

**AN ANALYSIS OF VOLUNTARY INTEGRATED REPORTING
PRACTICES IN INDIAN ENERGY ENTERPRISES****Arvind Kumar Chaturvedi**

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Abstract

Integrated Reporting (IR) provides various stakeholders with a wide range of highly informative and analytical value. The literature on IR reflects a positive view towards adopting IR practices, and the Security Exchange Board of India (SEBI) suggested that the top 500 listed entities followed IR practices voluntarily in Feb 2017. Therefore, this study examined the trend and disclosure of IR followed by select Indian energy companies in a comparative manner sector-wise and operational area-wise from Financial Year (FY) 2017-18 to 2021-22. The top four electricity and petroleum companies listed on the Bombay Stock Exchange (BSE) based on market capitalization have been selected to examine IR practices. A checklist of 21 contents based on the IR framework is constructed to check the level of IR practices in select energy companies. Late adoption, lack of proper understanding of the IR framework, and common and different reporting trends were found in six select energy companies. These companies should have reported core values such as connectivity of information, conciseness and, reliability & completeness. IR practices of one company fully complied with the IR framework, and the IR practices of another company reflect a need for more connectivity of information only. Petroleum companies disclosed more readable IR practices in one place in the Integrated Annual Report (IAR) compared to electricity companies. Managerial and policy implications suggested at the end of this study should be adopted and enacted by organizations and regulatory authorities, respectively, for the soundness of IR practices from an Indian perspective.

Keywords: Integrated Reporting, Voluntary Disclosures, Sustainability Reporting, Non-Financial Reporting, Corporate Reporting.

Introduction

Financial information is limited to quantitative and qualitative financial data, which is non-financial and provides detailed information about the organization's outlook. IR offers various stakeholders a wide range of highly informative and analytical value regarding how an organization creates value in the short, medium, and long run (Zenkina, 2018). International Integrated Reporting Council (IIRC) suggested an IR framework in December 2013 with detailed guidelines regarding how to prepare IR, its fundamental concepts, and what contents should be included in the IR disclosures of an organization. After the introduction of guidelines on IR, a growing number

of companies started to follow some contents of IR in Indian and global scenarios (Morros, 2016; Romolini et al., 2017; Lohar & Soral, 2017; Pathiraja & Priyadarshanie, 2019). The most adoption of IR is found in the European region's financial sector companies (Demirel & Erol, 2016). IR practices have been followed as a mark of compulsion in South Africa. The IR took the attention of academicians and corporates, and the rest of the world, except South Africa, adopted IR practices voluntarily in innovative ways (Hossain et al., 2016). Formal adoption of IR practices was only possible due to a lack of regulatory framework and guidelines (Serafeim, 2016). Various literature on IR reflects positive views towards adopting IR practices as its adoption influences stakeholders' satisfaction level, the value of a firm, market performance, return on equity, leverage level, etc. (Nathuramka, 2016; Velte, 2021; Buallay & Hawaj, 2020). SEBI, through its circular dated Feb 6, 2017, stated that in a recent scenario, an investor needs financial and non-financial information to contemplate his investment decision-making. Therefore, IR may be followed voluntarily by the top 500 Indian listed companies from FY 2017-18 (SEBI, 2017). Various stakeholders faced problems with conciseness and summarising the relevant information prior to the IR concept due to the presentation of non-financial information in an unorganized way, as every Annual Report (AR) of an organization has much information comprising 300 to 500 pages (Basu & Wats, 2015). It is pertinent to mention that SEBI followed the IR framework suggested by IIRC and did not provide any particular guidelines in the Indian scenario (SEBI, 2017). It is a matter of investigation whether the top 500 Indian listed companies followed IR practices or not, as SEBI stated to follow IR practices voluntarily. Companies operating in developing countries need to be faster to adopt IR practices due to a lack of resources, culture and leadership, demand of stakeholders, awareness, no regulatory requirement, and different nature and size of business (Bananuka et al., 2019). Only a few studies have been conducted to examine non-financial reporting and IR practices in the Indian scenario, and these few studies and data extracted as a primary source on IR from various Indian stakeholders indicated positive views towards IR practices (Chakrabarty, 2011) because they think that IR practices may be capable to bridging the reporting gap. SEBI has provided an opportunity to follow IR practices voluntarily listed entities (Bhutani & Tyagi, 2017). The IR disclosure practices level in Indian listed companies increased over a while without any formal requirement (Kumawat et al., 2020). However, most companies still need to provide information related to business models and strategies as per the IR framework (Ghosh, 2019). Kiran and Karunasri (2017) suggested improving the reporting on crucial issues of IR disclosures, such as materiality, capital, and outlook by Indian companies.

It is concluded from a global perspective that energy sector companies must establish a link between business models, risks and opportunities, strategy, and performance. However, it provides more qualitative IR information than nonenergy sector companies (Piesiewicz et al., 2021). The beforementioned arguments have developed the curiosity to examine the status of IR practices in Indian energy companies and compare them. Iona and Adriana (2014) Suggested that IR is an emerging phenomenon that is at its early stage, so there is a need to conduct

empirical studies comparatively to develop a broader knowledge base for IR. Therefore, eight Indian energy companies, comprising four electricity generation companies and four petroleum companies, have been selected to conduct an empirical study of IR practices. These eight energy companies comprise four public and four private sector companies.

The study is conducted with the following specific objectives.

- To examine IR practices as voluntary disclosures in select Indian energy companies.
- To make a comparative analysis of IR practices between select private and public sector energy companies.
- To make a comparative analysis of IR practices between select electricity generation companies and petroleum companies.

LITERATURE REVIEW

The selected literature is subdivided into four parts, namely literature related to the need and theoretical foundation of IR, stakeholders' perception of IR, empirical studies of IR on energy companies, and empirical studies of IR on other than energy companies.

Need and Theoretical Foundation of IR

The IR surrounds by the legitimacy theory for stakeholder satisfaction (Ara & Harani, 2020). To establish a sound knowledge base for IR, the accounting syllabus should be more strategic, prospective, and broader instead of operational or transitional by incorporating more topics related to financial and non-financial information in a strategic manner, so by education and training accountants will be able to play a strategic role in twenty-first century's environment (Owen, 2013). The organization's top management should implement IR practices in its business strategies and care about the opportunity cost and Environmental, Social, and Governance issues associated with IR (Soriya & Rastogi, 2021). The IR practices should be promoted so they will not be influenced by political, cultural, and economic factors (Iona & Adriana, 2013). The regulators must take a step toward mandatory IR disclosures by introducing biodiversity-related guidelines as reporting part (Hassan et al., 2021), and government should also adopt IR in government-linked companies (Singh et al., 2019). (GarciaSanchez et al., 2020) suggested disclosing the internal pandemic prevention and action strategy so that the pandemic would not adversely affect the organization's performance.

Bal (2018) stated that there is a need for hours to work on IR, like a movement or mission, to comply with the best international reporting practices in the Indian scenario. She further stated that there is a need to develop audit and assurance practices for IR. There needs to be more methodological, accounting, and analytical support for preparing IR; therefore, it is necessary to make quality standards to meet modern reporting requirements (Akhmentshin et al., 2018). The lack of nonfinancial information leads to difficulty for external analysts, and it also becomes complex to quantify the non-financial information for decision-making purposes. Therefore, IR

with Enterprise Performance Management could be helpful by providing a comprehensive overview of risk and opportunities from an economic perspective and may be considered potential to make changes in Corporate Reporting (Basu & Wats, 2015). It is suggested (Nathuramka, 2016) that all types of business entities should adopt IR as a value creation tool, like South Africa, on an 'Apply or Explain' basis without waiting for any legal compliance regulation. He further suggested that IR provides an excellent opportunity for finance professionals to show themselves as value providers instead of compliance maker with appreciation and adoption of IR voluntarily in business entities. There is no doubt that IR is an essential step in corporate reporting which creates value for the organization, and the value creation process, as reflected in IR, is helpful to stakeholders for decision-making. However, the benefits of IR are not limited to stakeholders; instead also beneficial to the organization for better resource allocation, good governance, and creating brand value (Bhutani & Tyagi, 2017). Camilleri (2019) stated that the scope of IR is not limited to a summary of financial, social, and sustainability-related information; instead, it constitutes the overall picture of a company's performance. The implementation of IR and improvement in audit quality (Internal audit as well as external/statutory audit) move simultaneously in the same direction. Besides this, the reliance level of the firm on IR also enhanced the audit quality (Nashar, 2016).

Stakeholders' Perception of IR, 93.9% of accounting educators agree that IR has a significant difference in opportunities and benefits compared to its challenges and disadvantages (Elizabeth et al., 2021). Investors and analysts accepted the relevance of non-financial reporting in Germany and stated that IR ultimately transform into financial impact and they also want to know more about strategies, business model, and market trend (Tilley & Kirchhoff, 2020). 73% of stakeholders suggested that IR should be prepared voluntarily, and 23% of respondents desired mandatory IR practices in Turkey. They further suggested enhancing the awareness of IR among various stakeholders, especially institutional investors, because institutional investors are the primary users of reports for investment decision-making purposes (Aras et al., 2019). A high level of interest and low level of awareness regarding IR was found among all respondents (Adhariani & Villiers, 2018), and they suggested that preparers of corporate reports can see the benefits of IR but hesitate to implement it.

Abhishek et al. (2020) concluded that IR positively impacts the Indian perspective. Among all respondents, accountants and auditors have more awareness about IR than academicians, as their awareness level is 85.92% and 74.64%, respectively. Ashok (2019) concluded that challenges are faced by regulatory authorities, companies, and XBRL software developers in promoting IR through XBRL. 90% of respondents agreed that IR would improve boards' understanding of value creation and help to develop a better relationship with external stakeholders. 83% of respondents believed that IR will help to understand the risk and opportunities, and 87% of respondents believed that IR is a tool to integrate financial reports with non-financial reports (Bombay Chamber of Commerce, 2018).

Empirical Studies of IR in Power Sector Companies

Piesiewicz et al. (2021) revealed that energy sector companies provide more qualitative IR disclosures than non-energy sector companies. The major problem of IR practices is establishing a link between business models and strategies, risks, opportunities, and performance. Yildirim et al. (2017) examined the IR practices of energy companies in Turkey. They suggested that as there is no audit mechanism for IR in Europe and the United States, regulators should establish regulations for the audit of IR, and auditors should also conduct an audit of non-financial information available in IR. They further concluded that IR helps transform society; therefore, business entities must follow IR practices.

Empirical Studies of IR in Other than Power Sector Companies

Songini et al. (2021) examined the relationship between IR quality and Board of Directors (BOD) composition. They revealed that low IR quality is found where more females are part of BOD, and high IR quality is found where more educated persons are part of BOD. It is suggested that diversity in BOD, instead of the diversity of BOD, requires improving the quality of IR. Roman et al. (2019) stated that companies with higher revenue presented more balanced IR, and younger companies presented their reports in an optimistic tone. It is shocking but pertinent to mention that companies in countries with high transparency tendencies provided low readable IR. It is further stated that IFRS adopter and non-environmental area-based companies provide less readable IR. The financial performance and risk decreased after the introduction of IR, and institutional investors' shareholding and Environmental, Social, and Governance scores in select entities increased after the introduction of IR (Conway, 2019). The companies report their capital in increase, decrease, and transformative form over a while and follow IR practices just for showcase purposes. It is concluded that IR practices are followed in an unimproved manner (Ahmed & Hossain, 2016). Zuniga et al. (2020) concluded that IR provides quality information to the capital market, and the quality of IR practices is associated with market liquidity.

Kumawat et al. (2020) revealed that the level of IR disclosures in the top 50 listed companies in India increased and companies provided more information as compared to previous ARs. Due to voluntary adoption and no mandatory requirement, only 19 companies out of 50 adopted IR practices as per the IR framework. Dave (2019) found deficient reporting on social and relational capital and concluded that IR is at its earlier stage; therefore not able to create value initially but has the efficiency to reflect the company's business and potential to its stakeholders. Barin and Ansari (2016) found a discrepancy in IR disclosures of select Indian petroleum companies due to no mandatory requirement of IR. They established no relationship between IR disclosures and Return on Assets and Return on Equity. They suggested that although the IR disclosure practices in India are voluntary, the government should promote IR practices which leads to the best way of conveying information to stakeholders.

MATERIAL AND METHODS

Sample Size and Selection Criteria

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A total of eight Indian energy companies, out of which four electricity generation and four petroleum companies listed in BSE based on free-float market capitalization as of 15th Sept 2022, have been selected for study purposes. The selected companies comprised four public-sector and four private-sector energy companies. Two of the four public sector companies are electricity generation and two are petroleum companies. The same is true of four private companies: electricity generation and petroleum companies. The researcher took only eight companies as a sample for study purposes because an in-depth investigation is required to examine the IR status in Indian energy companies. The selected companies and their selection criteria may be understood in table 1.

Table 1. Select Energy Companies

S.No	Name of Company	Market Cap. (Crores)	Sector	Ownership
1.	National Thermal Power Corporation (NTPC)	1,59,995	Electricity	Public
2.	Power Corporation Ltd (PGCL)	1,48,263	Electricity	Public
3.	Adani Transmission Ltd (Adani Trans)	3,38,708	Electricity	Private
4.	Adani Green Energy Ltd (Adani Green)	3,22,113	Electricity	Private
5.	Oil and Natural Gas Corporation Ltd (ONGC)	1,60,524	Petroleum	Public
6.	Indian Oil Corporation Ltd (IOCL)	93,694	Petroleum	Public
7.	Reliance Industries Ltd (Reliance)	16,04,217	Petroleum	Private
8.	Adani Total Gas Ltd (Adani Gas)	3,36,932	Petroleum	Private

Source: Author's compilation based on selection criteria

Data Collection & Research Method

The period of five FYs, 2017-18, 2018-19, 2019-20, 2020-21, and 2021-22 have been considered for study purposes. As suggested by IIRC, SEBI circulars on IR and IR framework have been collected from respective

organizations' websites. The ARs or IARs of select Indian energy companies have been collected from the respective company's website. Content disclosure index by using a checklist is followed to check the adoption level of IR in select Indian energy companies as it is recommended by (Iona & Adriana, 2014; Romolini et al., 2017), and the same was adopted by (Kaya & Utku, 2020; Sofian & Dumitru, 2019; Bal & Bal, 2019; Ghosh, 2019; Dave, 2019; Kiran & Karunasri, 2017; Mauro et al., 2020; Cooray et al., 2020; Hassan et al., 2019; Nistor et al., 2019; Pathiraja & Priyadarshinie, 2019; Nakib & Dey, 2018; Toit et al., 2017).

RESULTS AND DISCUSSIONS

After understanding the IR framework and examination of ARs of select Energy companies from FY 2017-18 to 2021-22, (□) is assigned; when a company adopted IR practices but did not disclose particular content of IR, (□) is assigned, when the company adopted IR practices and disclosed particular content of IR and (—) is assigned when a company did not adopt IR practices. A checklist of 21 contents based on the IR framework has been developed to check the IR adoption level in select energy companies.

IR Disclosure Practices of Public Sector Electricity Companies

NTPC did not adopt IR practices in FY 2017-18 and 2018-19. NTPC presented most IR disclosures under the sustainability reporting heading of IAR in FY 2019-20. As per table 2, NTPC reported 17 contents out of 21, which is 81%, from FY 2019-20 to 2021-22 by introducing subheadings such as stakeholders and materiality assessment, risk management, value creation model, disclosure on six capitals, and independent assurance on sustainability disclosures. Out of 17 contents, NTPC reported some contents of IR, such as stakeholders' relationship and organization overview, etc., at different places of IAR. NTPC disclosed six capitals as required by the IR framework in a detailed and understandable manner and also disclosed the business model in such a way, which reflects about value creation process to various stakeholders. NTPC did not improve the IR practices from its first adoption in FY 2019-20 to 2021-22, as it scored 17 in all FYs.

PGCL started to follow IR practices as and when suggested by SEBI in FY 2017-18 and consistently followed them till FY 2021-22. As per table 2, PGCL reported 11 contents out of 21, which is 52% in FY 2017-18, 2018-19, and 2019-20, 12 contents in FY 2020-21, and 13 contents in FY 2021-22. PGCL followed IR practices for formality purposes in FY 2017-18, 2018-19, and 2019-20 because PGCL added two pages in AR by the name of IR and showed six capitals in quantitative figures, and balanced five contents found at different places of AR in an unorganized way. PGCL improved its IR practices in FY 2020-21 by providing outlook information and in FY 2021-22 by providing detailed information related to value creation for various stakeholders. However, till FY 2021-22, PGCL kept the name of AR the same as IAR. Key disclosures like materiality, business model, and risks and opportunities are the most important core content of the IR framework but did not disclose by PGCL.

Table 2. IR Practices of Public Sector Electricity Generation Companies

NTPC Ltd	PGC Ltd
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S. No.	Content Elements of IR	FY18	FY19	FY20	FY21	FY22	FY18	FY19	FY20	FY21	FY22
1	Stakeholders Relationship	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Materiality Assessment	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Risk and Opportunities	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Connectivity of Information	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Value Creation	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Financial Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Manufacturing Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Natural Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Human Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Social and Relationship Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Intellectual Capital	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Organizational Overview	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Governance	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Business Model	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Basis of Preparation and Presentation	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Strategy and Resource Allocation	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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17	Performance	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Outlook	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Conciseness	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Reliability and Completeness	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Consistency and Comparability	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total (21)		—	—	16	16	16	11	11	11	12
				13						
Percentage (%)		—	—	76%	76%	76%	52%	52%	52%	57%
										62%

Source: Authors' compilation based on Annual Reports or Integrated Annual Reports of respective companies.

IR Disclosure Practices of Private Sector Electricity Companies

Adani Trans started to follow IR practices in FY 2018-19 and changed the name of AR to IAR. As per table 3, Adani Trans scored 86% by reporting 18 contents out of 21, consistently in all FYs from 2018-19 to 2021-22. It disclosed how six capitals create value for various stakeholders according to the IR framework in a detailed and understandable manner. However, connectivity of information, conciseness and, reliability & completeness are core values of the IR framework, which did not disclose by Adani Trans.

Adani Green started to follow IR practices in FY 2019-20 and changed the name of AR to IAR. As per table 3, Adani Green also scored 86% by reporting 18 contents out of a total of 21, consistently in all FYs from 2019-20 to 2021-22, and disclosed how six capitals create value for various stakeholders according to IR framework in a detailed and understandable manner. Same as Adani Trans, Adani Green did not disclose the connectivity of information, conciseness and, reliability & completeness. It is pertinent to mention that both companies, Adani Trans and Adani Green, are subsidiaries of the Adani group and work in the electricity sector. However, Adani Trans adopted IR practices in FY 2018-19, and Adani Green adopted IR practices in FY 2019-20.

Table 3. IR Practices of Private Sector Electricity Generation Companies

S. No.	Content Elements of IR	Adani Tans Ltd					Adani Green Ltd				
		FY18	FY19	FY20	FY21	FY22	FY18	FY19	FY20	FY21	FY22
1	Stakeholders Relationship	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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2	Materiality Assessment	—	□	□	□	□	—	—	□	□	□
3	Risk and Opportunities	—	□	□	□	□	—	—	□	□	□
4	Connectivity of Information	—	□	□	□	□	—	—	□	□	□
5	Value Creation	—	□	□	□	□	—	—	□	□	□
6	Financial Capital	—	□	□	□	□	—	—	□	□	□
7	Manufacturing Capital	—	□	□	□	□	—	—	□	□	□
8	Natural Capital	—	□	□	□	□	—	—	□	□	□
9	Human Capital	—	□	□	□	□	—	—	□	□	□
10	Social and Relationship Capital	—	□	□	□	□	—	—	□	□	□
11	Intellectual Capital	—	□	□	□	□	—	—	□	□	□
12	Organizational Overview	—	□	□	□	□	—	—	□	□	□
13	Governance	—	□	□	□	□	—	—	□	□	□
14	Business Model	—	□	□	□	□	—	—	□	□	□
15	Basis of Preparation and Presentation	—	□	□	□	□	—	—	□	□	□
16	Strategy and Resource Allocation	—	□	□	□	□	—	—	□	□	□
17	Performance	—	□	□	□	□	—	—	□	□	□
18	Outlook	—	□	□	□	□	—	—	□	□	□
19	Conciseness	—	□	□	□	□	—	—	□	□	□
20	Reliability and Completeness	—	□	□	□	□	—	—	□	□	□
21	Consistency and Comparability	—	□	□	□	□	—	—	□	□	□
Total		—	18	18	18	18	—	—	18	18	18

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Percentage (%) — 86% 86% 86% 86% — — 86% 86% 86%

Source: Authors' compilation based on Annual Reports or Integrated Annual Reports of respective companies.

IR Disclosure Practices of Public Sector Petroleum Companies

ONGC started to follow IR practices in FY 2021-22 and changed the name of AR to IAR. As per table 4, ONGC scored 90% by reporting 19 contents out of 21 as per the IR framework. ONGC created a different section in its IAR called 'About IR' and presented IR Disclosures in one place concisely. ONGC addressed important disclosures such as information connectivity, reliability, completeness, conciseness, etc. However, ONGC should have disclosed two important contents: business model and outlook. Because IIRC, in its IR framework, suggested that IR may be presented as a separate report and ONGC presented a separate section on IR in its IAR, stakeholders may need help understandably accessing IR.

IOCL started to follow IR practices initially as and when suggested by SEBI from FY 2017-18 and changed the name of its AR to IAR. As per table 4, IOCL scored 100% by reporting all 21 contents per the IR framework. The content element of IR was disclosed by IOCL initially at the beginning of IAR in all selected FYs in a detailed and understandable manner. IOCL disclosed six capitals two times in IAR, initially in brief and later in a very detailed manner in all selected FYs from 2017-18 to 2021-22. IOCL devoted approx. 60 to 65 pages in every selected FY for disclosing the IR contents, therefore reporting on the value creation process and connectivity of information, etc., found appropriate as expected by the IR framework.

Table 4. IR Practices of Public Sector Petroleum Companies

S. No.	Content Elements of IR	ONGC Ltd					IOCL Ltd				
		FY18	FY19	FY20	FY21	FY22	FY18	FY19	FY20	FY21	FY22
1	Stakeholders Relationship	—	—	—	—	□	□	□	□	□	□
2	Materiality Assessment	—	—	—	—	□	□	□	□	□	□
3	Risk and Opportunities	—	—	—	—	□	□	□	□	□	□
4	Connectivity of Information	—	—	—	—	□	□	□	□	□	□
5	Value Creation	—	—	—	—	□	□	□	□	□	□
6	Financial Capital	—	—	—	—	□	□	□	□	□	□
7	Manufacturing Capital	—	—	—	—	□	□	□	□	□	□
8	Natural Capital	—	—	—	—	□	□	□	□	□	□

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9	Human Capital	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Social and Relationship Capital	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Intellectual Capital	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Organizational Overview	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Governance	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Business Model	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Basis of Preparation and Presentation	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Strategy and Resource Allocation	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Performance	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Outlook	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Conciseness	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Reliability and Completeness	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Consistency and Comparability	—	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Total	—	—	—	—	19	21	21	21	21	21
	Percentage (%)	—	—	—	—	90%	100%	100%	100%	100%	100%

Source: Authors' compilation based on Annual Reports or Integrated Annual Reports of respective companies.

IR Disclosure Practices of Private Sector Petroleum Companies

Reliance started to follow IR practices initially as and when suggested by SEBI from FY 2017-18 and changed the name of AR to IAR. As per table 5, Reliance scored 95% by reporting 20 contents out of 21 as per the IR framework in all selected FYs from 2017-18 to 2021-22. A lack of connectivity of information is found because Reliance disclosed six capitals at one place and other contents at different places in IAR. However, Reliance disclosed value creation to stakeholders, organizational overview and governance, etc., in a detailed and understandable manner.

Columbia Journal of Business and Economic Research

Research Article

Adani Gas started to follow IR practices from FY 2020-21 and changed the name of AR to IAR. As per Table 5, Adani Gas scored 81% in Both FYs 2020-21 and 2021-22 by reporting 17 contents out of 21 as per the IR framework. IAR of Adani Gas found a need for conciseness, reliability, completeness, and information connectivity. However, it is good to see that in both FYs, Adani Gas presented major IR contents in a separate section, namely 'Our Integrated Value Creation Report' of its IAR. This separate section in both FYs includes value creation, risk management, strategic priorities, commitments, governance, and Corporate Social Responsibility. Table 5. IR Practices of Private Sector Petroleum Companies

S. No.	Content Elements of IR	Reliance Ltd					Adani Gas Ltd				
		FY18	FY19	FY20	FY21	FY22	FY18	FY19	FY20	FY21	FY22
											2
1	Stakeholders Relationship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
2	Materiality Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
3	Risk and Opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
4	Connectivity of Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
5	Value Creation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
6	Financial Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
7	Manufacturing Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
8	Natural Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
9	Human Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
10	Social and Relationship Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
11	Intellectual Capital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
12	Organizational Overview	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
13	Governance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
14	Business Model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
15	Basis of Preparation and Presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
16	Strategy and Resource Allocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
17	Performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>

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18	Outlook		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
19	Conciseness		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
20	Reliability and Completeness		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
21	Consistency and Comparability		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	—	—	<input type="checkbox"/>	<input type="checkbox"/>
Total			20	20	20	20	20	—	—	—	17	17
Percentage (%)			95%	95%	95%	95%	95%	—	—	—	81%	81%

Source: Authors' compilation based on Annual Reports or integrated Annual Reports of respective companies

Comparative Analysis of IR Disclosure Practices

Comparative Analysis between Public and Private Sector Energy Companies

As per table 6, IOCL is the only public sector company among all energy companies, whose IR practices fully complied according to the IR framework. Two public sectors and one private sector Energy Company started to follow IR practices in FY 2017-18. Two from the public and three from the private sector followed IR practices in FY 2018-19 and 2019-20, respectively. Three companies from the public sector and all four select companies from the private sector followed IR practices in FY 2020-21. All eight select energy companies followed IR practices in FY 2021-22. Lack of connectivity of information found in all energy companies except IOCL.

Table 6. IR Disclosures of Energy Companies based on Ownership

Financial Year	Public Sector Companies					Private Sector Companies		
	NTPC	PGCL	ONGC	IOCL	Adani Trans	Adani Green	Reliance	Adani Gas
2021-22	16	13	19	21	18	18	20	17
2020-21	16	12	—	21	18	18	20	17
2019-20	16	11	—	21	18	18	20	—
2018-19	—	11	—	21	18	—	20	—
2017-18	—	11	—	21	—	—	20	—

Source: Authors' Compilation based on tables 2, 3, 4, and 5 of this research paper

Different levels of IR adoption and disclosures are found in Adani trans, Adani Green, and Adani Gas, even though all three are subsidiaries of the Adani group. All select energy companies disclosed six capitals of the IR framework in one place. All other contents of IR except six capitals are disclosed by all select companies according to their convenience, like under separate sections in IAR or at different places of IAR. As earlier concluded (Havlova, 2015), low reporting trends were found in public sector companies compared to private

Columbia Journal of Business and Economic Research

Research Article

sector companies. This study also concludes that private-sector energy companies report more than public-sector companies, except for IOCL. However, high quick adoption of IR is found in public sector companies.

Comparative Analysis between Electricity and Petroleum Companies

IOCL is the only Petroleum Company among all select energy companies whose IR practices comply with the IR framework. Two petroleum companies and one electricity company adopted IR in FY 2017-18. Two petroleum companies and two electricity companies followed IR practices in FY 2018-19. All electricity companies followed IR practices from FY 2019-20 to 2021-22; two followed IR practices in FY 2019-20, three in FY 2020-21, and all followed IR practices in FY 2021-22. Petroleum companies presented more quality disclosures of IR as compared to electricity companies.

Table 7. IR Disclosures of Electricity and Petroleum Companies

Financial Year	Electricity Companies		Petroleum Companies					
	NTPC	PGCL	Adani Trans	Adani Green	ONGC	IOCL	Reliance	Adani Gas
2021-22	16	13	18	18	19	21	20	17
2020-21	16	12	18	18	—	21	20	17
2019-20	16	11	18	18	—	21	20	—
2018-19	—	11	18	—	—	21	20	—
2017-18	—	11	—	—	—	21	20	—

Source: Authors' Compilation based on tables 2, 3, 4, and 5 of this research paper

The Content elements such as connectivity of information, conciseness, reliability, and & completeness are the core values of the IR framework, which did not reflect in the IR practices of electricity companies. As stated earlier, the IR practices of one petroleum company, IOCL, fully complied with the IR framework, and connectivity of information is the main requirement that is only reflected in other petroleum companies except for IOCL. Petroleum companies disclosed more contents of IR in one place in a separate section of IAR; however, many IR contents were disclosed at a different place in IAR by almost all electricity companies. In conclusion, more reporting trends are found in petroleum companies compared to electricity companies.

CONCLUSIONS

All public and private sector companies should have adopted IR practices as and when suggested by SEBI on a voluntary basis. Out of the total of eight companies, three adopted IR in FY 2017-18, one other company adopted IR in FY 2018-19, two more companies adopted IR in FY 2019-20, one more company adopted IR in FY 2020-21, and all eight select energy companies followed IR practices in FY 2021-22. Connectivity of information, conciseness, and reliability & completeness are core values of the IR framework. These values were not reflected in the IR practices of almost all energy companies except IOCL. Different reporting trends are found in all select

Columbia Journal of Business and Economic Research

Research Article

energy companies due to IR as a voluntary practice. One public sector petroleum company IOCL disclosed IR according to the IR framework at one place of IAR, another side one public sector electricity company, PGCL followed IR practices throughout the select period just for formality purposes by introducing two/three pages in its AR and also did not change the name of its AR by IAR. All the key content elements of the IR framework did not follow by select Indian energy companies except IOCL, which reflects the lack of proper understanding of the spirit of the IR framework. The low level of adoption and different level of reporting trends across all select energy companies except IOCL sector-wise as well functional area-wise found in Indian perspective due to the none availability of proper guidelines and regulations on IR, and the same was concluded by (Serafeim, 2016; Bananuka et al., 2019). As earlier concluded by (Garcia-Sanchez et al., 2020), companies should disclose internal pandemic prevention and action strategy for Covid 19, etc., so that the pandemic would not adversely affect the organization's performance. This internal pandemic prevention and action strategy could be part of risk and opportunities, strategy and resource allocation, and business model contents of IR. However, energy companies did not disclose it as part of IR in FY 2020-21 and 202122, when the entire world faced Covid 19 pandemic.

Managerial and Policy Implications

As we know that IR practices are followed in India voluntarily, therefore it should be followed as a mark of compulsion; if it is not possible to issue mandatory guidelines on IR, then it should become mandatory for public sector companies, as already suggested by (Bananuka et al., 2019) because, in these companies, the public are substantially interested. Although SEBI, in its circular, stated that the top five hundred companies might follow IR practices as suggested by IIRC, but did not suggest any clear-cut guidelines in the Indian scenario that companies should follow; therefore, the SEBI should prepare detailed and clear guidelines on IR in Indian perspective. As far as the electricity sector is concerned, Central Electricity Authority, an organization constituted by Electricity Supply Act 1948 and superseded by Electricity Act 2003, should make and advise a policy for IR disclosures that electricity companies should follow in India voluntarily or as a mark of compulsion as per preparedness of electricity companies. The provisions or guidance notes related to an audit of IR practices and non-financial information in IR should be introduced by professional bodies like The Institute of Chartered Accountants of India etc., to conduct an audit of IR practices as already suggested by (Oprisor, 2015; Yildirim et al., 2017; Goicoechea et al., 2019). To effectively implement and monitor IR practices in companies, separate personnel should be recruited by companies who are solely responsible for IR practices in companies. Various types of workshops and seminars etc. should be conducted to spread awareness regarding IR practices (Adhariani & Villiers, 2018).

Future Scope of Study

This study is conducted on select energy companies. As IR is a new phenomenon, it is huge scope to examine the IR practices of other sector companies and compare them on the basis of ownership and cross-sector comparative

analysis. To make a sound knowledge base for IR, Comparative analysis can also be done between companies operating in developing and developed countries. There is scope to obtain a perception of various stakeholders regarding IR and to make suggestions and specific guidelines for IR practices in the Indian scenario based on the perception obtained from various stakeholders.

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