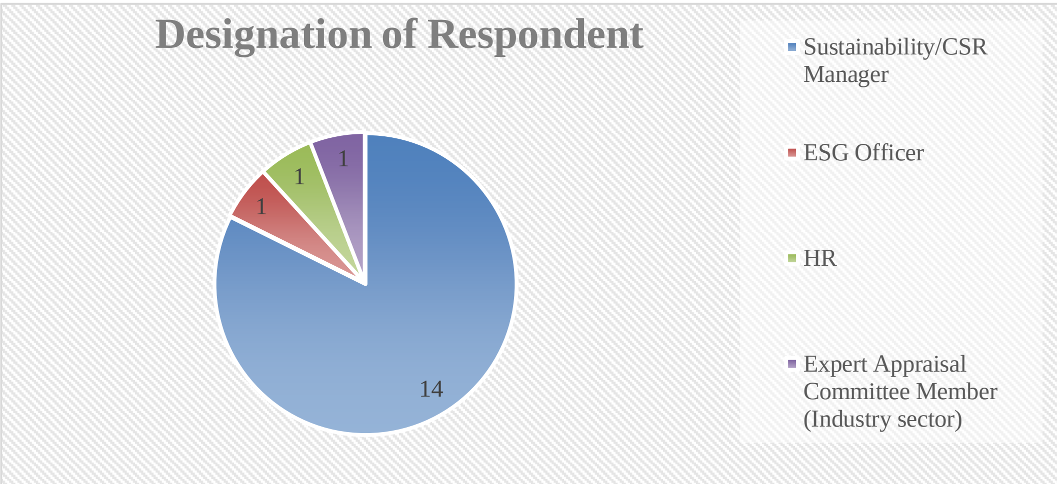

Fig. 6: Designation of Respondent

Over half of the respondents, 53%, have 10 to 15 years of work experience **(Fig-6).** Also, one corporate expert from Maruti Suzuki, having more than 20 years of work experience, responded recorded.

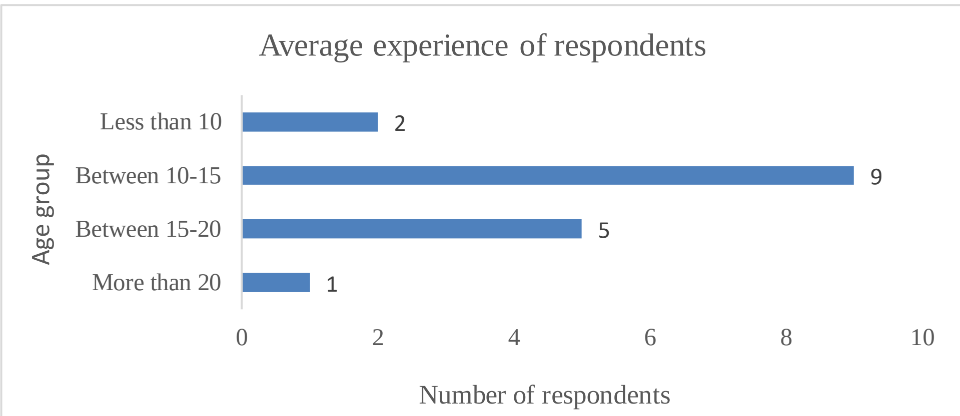

Fig. 7: Total Experience of respondents

Leading companies followed Global Reporting Initiatives indicators incorporated with SEBI guidelines, CDP, IIRC, and BRSR reporting frameworks **(Fig-7)**.

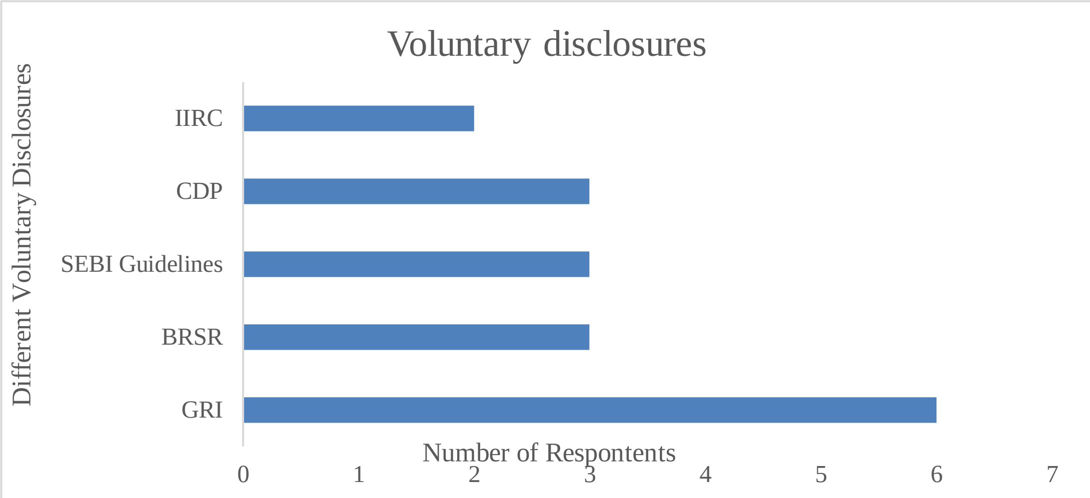

Fig. 8: Different voluntary disclosure framework used by selected companies

D. Drivers of ESG in Indian Companies

India is predominantly a consumer-driven market. Some critical decisions like accepting and rejecting products and services from the company are decided by the consumer. After that, there are some structured rules and regulations from government authorities; for instance, SEBI guidelines, BRR guidelines, and CSR laws also push companies on the ESG integration journey. As per primary data **(Fig-9)**, top management employees have been asked what the drivers of ESG issues in your respected organization are, and the maximum response has been recorded for customers. Over 88% of respondents agreed that customers are the key drivers of ESG issues, then government regulations, investors, and management commitments 82%, 76%, and 64%, respectively.

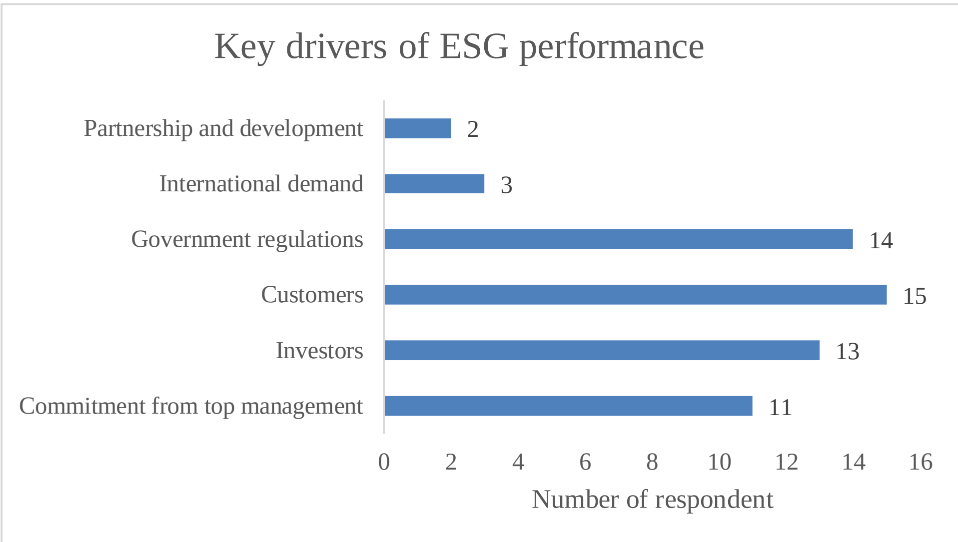

Fig. 9: Key drivers responded for ESG performance in the company level

E. Barriers of ESG in Indian Companies

Although India is the leader in ESG reporting in the South Asian context, it still has some key barriers to achieving ESG integration in all sectors. Some of the constraints were reported by the respondent while collecting data through email and Linkedin **(Fig-10)**. A total of 71% of respondents agreed that the lack of quality data and inefficient human resources were the significant barriers to ESG disclosures in their respected companies. Also, lack of coordination and standardization is in the pipelines as critical barriers to integration inside companies. Lack of technology is the lowest response reported from experienced professionals, which means there are available technological appliances for collecting, consulting, communicating, and storing ESG data.

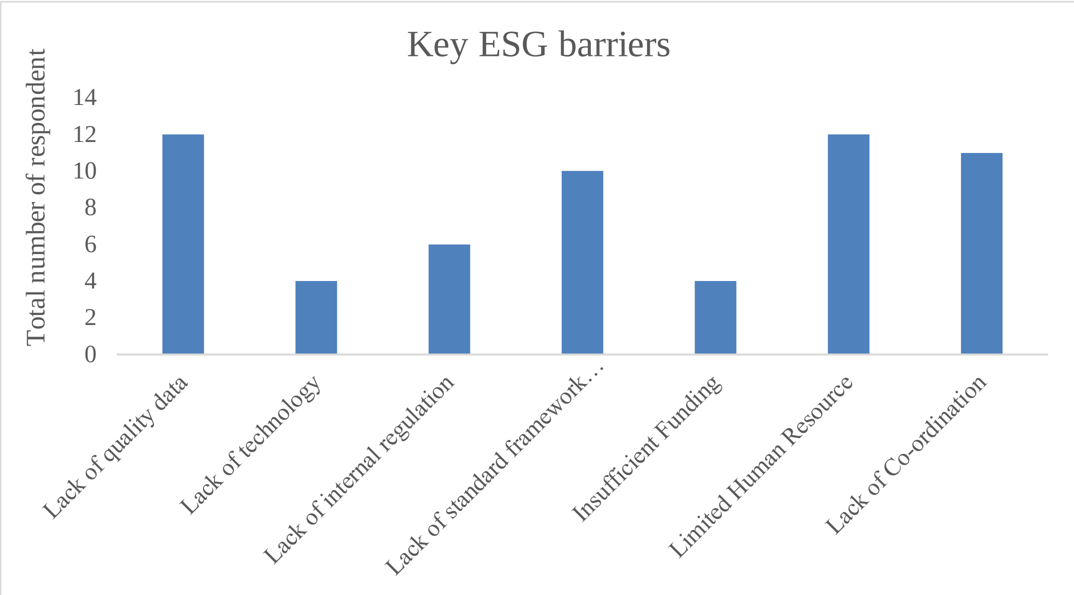

Fig. 10: Key barriers responded for ESG performance in the company level

F. Environmental pillars in reporting and Practices

The structured questionnaire has been shared with the selected companies to know about the preparedness, commitments, and disclosures of ESG issues. A total of 17 top-level company were responded to their ESG activities in the organization. Under environmental pillars, 12 indicators were requested to respond using five scale raking (Very Low-Low-Medium-High-Very High). At the same time, they have been requested to mention at least two best practices in their organization **(Table 4)**. 50% of respondents reported that they have very high commitments for renewable energy and environmental opportunities in their respected organization, and 75 % reported they have high renewable energy policies and commitments. Alternatively, 8% disclosed that they have very low commits and policies for water stress, carbon emission, biodiversity protection, and climate change issues. Moreover, 58% of respondents believe they have medium clean technology opportunities in their respective companies. Overall, almost all companies have medium opportunities for PWC environmental pillars preparedness, commitments, and policies (**Fig-11).**

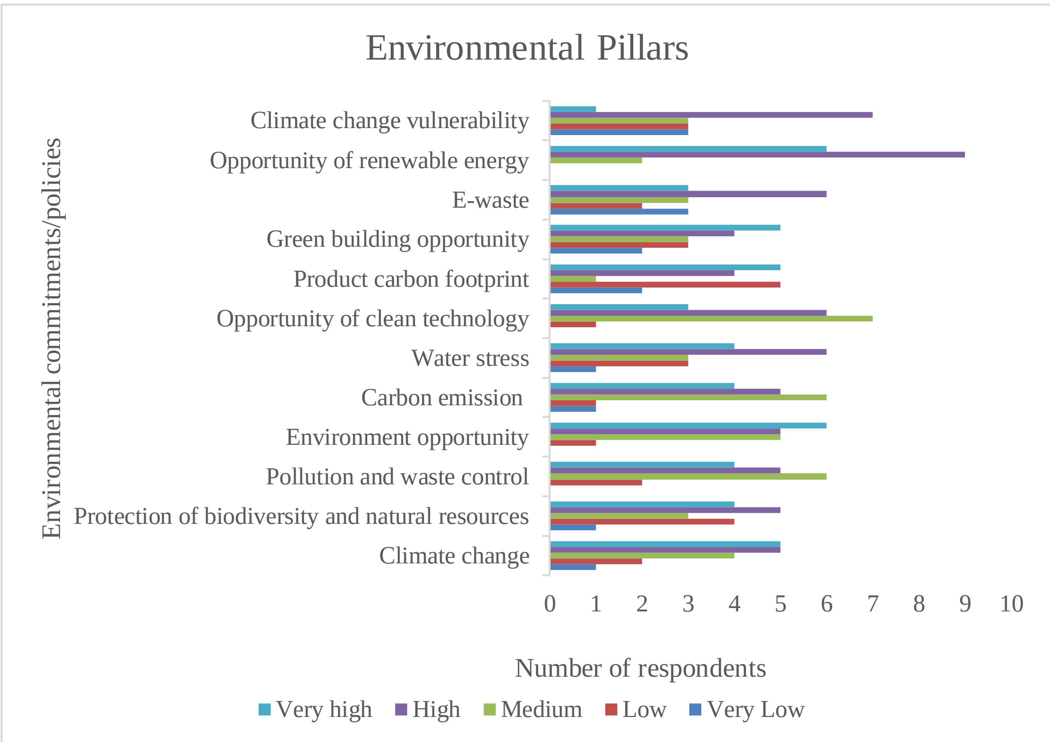

Fig. 11: PWC Environmental Pillars response from selected companies (As reported by company)

Data source: Structured questionnaire

Table 4: Environmental pillar's best practices from companies

Respondent companies	Reported Best Practices
IndusInd Bank	Sustainable finance, Environment and social due diligence of clients
Apollo hospitals enterprise ltd	Environmental commitments, Pollution and waste control
Siemens Ltd.	Climate action, Pollution and waste control
MoEFCC	Environmental regulations
GAIL India Limited	cii greenco rating implementation, ISO energy, environment, water
MOTHERSON SUMI SYSTEMS LTD.	Environmental Sustainability, Renewable energy
WIPRO Limited	Energy & Carbon, Protection of Biodiversity
ABB India Limited	Zero waste to landfill, Scope 1&2 Emission Reduction
Pidilite Industries Limited	Climate policy, Natural resources
Ambuja Cements Limited	Waste Heat recovery systems, Water positivity index
Coal India Limited	Afforestation, Sustainable mining
Dabur India Ltd	Protecting endangered species of herbs, Promotion of Solar Energy
Larsen and Toubro Infotech Ltd	Transitioning to low carbon workplace Increasing share of renewable energy
Tata Consumer Product Ltd	Water Savings Initiatives, Energy Efficiency
NTPC Ltd	environmental compliance, practices and stewardship
Sum Pharma. Industries Ltd	waste management, conservation measures, increasing efficiency, green energy and implementing Clean Development Mechanism (CDM) projects
Tech Mahindra Ltd	No waste- no landfill, Carbon Neutrality, Promote Biodiversity

Data source: Structured questionnaire

G. Social pillars in reporting and practices

Similarly, under social pillars, 10 indicators were requested to respond by using the same scale. Also, they were requested to mention at least two best practices related to social pillars in an organization **(Table: 5)**. Approximately 90% of respondents reported that they have very high comments/ policies on data privacy and cyber security after that social opportunity in their organization. Almost all companies have higher commitments/ policies on healthcare facilities, safety, labor management, and responsible investments. On the other hand, 50% of companies have very low chemical safety commitments according to the PWC framework **(Fig-12).**

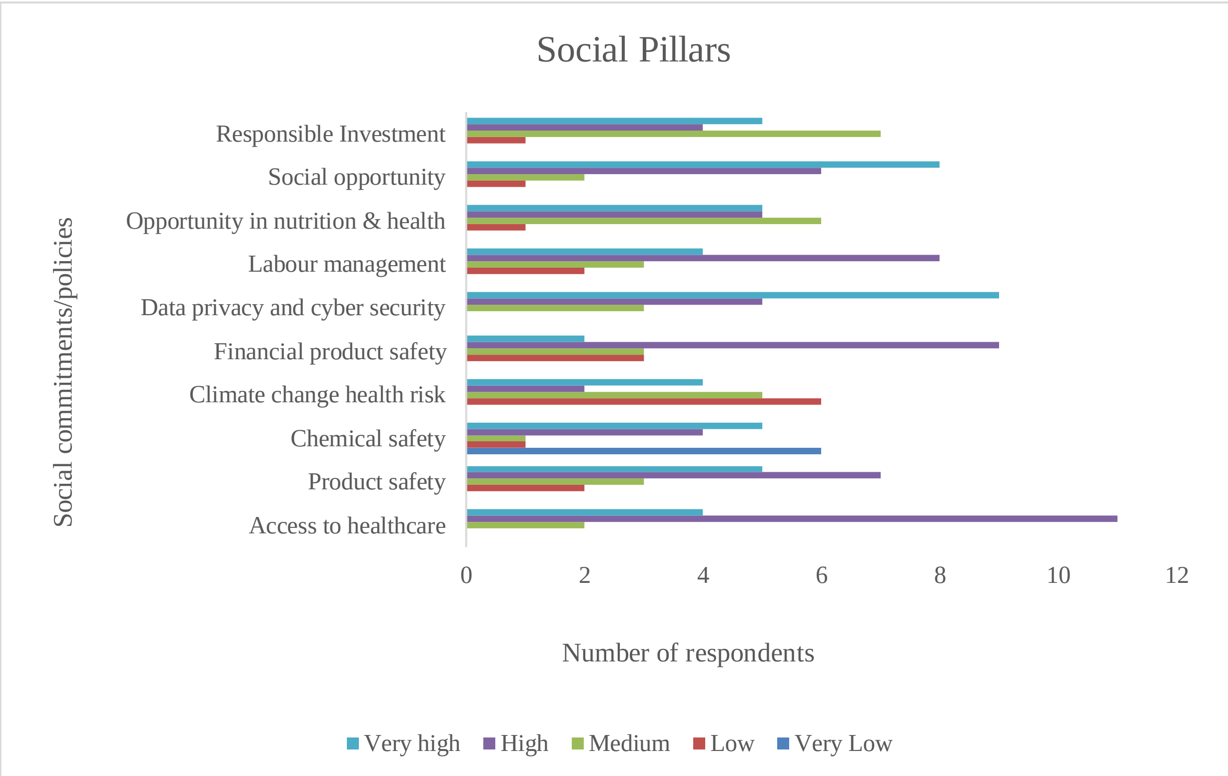

Fig. 12: PWC Social Pillars response from selected companies

Data source: Structured questionnaire

Table 6: Social pillar's best practices from companies

Respondent companies	Reported Best Practices
IndusInd Bank	Sustainable finance, Environment and social due diligence of clients
Apollo hospitals enterprise ltd	Environmental Commitments, Pollution and waste control
Siemens Ltd.	Climate action and Pollution and waste control
MoEFCC	Environmental regulations
GAIL India Limited	cii greenco rating implementation, ISO energy, environment, water
MOTHERSON SUMI SYSTEMS LTD.	Environmental Sustainability, Renewable energy
WIPRO Limited	Energy & Carbon, Protection of Biodiversity
ABB India Limited	Zero waste to landfill, Scope 1&2 Emission Reduction
Pidilite Industries Limited	Climate policy, Natural resources
Ambuja Cements Limited	Waste Heat recovery systems, Water positivity index
Coal India Limited	Afforestation, Sustainable mining
Dabur India Ltd	Protecting endangered species of herbs, Promotion of Solar Energy
Larsen and Toubro Infotech Ltd	Transitioning to low carbon workplace Increasing share of renewable energy
Tata Consumer Product Ltd	Water Savings Initiatives, Energy Efficiency
NTPC Ltd	environmental compliance, practices and stewardship
Sum Pharma. Industries Ltd	waste management, conservation measures, increasing efficiency, green energy and implementing Clean Development Mechanism (CDM) projects
Tech Mahindra Ltd	No waste- no landfill, Carbon Neutrality, Promote Biodiversity

Data source: Structured questionnaire

H. Governance pillars in reporting and practices

Under the governance pillar total 8 indicators have been requested to rate their preparedness/ policies/commitments on Governance issues. Similarly, they have also requested to mention at least two best practices related to governance pillars in an organization **(Table: 7).** Almost 90% of companies have 5 stars responses recorded on corporate governance commitments; after that, business ethics, corruption and instability, board diversity, ownership, and anti-competitive consecutively. All indicators have more than 50% of 4 stars rating responses in the shared structured questionnaire **(Fig-13).** Alternatively, only one respondent reported anti-corruption practices and financial system instability as one-star rating. Overall, all companies responded the better disclosure in the governance pillar than environmental and social pillars. The findings of this government disclosure also support Sarangi, G. K. (2021). Moreover, 35.33% of the respondent of this paper also agreed that companies had performed better in policy disclosure and governance factors than in environmental and social factors.

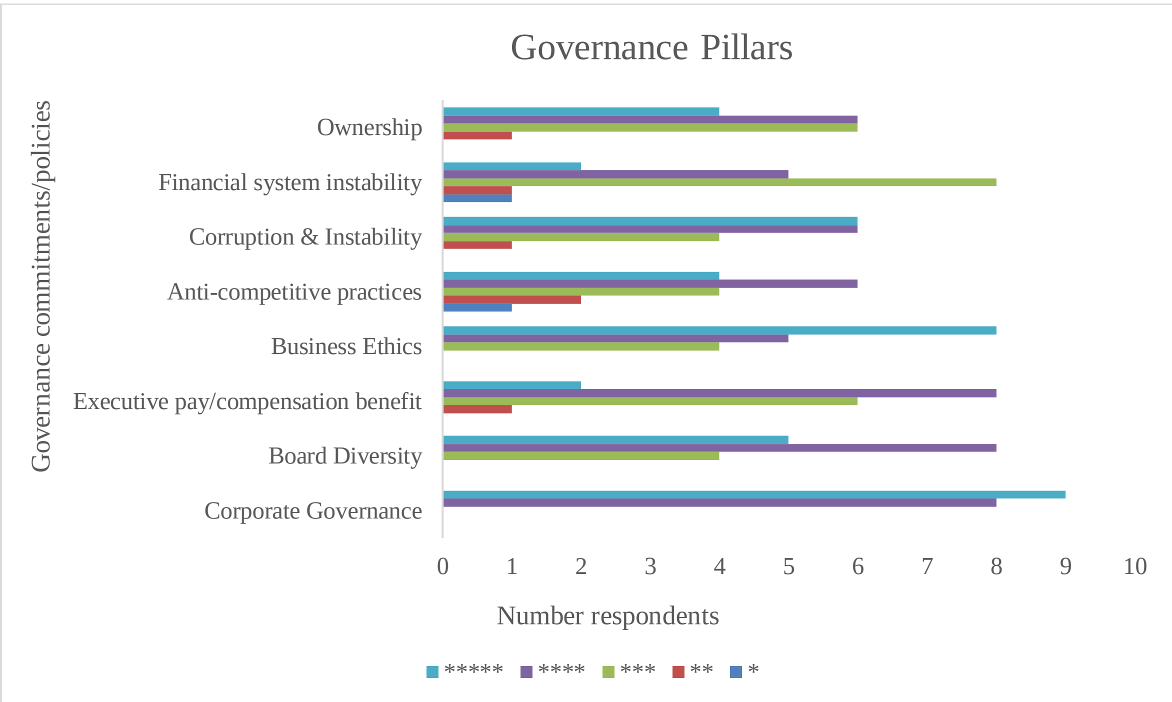

Fig. 13: PWC Governance pillars response from selected companies

Table 8: Governance pillars best practices from companies

Respondent companies	Reported Best Practices
IndusInd Bank	Anti-money laundering policy and anti-corruption policy
Apollo hospitals enterprise ltd	Corporate Governance, Diversity of board
Siemens Ltd.	Corporate Governance and Board Diversity
MoEFCC	Environmental governance
GAIL India Limited	transparency, digitalisation
MOTHERSON SUMI SYSTEMS LTD.	Top management commitments,
WIPRO Limited	Disclosures, Workforce Diversity,
ABB India Limited	Transparency and Integrity, Senior Management Incentives
Pidilite Industries Limited	Top management policy, social disclosures
Ambuja Cements Limited	Board level sustainability committee, independent board performance review
Coal India Limited	Whistle Blower Policy, Top Management Commitments
Dabur India Ltd	Policies and documentations
Larsen and Toubro Infotech Ltd	Diversity and inclusion, Employee benefits
Tata Consumer Product Ltd	Diversity and Inclusion
NTPC Ltd	Loans and Investments, transparency, integrity and accountability.
Sum Pharma. Industries Ltd	Leadership, Accountability
Tech Mahindra Ltd	Corporate Governance, Innovation, Diversity & Inclusion

V. FINDINGS

- All companies have better disclosure for governance indicators than environmental and social performance
- Almost every company have very high renewable energy, clean technology, data privacy and cyber security, access to healthcare facilities and good corporate governance commitments.
- ICT industries have detailed disclosure of initiatives in their publicly available reports
- High impacts industries like Oil and Gas, Metal, Cement, and mining have detailed disclosure of environmental issues.
- Customers, government regulations, and investors are the key drivers of ESG issues in India
- 63.6% of respondents agreed that mandatory CSR reporting regulations improved ESG performance.
- 60% of respondents believe voluntary publishing disclosure improve corporate image and brand value among stakeholder
- 54.5 % supported that top management women lead to improved ESG and CSR activities. Also, 45.5 % believe that ESG disclosure boosts financial and non-financial performance, like brand value, market share

VI. LIMITATIONS

The major limitation of this paper is monopoly data have been used. Only one financial year (2020-2021) publicly available reports have been considered for analysis and evaluation. Another constraint is that this paper did not consider those companies for selecting 30 who have not reported ESG scores in S&P global portal. It has been assumed that possible; there is some more or less indicator disclosure in the past financial year. In addition, the limited company has been selected for primary and secondary analysis. Probably other companies are doing better in different ESG pillars. Finally, the author has limited knowledge about paper analysis and writing; expert academicians and researchers can be extracted different results and discussions from this research.

VII. CONCLUSION

ESG integration and selection of the appropriate model are the greater challenges across the world. However, although India is the leader in CSR and ESG issues in the South Asian context, the country still has some challenges and barriers in this field. Some of the Indian companies have higher ESG disclosure and reporting practices in the publicly available reports, for example, Tech Mahindra, Wipro, Dr, Raddy’s laboratories, Gail India limited, and Oil India Limited. These companies almost published all reports (Integrated Annual, Annual, sustainability, ESG, BRSR, and CSR policy) separately with detailed area coverage of each PWC framework indicator.

While making a sectoral comparison from secondary data, it has been observed that Finance & Insurance and Information & Communicator Technology industries have better reporting quality with maintaining a high level of reporting consistency. Whereas metal, cement & mining, and automobile sectors have a comparatively lesser quality of reporting related to the PWC framework. In combination with all sectors analysis, it has been observed that India still average level in the field of ESG disclosure and activities. Future researcher can conduct scientific research on five to 10 years of secondary reports on ESG issues. They can select 1000 plus companies to see details ESG performance, drivers and key challenges in India.

VIII. RECOMMENDATIONS

- Finance and Insurance industries could have to focus more on environmental issues. Detail policy and commitments should have to disclosure with quantitative figures.
- Information and Communication Technology (ICT) industries already in the top position in ESG disclosure but electronic waste management and value chain emission

reduction is still less. More electronic waste needs to collect and recycle, reuse also could invest money for carbon credit project to minimize value chain emission.

- Pharmaceuticals and healthcare industries scored better in environmental and governance issues, need to improves social indicators like, responsible investment, raw materials sourcing and supply channel labour standard
- FMCG companies have minimal area coverage of ESG disclosure in the available reports. These industries need to concentrate more on all ESG issues and reporting quality.
- Oil and Gas industry and energy and power industry have higher policy disclosure and commitments in term of environmental concern in the available reports. Need more investment in renewable energy and green technology.
- Automobile sector has got lowest score of this research. The industry could build partnership other industry and improve their ESG policy disclosure and reporting quality.
- Overall, all companies are doing better in governance issues, followed by social and environmental indicators. India is still at an average level in ESG disclose and activities, partnership, commitment, and monitoring could help meet national and global ESG demand.

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