Corporate Sustainability Reporting: A study of Indian Oil and Gas EPC Firms

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ABSTRACT

This study assesses the adoption of Global Reporting Initiative in the nine (L&T, Bechtel, Samsung, Aker Solution, Technip, TATA Projects, Worley, Black and Veatch, KBR) Indian oil and gas Engineering, Procurement & Construction industries with reference to environmental, social, and economic indicators. The data for the industries was collected for 2021-2023 and analysed using a numerical score from 0 to 3. A total of 22 performance indicators including 2, 7 and 13 for economic, environmental and social indicators respectively were selected. The results indicate a general upward trend in sustainability performance across all nine companies from 2021 to 2023. Amongst all, Black & Veatch recorded the highest improvement, with its scores improving from 73.5% in 2021 to 80.4% in 2023, reflecting sustained excellence and leadership in sustainability practices. Similarly, TATA Projects and L&T demonstrated strong, consistent growth demonstrating leadership in implementing sustainable practices. The upward trend indicates industry-wide progress driven by technological upgrades, responsible governance, and enhanced sustainability integration. This study enhances our understanding about the sustainability reporting in the oil and gas sector in India.

Keywords: Economic, Environmental, EPC Companies, Global Reporting Initiative, Indicator, Oil and Gas, Social, Sustainability.

INTRODUCTION

The Indian oil and gas Engineering, Procurement, and Construction (EPC) sector has undergone a gradual transformation in its approach to sustainability practices over the past two decades (Huddar, 2022). Historically, the primary focus of EPC firms was centered on cost efficiency, meeting project deadlines, and ensuring project execution. However, due to the increasing environmental concerns, climate change commitments, and growing global pressure to transition toward cleaner and more sustainable energy sources, the companies began incorporating sustainability into their operational strategies (Chang et al., 2017). This shift became more prominent through the adoption of advanced cleaner technologies, implementation of better waste management practices, and an enhanced emphasis on safety standards and labor

welfare (Mneimneh *et al.*, 2023). Consequently, many EPC firms are actively publishing sustainability reports that outline their Environmental, Social, and Governance (ESG) initiatives that signifies the importance of incorporating sustainability goals into the core business operations of EPC companies.

India's legislative framework has played an instrumental role in shaping corporate sustainability reporting, driving the oil and gas EPC sector toward more robust and transparent practices. In particular, the Securities and Exchange Board of India (SEBI) replaced the Business Responsibility Report (BRR) with Business Responsibility and Sustainability Report (BRSR) for the top 1,000 listed corporations, including major EPC firms (Powell et al., 2015). The BRSR framework aligns with international reporting standards like the Global Reporting

Initiative (GRI) and the Task Force on Climaterelated Financial Disclosures (TCFD), mandating the disclosure of both quantitative and qualitative sustainability data to promote greater accountability in corporate sustainability (Christopher Leproni, practices 2024). Furthermore, policies such as the Companies Act, 2013, have imposed a mandate for corporate social responsibility (CSR) spending on firms that meet specific financial thresholds, further reinforcing the commitment of companies to contribute positively to social and environmental causes.

CSR has been widely studied in India, primarily focusing on general industries such as manufacturing, banking, and IT (Laskar & Maji, 2016). However, there is a noticeable lack of sector-specific research on sustainability reporting within Indian oil and gas EPC firms. Given the industry's significant environmental and economic impact, a deeper understanding of its sustainability practices is essential. Existing studies provide limited analysis of how EPC firms align with global sustainability standards and frameworks such as GRI, TCFD, and ESG compliance (Archer-Svoboda, Laura, 2022). Additionally, empirical data on the effectiveness of sustainability initiatives within this sector

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remains scarce. Without sector-specific insights, policymakers and industry leaders may struggle to implement effective strategies for enhancing sustainability practices (Mbonigaba Celestin & S. Sujatha, 2024). Therefore, this study aims to bridge this gap by examining the sustainability reporting trends of Indian oil and gas EPC firms, assess their compliance, and identify key areas for improvement.

METHODOLOGY

The study is based on secondary data collected from the sustainability reports of nine Indian oil and gas EPC companies. These companies were selected based on their market size and the transparency of their sustainability disclosures. The data collection period spanned three years, from 2021 to 2023, to ensure a more robust and comprehensive analysis. By extending the collection period beyond a single year, the study aimed to capture patterns and fluctuations in sustainability performance over time. A total of 22 performance indicators including 2, 7 and 13 for economic, environmental and social indicators (Table 1) respectively were selected and analyzed which are aligned with GRI 11: Oil and Gas Sector 2021 guidelines.

Dimensions	Indicator			
Environmental	GHG Emissions			
	Climate adaptation, resilience, and transition			
	Air emissions			
	Biodiversity			
	Waste			
	Water and effluents			
	Closure and rehabilitation			
	Asset integrity and critical incident management			

Table 1. GRI Guidelines Dimensions and Performance Indicators

	Occupational health and safety				
	Non-discrimination and equal opportunity				
Social	Forced labor and modern slavery				
	Freedom of association and collective bargaining				
	Local communities				
	Land and resource rights				
	Rights of indigenous peoples				
	Conflict and security				
	Anti-competitive Behavior				
	Anti-corruption				
	Public policy				
	Employment practices				
Economic	Economic impacts				
	Payments to governments				

Each indicator was scored on a scale from 0 to 3 (Table 2), based on the level of disclosure and adherence to the GRI standards. Therefore, the maximum possible score for each company's report was 66 points.

Table 2.	Numerical	pointing	method	used for	assessing	the s	ustainability	reports
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S. No.	Details	Rank	Score (0-3)
1	No disclosure or minimal effort in that area.	Poor	0
2	Limited disclosure with some evidence of effort.	Fair	1
3	Adequate disclosure meeting basic requirements.	Good	2
4	Comprehensive disclosure with best practices.	Excellent	3

RESULTS

Overall sustainability Scores:

The results indicate a general upward trend in sustainability performance across all nine companies from 2021 to 2023 (Fig.1). Amongst all, Black & Veatch recorded the highest improvement, with its scores improving from 73.5% in 2021 to 80.4% in 2023, reflecting sustained excellence and leadership in sustainability practices. Similarly, TATA Projects and L&T demonstrated strong, consistent growth demonstrating leadership in implementing sustainable practices (Fig.1).

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Fig. 1. Overall Sustainability Scores of nine Companies

A consistent growth was also recorded for Bechtel, and Samsung (Fig. 1), while Aker Solutions and KBR, despite showing positive trajectories, continued to lag behind peers, and thus highlighting the potential areas for strategic enhancement. These results align with broader industry trends emphasizing improving the environmental, social, and economic practices to meet sector-specific benchmarks.

Environmental Indicators

The variation in environmental sustainability scores of nine companies over the period 2021 to 2023 (Fig. 2) exhibited a consistent upward trend across indicating growing compliance with environmental indicators such as greenhouse gas emissions, biodiversity, waste management, water use, climate protection, and air emissions.



Fig. 2. Environmental Indicators score variation of nine Companies

From 2021 to 2023, Black & Veatch consistently achieved the highest scores, and improved from 22.1% to 24.3%, while L&T, Samsung, and KBR also improved showed gradual improvement (Fig. 2). Aker Solutions and Worley had lower scores but still showed steady improvement, and increased from 9.2% to 10.5%, and 12.4% to 13.8% between 2021 and 2023, respectively. However, companies such as Bechtel, Technip, and TATA Projects, experienced incremental increases, and their progress was less pronounced than Black & Veatch and L&T.

Overall, the observed trends suggest a gradual strengthening of environmental governance, and reflected a growing institutionalization of environmental sustainability practices.

Economic Indicators

The economic indicator score trends for nine leading companies from 2021 to 2023 is illustrated in Fig. 3.



Fig. 3. Economic Indicators score variation of nine Companies

The results exhibited that while Black & Veatch consistently outperformed and improved from 78.2% to 82.1% between 2021 and 2023, the scores for TATA Projects and L&T were 74.1% to 79.5%, and 73.8% to 79.3% respectively. Similarly, the Technip and Worley followed similar positive trajectories, and advanced from 71.2% to 76.3%, and 70.1% to 74.6% respectively. In contrast, the Bechtel, Samsung, and KBR demonstrated stable but moderate gains (Fig. 3).

Social Indicators

Fig.4 presents the variation in social indicator scores of nine companies and highlights the sector-wide progress in employee welfare, stakeholder engagement, labor practices, human rights, anti-corruption, and community engagement.

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Fig. 4. Social Indicators score variation of nine Companies

As is evident, the companies such as Samsung recorded high scores, and improved from 28.7% in 2021 to 30.6% in 2023 while Black & Veatch scored 30.7% and 26.5% for the same time These higher scores reflect wellperiod. established frameworks for community development, workplace diversity, and employee well-being. Similarly, with significant improvements, indicating the integration of more structured social responsibility strategies TATA Projects rose from 25.1% to 28.5%, while Technip moved from 21.6% to 24.8%. However, L&T, Worley, and KBR showed a moderate but consistent progress (Fig. 4). Overall, the data reflect an increasing emphasis on social sustainability across the sector, with leaders setting high benchmarks and others making gradual yet meaningful progress.

DISCUSSION

The evaluation of sustainability reporting across nine EPC companies over the 2021–2023 period reveals a consistent upward trend in environmental, social, and economic performance. Unlike binary or weighted scoring models used in studies (Johnson & Lee 2019; Smith et al., 2020), the Numerical Pointing Method used in the current study provides finer differentiation in corporate sustainability efforts and provides a finer assessment of progress. Our results exhibited that Black & Veatch consistently emerged as a benchmark performer across all three sustainability pillars, particularly in environmental indicators such as GHG emission reduction and financial transparency. These findings mirror trends identified in European energy firms, where climate action dominates reporting while biodiversity and site rehabilitation remain underrepresented (Lagasio, 2024). For social indicators, a considerable variability was recorded which may stem from differences in the labour rights, indigenous engagement, and employee welfare. Companies like Samsung and Worley displayed strong efforts in employeepractices suggesting that centric regional governance, stakeholder expectations, and

internal policy maturity significantly influence reporting practices. Economic indicators showed relatively lower variance, supporting findings by Gupta & Sharma (2022) and Martinez *et al.* (2021), who observed stability in economic sustainability metrics across sectors. While leading companies demonstrated robust growth in value generation and transparency, companies such as Aker Solutions and KBR revealed slower progress, highlighting the need for targeted strategy reinforcement.

Overall, this study affirms the utility of the Numerical Pointing Method in detecting incremental advancements and identifying firmspecific gaps. Future work should explore adaptive weighting systems that consider regional priorities and sector-specific challenges to further refine sustainability assessments.

CONCLUSION

The results reflected a clear upward trend in the sustainability efforts of nine EPC companies, with L&T, Black & Veatch, and TATA Projects have recording significant improvements, that reflects their strong commitment to sustainability practices. These companies have not only enhanced their environmental reporting but have also made strides in social responsibility through better labor practices and community engagement. Economic indicators also show continuous growth, highlighting the sector's increasing role in national economy. Conversely, companies like Aker Solutions and KBR exhibited slower progress, indicating areas where further efforts are needed.

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