INTEGRATED REPORTING IN INDIA – A STUDY OF PRIVATE AND PUBLIC SECTOR COMPANIES IN INDIA

By

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"I may not have gone where I intended to go, but I think I have ended up where I intended to be"

-Douglas Adams

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ABBREVIATIONS

IIRC	International Integrated Reporting Council
IR	Integrated Reporting
GRI	Global Reporting Initiative
SASB	Sustainability Accounting Standards Board
CDP	Carbon Disclosure Project
SDGs	Sustainable Development Goals
A4S	Accounting for Sustainability Project
VRF	Value Reporting Foundation
ESG	Environmental, Social, And Governance
CSR	Corporate Social Responsibility
SEBI	Securities and Exchange Board of India
BSE	Bombay Stock Exchange
BRR	Business Responsibility Report
IRI	Integrated Reporting Index
ORGREV	Organisational Overview and External Environment
BM	Business Model
STRA	Strategy and Resource Allocation
GOVERNAN	Governance
PERFORMANCE	Performance
RISK	Risk
OPPOR	Opportunities
OUTLOOK	Future Outlook
FC	Financial Capital

HC	Human Capital
MC	Manufactured Capital
IC	Intellectual Capital
NC	Natural Capital
SC	Social and Relationship Capital
PB	Market Value to Book Value
PE	Price-Earnings Ratio
ROCE	Return on Capital Employed
RONW	Return on Net Worth
DE	Debt-Equity Ratio
NPM	Net Profit Margin
ROA	Return on Assets
KPI	Key Performance Indicators
PCA	Principal Component Analysis

CHAPTER 1: INTRODUCTION

The International Integrated Reporting Council, (hereafter, IIRC), defines Integrated Reporting, (hereafter, IR), as "a process founded on integrated thinking that results in a periodic integrated report by an organization about value creation over time and related communications regarding aspects of value creation." According to the IIRC, "an integrated report is simply a concise communication about how an organization's strategy, governance, performance, and other prospects lead to the creation of value in the short, medium and long term." The main aim of an integrated report is to provide the stakeholders of a company- that is the investors, management and others, with information about several interrelated dimensions that affects or can be affected by the organization. These include: the six forms of capital employed to create value namely financial, manufactured, intellectual, human, and social and relationship, and natural capital and the value creation process which basically describes how the organization interacts with both the external environment and the capitals.

The concept of Integrated Thinking is an integral component of the value creation process. The IIRC defines integrated thinking as "the active consideration by an organization of the relationships between its various operating and functional units and the capitals that the organization uses or affects" (2013). Integrated reporting and thinking are being promoted as a practice that can help companies address important environmental, social, and governance issues which would enable them to prosper in the long run and in return would prove to be beneficial for the shareholders as well as the society at large.

The IR framework's main aim is to support the organization in discharging complex and interdepended duties of accountability to those who would be affected by the activities of the organization. So, IR has incorporated new methods on disclosure that help in contributing to the ability of the organization to provide a precise and a concise account to the stakeholders in

a single report by covering all material relationships between various operating and functional units and the nature of the resources they use or effect.

A company's financial report and its sustainability or corporate social responsibility report are combined into one document under integrated reporting. By combining non-financial data on an organization's performance in the areas of governance, social responsibility, and the environment in addition to financial data, an integrated report gives readers a comprehensive view of how the business is doing. The foundation of IR is integrated thinking, which takes into account the many forms of capital, how they interact and have an impact on the company's short-, medium-, and long-term prospects, as well as how they relate to the company's strategy, performance, and governance.

1.1 MEANING OF INTEGRATED REPORTING

An integrated report is "a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term." The value creation and impact of an organisation are the primary components of integrated reporting. As a result, organisations use integrated reporting to explain how all of their resources are contributing to value creation. Businesses who use it may think more holistically about their strategies and objectives, take well-informed decisions, and manage significant risks, which improves future performance and inspires trust among investors and stakeholders. The Global Reporting Initiative (GRI), the World Business Council for Sustainable Development, the World Resources Institute, the Carbon Disclosure Project, and the UN Global Compact all contribute to integrated reporting. An integrated report is a single document that shows and discusses both financial and non-financial information in a comprehensive manner, in contrast to a sustainability report that is published independently from the yearly financial report. In response to the need from investor groups and stakeholder groups for improved reporting that links strategy, risks, key

performance indicators (KPIs), and financial performance, an integrated report is created. Providing an integrated report is an effective "way of communicating to all stakeholders that the company is taking a holistic view of their interests."

By integrated reporting, businesses have the chance to communicate a clear, concise, connected, and comparable image of their business. It is an instrument for conveying relevant data regarding the organization's strategy, governance, and performance with regard to economic, social, and environmental issues. Businesses are able to offer not only an update on previous performance but also a long-term perspective on future value generation by properly connecting these frequently segregated areas. Thus, integrated reporting is a good reporting approach. Professor Mervyn King, Chairman, IIRC and Chairman for the King Committee on Corporate Governance further said "Integrated Reporting builds on the practice of financial reporting, and environmental, social and governance reporting. It equips companies to manage their operations, brand and reputation strategically and to manage better any risks that may compromise the long-term sustainability of the business."

According to Eccles et al., (2010), shareholder theory and stakeholder theory are the two fundamental theories that integrated reporting seeks to reconcile. The primary focus of the shareholder theory is on what businesses should do to maximise shareholder value. According to this notion, the purpose of integrated reporting is to address environmental, social, and corporate governance issues that are thought to have an impact on a company's value. Thus, the added value for shareholders should be taken into account while establishing the framework for integrated reports. All stakeholders benefit from the value created by the stakeholder theory. Environmental, social, and governance issues are included in this approach. Integrating reporting would help businesses try and understand their stakeholders and how they might affect the decision-making process.

1.2 NEED FOR INTEGRATED REPORTING

The traditional shareholder-centric corporate reports, which lay the majority of the emphasis on financial parameters, are failing to draw a clear connection between financial, social, environmental, and ethical issues as socio-economic and environmental difficulties increase. These gaps prompted businesses all around the world to create independent sustainability reports. "Over eighty percent of the Global Fortune 250 now publish sustainability reports. Even in India the company's publishing sustainability reports have significantly increased." (Ghosh 2016). Through their studies, researchers have demonstrated how requiring companies to produce sustainability reports has prompted them to adopt more environmentally and socially responsible practises, improve on relevant performance measures, gain better access to financing, and see a reduction in the cost of equity capital. (Ioannou and Serafeim 2012, Ioannou and Serafeim 2015, Yu, Du and Bhattacharya 2014, Dhaliwal et al. 2012).

1.2.1 INADEQUACIES OF CORPORATE REPORTING

Corporate reporting has experienced a number of changes to accommodate the information requirements of many stakeholders as well as the shifting environment of economic, technological, social, and political factors. In order for stakeholders to have a better understanding of the value-creation process, there was a need for additional information beyond the fundamental financial statements over time. Examples of this additional information include management commentary, governance disclosures, and footnotes to the financial statements. To help foster trust among external stakeholders, independent verification by external auditors was also incorporated. Management issues within businesses and an increase in crises involving governance are what sparked interest in governance disclosures (options backdating, insider trading, and excessive pay).

Even when financial statements were accompanied by these other pieces of information, users of corporate reporting still believe that the information is lacking and insufficient for describing

how a company creates value and its significant nonfinancial risks. We need to understand the value-creation process of 21st Century organisations to better comprehend building a more relevant reporting framework that overcomes shortcomings of the corporate reporting system.

1.2.2 INADEQUACIES OF SUSTAINABILITY REPORTING

The disclosure and communication of environmental, social, and governance (ESG) goals—as well as a company's progress towards them—represent sustainability reporting. Improved corporate reputation, more consumer confidence, increased innovation, and even better risk management are all advantages of sustainability reporting.

Despite the fact that sustainability reports are more frequently used, there has been much discussion on whether or not they genuinely assist businesses in significantly improving their performance on sustainability-related metrics. According to critics, stakeholders who wish to hold firms responsible for their activities will find no purpose for sustainability reports. Instead, the incentives are for corporations to produce a "high volume and low quality of information, which stakeholders find difficult to assess in terms of veracity and completeness." (Mitchell et al, 2012, Luke, 2013, IODSA, 2009, Eccles and Krzus, 2010, Eurosif and ACCA. 2013).

Because businesses haven't always merged the ideas of non-financial and financial performance, non-financial reports and yearly financial reports have traditionally been released separately. Due to the lack of statutory requirements or consistent reporting systems, standards, or guidelines, sustainability reports have a wide range of formats and contents. Early adopters of sustainability reporting mainly published a single-issue report, frequently revealing data on workplace or environmental safety. As businesses started disclosing data about their "triple bottom line," which comprehensively represented their economic, social, and environmental activities, these reports evolved into multi-issue reports. This disclosure method was also known as sustainability reporting or corporate social responsibility (CSR) reporting.

1.3 VALUE CREATION PROCESS

Resources are used by businesses to create and provide their goods and services. These resources can be divided into three categories: natural capital, which includes water, forests, and minerals; human capital, which includes people's abilities, skills, and experiences; and financial capital, which includes money raised from investors or money reinvested from operations. Companies use these resources to generate other capital, which can be divided into three categories: social capital, derived from a company's relationship with the society from which it obtains its licence to operate; intellectual capital, produced by employee efforts producing intangible assets; and physical capital, such as factory equipment. Companies are able to sell goods and services in exchange for cash by leveraging these resources.

An organisation produces more than just goods and services. Another result of a company's operations is externalities. When a company's actions help a third party, positive externalities are created. For instance, employee training not only benefits the business but also other businesses that these employees might later join. Alternatively, whenever a company's actions charge a third-party money, negative externalities arise. Some of these negative externalities including climate change, pollution, and too much risk exposure, have seriously damaged the social capital of many firms, jeopardizing their license to operate. The search for skilled employees, regulatory oversight, investor capital allocation decisions, and society at large all encompass a company's non-financial performance.

Currently, investors opine that external corporate disclosures are insufficient in substantiating holisitic information. Financial data does not seem to provide an encompassing account of the interplay between risk management, strategy, and corporate performance.[1] "Tangible assets,

[1]Ernst & Young (E&Y), "Integrated Reporting: Tips for Organizations on Elevating Value," 2014, www.ey.com/Publication/ vwLUAssets/EY-Integrated-reporting-summary/$FILE/EY-Integrated-reporting-summary.pdf.

according to a study, comprise only 20% of a company's overall value, which points to the concern that intangible assets—that form the majority of a company's true value—remain unaccounted for."[2] Investors are becoming more and more aware of the significance of sustainability, as reflected by non-financial characteristics, in terms of both corporate success and the generation of long-term value.

Due to these reporting difficulties, it is now more important than ever to implement integrated reporting that will meaningfully combine financial and non-financial data. (IRCSA, 2011; Solomon & Maroun, 2012; Eccles, & Armbrester, 2011).

1.4 BENEFITS OF INTEGRATED REPORTING

The failure of sustainability reporting to connect the given data to the process of value creation within a business is one of the most common criticisms levelled against it. Integrated reporting can help a business maintain discipline. It ensures that the business provides concise and material information that demonstrates how well it is doing in nonfinancial dimensions that have an impact on the effectiveness of the firm's formulated strategy and its implementation. Understanding the relationship between financial and nonfinancial performance is another advantage of integrated reporting. Managers are obliged to consider how and when trade-offs and dependencies between financial and non-financial performance develop because organisations must convey their non-financial performance in the context of strategy and how they create value.

Improved internal measurement and control systems for generating accurate and timely non-financial information are also advantages of integrated reporting. Companies are compelled to improve the quality of their information systems, internal controls, and nonfinancial

[2] Ocean Tomo, "Ocean Tomo's Intangible Asset Market Value Study," December 2013, www.oceantomo. com/2013/12/09/Intangible-Asset-Market-Value-Study-Release.

information monitoring systems by implementing integrated reporting. This is required in order for the integrated report to satisfy requirements for independent assurance coming from external auditors.

Another advantage of integrated reporting is reduced reputational risk. By accounting performance, philosophy, position, mission and vision of an organisation in terms of financial and sustainability both, it could first narrow the expectation-reality gap between the business and outside parties. Second, it can serve as a forum for better communication, involvement, and connections with all stakeholders. Customers who care about sustainability, for instance, will be more dedicated. Third, because it requires many organisational divisions to work together to develop an integrated report, it can foster increased employee engagement through internal coordination and collaboration (i.e., the elimination of silos).

Another potential benefit is attracting long-term investment. In order to increase the trust of long-term investors in the company's leadership and its capacity to create sustainable value, integrated reporting is a yardstick for communicating a corporate's future vision and the manner in which it addresses non-financial challenges and opportunities.

1.5 ADOPTION OF INTEGRATED REPORTING IN INDIA

A framework that can give businesses direction on what defines an IR has very recently been developed. IR has a little history and its definition is continually changing. The first businesses to create a self-declared IR were the Brazilian cosmetics and perfumes manufacturer Natura in 2003, the Danish pharmaceutical manufacturer Novo Nordisk in 2004, The Crown Estate in the United Kingdom, SAP in Germany, and the Port of Rotterdam Authority (the Netherlands). In 2009, King III, the corporate governance law, introduced the concept of integrated reporting to South Africa. In 2010, it became mandatory for all South African companies with stock listed on the Johannesburg Stock Exchange to either produce an IR or provide justification for

not doing so. Although IIRC members agreed to an International IR Framework in December 2013, there is not currently a structure or template that is universally accepted for an integrated report. Three aspects—the six capitals that an organization employs and impacts, the business model of the organization, and the production of value over time—represent the core ideas of integrated reporting (Busco et al., 2013).

Besides in India, SEBI has issued a circular encouraging the Top 500 BSE-listed companies to embrace Integrated Reporting as a framework to enhance the quality and applicability of the data. According to SEBI, material pertaining to integrated reporting should be included either separately in the annual report, integrated into the "Management Discussion & Analysis," or prepared as a separate report.

On 7 February 2017, SEBI (Securities and Exchange Board of India) has issued a circular advising top 500 listed companies which are required to prepare BRR (Business Responsibility Report) to adopt IR on a voluntary basis from the financial year 2017-18.[3] The information related to IR may be provided in the following ways:

- As a separate section in the annual report;
- By incorporating IR information into management discussion and analysis; or
- By preparing a separate report (annual report prepared as per IR framework).

In order to minimise information duplication, the company may make the appropriate reference to any relevant information that has already been disclosed in a report that was prepared in line with national or international requirements or frameworks.

[3] https://www.sebi.gov.in/legal/circulars/feb-2017/integrated-reporting-by-listed-entities_34136.html

1.6 RESEARCH EXPECTATIONS

Given the proposed research outcome, in order to capture and evaluate of the quality of firm performance, we first construct a relative disclosure Integrated Reporting Index comprising fourteen parameters, as a comprehensive measure, followed by an alternative measure, using Principal Component Analysis (hereafter, PCA). The uniqueness of our study lies in the fact that we try and develop an index using a large firm level database, examining the relation with firm performance from both a forward and backward-looking perspective. This sort of comparative analysis, across such a vast number of companies has not been brought up and studied previously. The robustness of the results is itself validated by the quantum of our dataset, thereby making it all the more detailed, specific and comprehensive. Further, studies on Integrated Reporting and its impact on firm performance, have not been examined in depth for such a sample size in the Indian context.

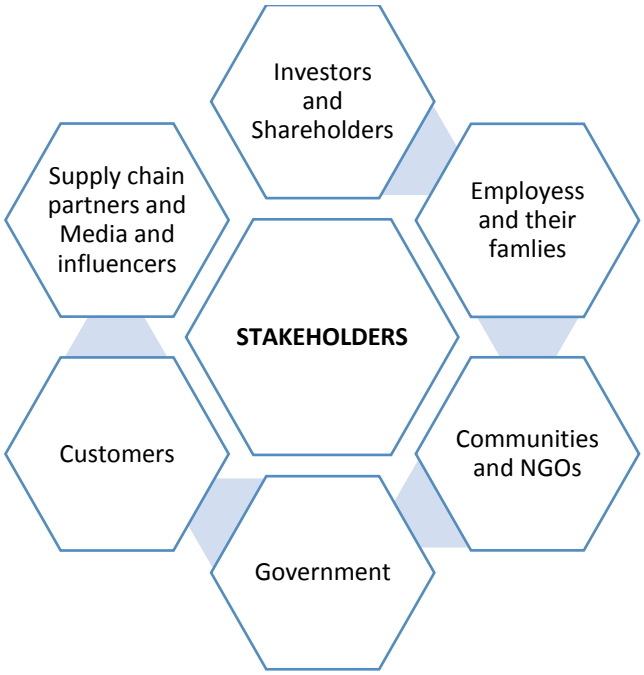
1.7 OUTLINE OF THE THESIS

The rest of the study proceeds as given: Chapter 2 will emphasise upon the theoretical framework on IR; Chapter 3 will trace the overview of the extant literature covering the predominant facets of IR, leading to the research gap and thereafter highlighting the objectives of the study; Chapter 4 will explain the sample of the study, the description of the variables used to substantiate our objectives and the research methodology used; Chapter 5 will focus upon the detailed analysis and the discussions on the findings generated thereon and Chapter 6 will conclude the study, with recommendations and future direction for relevant study.

CHAPTER 2: THEORETICAL FRAMEWORK

The arguments against the present reporting model's ability to accurately portray an organisation are becoming more strident. Additionally, both the investment community and a range of other stakeholders, including NGOs, customers, suppliers, and new employees, are asking more and more for a representation of an organization's impact on not only its financial standing but also its social and environmental conditions. These requirements cannot be met by the current reporting model. While it is often the case that corporations must include significant non-financial information in their reports in accordance with legal requirements, this information is frequently not presented in a manner that makes a clear connection between economic drivers, financial data, and social and environmental impacts. Future success in business will increasingly depend on an organization's capacity to generate value without diminishing any resources, whether it is natural, social, human, or financial capital. As time goes on, stakeholders will be more interested in learning how businesses link their company strategy to both their financial and non-financial performance.

Figure 1: The various Company's Stakeholders.



2.1 CORPORATE REPORTING

Corporate reporting is a routine aspect of a corporation's operations. Corporate reporting's goal is to notify stakeholders of the corporation's financial concerns. By disclosing this information, a company becomes more transparent and accountable, providing stakeholders with accurate and full information. (Serafeim, 2016). For several years, the main players were investors and financial analysts. A company's principal method of communication with these parties was through a financial report, which was seen as the foundation for how the market distributes capital. (Eccles & Krzus, 2010). This perspective on corporate reporting is inadequate in the modern world, where a company's shareholder base is constantly expanding. Investors, financial analysts, customers, suppliers, regulators, standard-setters, present and potential employees, and non-governmental organisations are among these stakeholders. (Eccles & Krzus, 2010). It has been proven that giving this information to all of these parties will improve access to capital, lower capital costs, business relationships with clients and suppliers, and employee trust. (Eccles & Serafeim, 2014). The contents of annual reports has changed in accordance with the expansion of stakeholders. Stakeholders' demands for greater information in yearly reports increased with time. Annual reports began to include information other than merely financial statements, such as management comments, governance disclosures, and footnotes to the financial statements. With this knowledge, interested parties could comprehend how a corporation creates value. (Serafeim, 2016). In recent decades, firms have seen a rise in stakeholder demand for non-financial disclosure in addition to the annual (financial) report. There has been a rise in interest, awareness, and need for sustainability on a worldwide scale as a result of the "Brundtland Report (1987), the Rio Convention (1992), the Millennium Development Goals (2000), the Sustainable Development Goals (2015), and many other developments". Stakeholders are becoming more interested in a company's nonfinancial issues as a result of their realisation that the private sector is essential to creating a sustainable society.

Companies began creating yearly non-financial reports to meet this requirement, although in the beginning, their format and substance varied greatly. Serafeim (2016) stated, "Early adopters of sustainability reporting predominantly released a single-issue report, usually disclosing environmental or workplace safety information". These reports developed into multi-issue reports that highlighted a business's economic, social, and environmental efforts. These reports are sometimes referred to as sustainability reporting or corporate social responsibility (CSR). (Serafeim, 2016). Nowadays, the GRI (Global Reporting Initiative) Framework, also known as the GRI Guidelines, is frequently used to format these CSR reports (GRI, 2016). As a result, businesses now produce two distinct yearly reports: a financial report and a CSR-report. Notwithstanding these initiatives, interest in how organisations create value has grown even more in recent years. Since financial data does not provide a comprehensive picture of how strategy, risk management, and financial performance interact, value creation is not solely based on financial data. A growing number of stakeholders are convinced that sustainability, as represented by non-financial factors, is crucial to corporate performance and the generation of long-term value. (Ioannou & Serafeim, 2014). Also, stakeholders frequently need to consult multiple sources in order to acquire information in order to evaluate a firm's performance. As a result, the reporting environment became divided, unclear, and fragmented. (Flower, 2015). Due to the rising requirement for enhanced reporting that links strategy, risks, key performance indicators (KPIs), and financial performance, integrated reports—a single document that provides and discusses both financial and nonfinancial information in a holistic manner—have become more popular. (Eccles & Krzus, 2010).

A company's financial report and its sustainability or corporate social responsibility report are combined into one document under integrated reporting. By combining non-financial data on an organization's performance in the areas of governance, social responsibility, and the environment in addition to financial data, an integrated report gives readers a comprehensive

view of how the business is doing. Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), Climate Disclosure Standard Board, World Business Council for Sustainable Development, World Resources Institute, Carbon Disclosure Project, and UN Global Compact contributions are all incorporated into integrated reporting.

2.2 SUSTAINABILITY REPORTING

Companies can report and publish their performance and impact indicators using sustainability reporting to address a variety of Environment, Social, and Governance (ESG) considerations. It is intended to drive companies into being open and honest about their risks and opportunities. "The disclosure and communication of environmental, social, and governance (ESG) goals—as well as a company's progress towards them—represent sustainability reporting. More consumer confidence, better corporate reputation, more innovation, and even better risk management are all advantages of sustainability reporting. Only one-fifth of 586 companies in India assessed published sustainability reports in 2021. Compared to last year, 12 new companies have made these disclosures for the first time, according to a report by CRISIL.[4] Companies with ESG goals are prioritised by investors and stakeholders. This encourages companies to clearly explain their plan for achieving their sustainability objectives."

2.2.1 GLOBAL REPORTING INITIATIVE

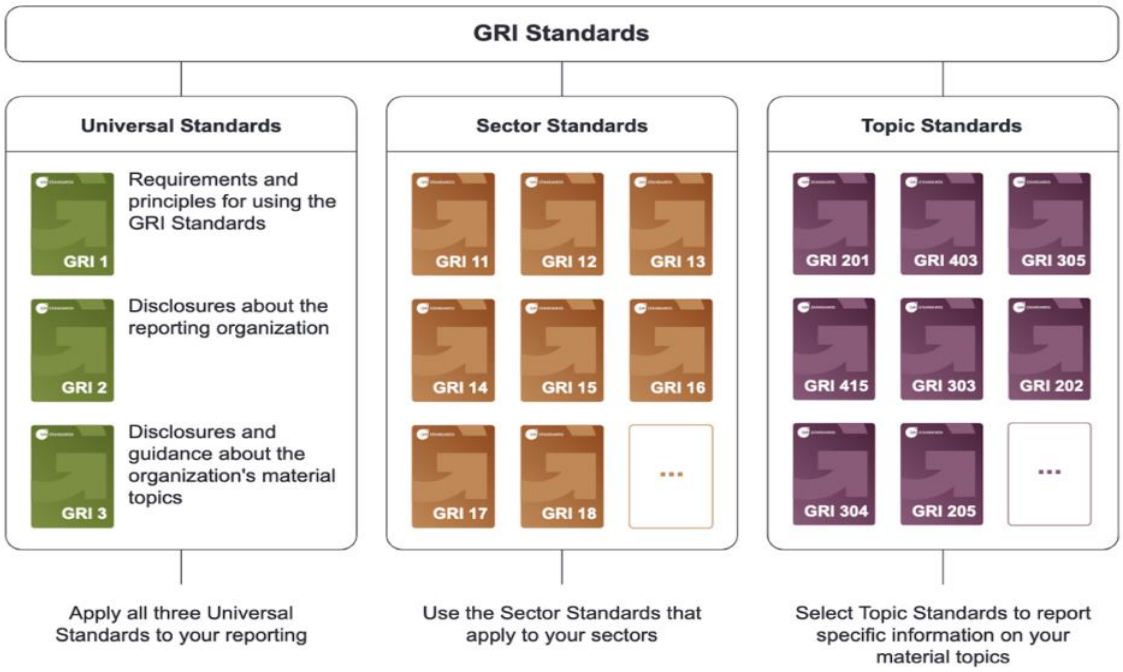
The Global Reporting Initiative (hereafter GRI) is a global reporting standard for sustainability designed by businesses and investors to assess financial performance. Leading institutional investors, governmental authorities, and development groups all around the world have made the GRI a prerequisite. Based on the widely held belief that such data might reveal novel insights into how businesses function and their contribution to sustainable development, it establishes an international framework for sustainability reporting.

[4] https://www.crisil.com/en/home/newsroom/press-releases/2022/05/india-inc-improving-esg-disclosures-gradually.html

When it became evident that there was a growing need for an internationally recognised set of standards that would enable stakeholders - governments, NGOs, investors, consumers, etc. - to compare consistent information relating to environmental issues from one company or country with another in order to assess progress towards sustainability goals and objectives, the GRI was founded in 1997. The GRI has created more than 200 Sustainability Reporting Guidelines since its foundation, all of which are freely accessible.[5]

In order to raise awareness about how reporting may aid in sustainable development, the GRI works with its stakeholders. To assist organisations in measuring and reporting on their economic, environmental, and social performance, it also offers useful information and reporting tools. These consist of sectoral supplement guidelines as well as sectoral and thematic supplements offering advice on subjects like farm labour, conflict minerals, and human rights. Every year, new strategies are developed in the domains of governance, planet, and people.

Figure 2: The GRI Standards – Pictorial Depiction



[5] https://www.esgthereport.com/what-is-the-global-reporting-initiative/

Table 1: The GRI Standards

STANDARD	EXPLANATION
A. UNIVERSAL STANDARDS	
GRI 101	**Foundation**- Implementing GRI Foundation standards is the starting point for all organizations. It introduces the system of GRI and explains how they are to be used. It includes requirements for preparing a sustainability report and describes how the GRI standards should be referenced.
GRI 102	**General Disclosures**- Organisations are required to submit information on their reporting practices, activities, workers, governance, strategy, policies and practices, and stakeholder engagement. This information gives a better understanding of the scale and profile of organizations.
GRI 103	**Material Topics**- The purpose of this set is to ease the efficiency and productivity of GRI reporting. It guides companies on how to identify material topics and disclosures about how the organization identifies material topics and manages each material topic.
B. TOPIC-SPECIFIC STANDARDS	
GRI 200	**Economic Topics**- It comprises of six categories: economic performance, market presence, indirect economic impacts, procurement practices, anti-corruption, and anti-competitive behaviour.
GRI 300	**Environmental Topics**- Environmental sustainability refers to an organization's effects on living and non-living systems, such as land, air, water, and ecosystems, as described by the GRI standards. The 8 reporting requirements under this series include materials, energy, water, biodiversity, emissions, effluents and waste, environmental compliance, and supplier environmental assessment.
GRI 400	**Social Topics**- Reporting requirements under this series include employment, labour/ management relations, occupational health and safety, training and education, diversity and equal opportunity, non-discrimination, freedom of association and collective bargaining, child labour, forced or compulsory labour, security practices, rights of indigenous peoples, human rights assessment, local communities, supplier social assessment, public policy, customer health safety, marketing and labelling, customer privacy, and socio-economic compliance.
C. SECTOR STANDARDS	
There are 4 priority groups under the Sector Standards.	1. Basic materials and needs 2. Industrial 3. Transport, infrastructure, and tourism 4. Other services and light manufacturing Oil and gas, coal, agriculture, aquaculture, and fishing are the first sectors prioritized under the Sector Program based on their significant environmental, social, and economic impacts.

2.2.1.1 NEED FOR GLOBAL REPORTING INITIATIVE

To create a set of guidelines or "principles" for sustainability reporting, a global committee of representatives from UN organisations, investor agencies, corporations, practitioners, and civil society groups joined together. The following guiding concepts were used to create the process: inclusivity, transparency, comparability, alignment, credibility, relevance, and insightfulness. These guidelines are intended to ensure that sustainability reports demonstrate how well businesses are doing in regard to sustainable development goals, not merely what is happening.

The six important benefits of GRI Sustainability Reporting are: -

1. Transparent and Open: A company can share its evaluation with others without divulging information that is confidential for business purposes.

2. Standardized Approach: Public and private organisations can report on their sustainability performance within a framework provided by the GRI Indicators, Guidelines, and reporting criteria.

3. Co-created: The GRI is a jointly created project that is not owned by any one company. It reflects the agreement of investors and other stakeholders regarding who should report this information to and how it should be reported, as well as what information is most crucial for understanding an organization's impact on society and the environment.

4. Gap Analysis: The GRI offers a foundation for enterprises to evaluate their own performance and risks in comparison to other businesses and to spot areas for development.

5. Engagement: Instead of having to use several frameworks and reports, an organisation may communicate with its stakeholders using the same information and reporting framework that it uses to convey its sustainability performance internally and externally.

6. With the use of the GRI to share data on an organization's performance on social, environmental, and economic aspects, a charity can show its dedication to sustainability. That their funds are being used properly and efficiently to achieve these goals is reassuring.

2.2.1.2 GUIDELINES ON GRI SUSTAINABILITY REPORTING

"The GRI Standards are divided into three parts:

- the Sustainability Reporting Guidelines, which outline how firms should report on their performance in terms of economic, environmental, and social factors;
- the Supplemental guidelines, which give instructions on how to add to the reporting process in particular areas like human rights or climate change;
- And, the GRI Guidelines for Report Users, which offer guidance on how to read and analyse a business sustainability report's content."

These Guidelines are a collection of over 200 rules specifying the criteria for reporting on an organization's economic, social and environmental performance. The GRI reviews these guidelines at least every four years to make sure they remain relevant. The Sustainability Reporting Guidelines for what to include in your sustainability report have been approved by the General Assembly of the GRI.

It is the duty of the organisations adopting the Standards to decide which information or data is appropriate for inclusion in the report, but they are urged to do so. It is not necessary to employ certain indicators inside the framework.

Seven categories make up the Sustainability Reporting Guidelines: stakeholder engagement, strategy and performance management, portfolio management and operations, people, planet, and governance, risk, opportunity, and impacts, carbon & energy, and financials [notes]. Guidelines that are arranged in accordance with economic, environmental, and social performance are further separated into these categories.

The GRI Standards put a special emphasis on sustainability's material components, or those that have a big influence on an organization's operations.

GRI Standards are used by organizations as a means to improve upon their reporting procedures so as to give greater detailed information with respect to the contribution they make to sustainable development as they move forward on their journey to that purpose.

2.2.1.3 FUNCTIONS OF THE GLOBAL REPORTING INITIATIVE

The GRI serves two distinct roles:

1) As a free-standing authority on sustainability reporting; and

2) Serving as a forum for international cooperation between businesses, civil society, and investors.

Creating standards involving, "a board and an advisory council made up of representatives from companies, investors, and civil society organisations", defines the first role.

The second role is activated through discourse activities that strongly emphasise knowledge sharing to hasten the advancement of sustainability objectives. As a result, the GRI has developed into a hub for international cooperation between businesses, civil society organisations, and investors.

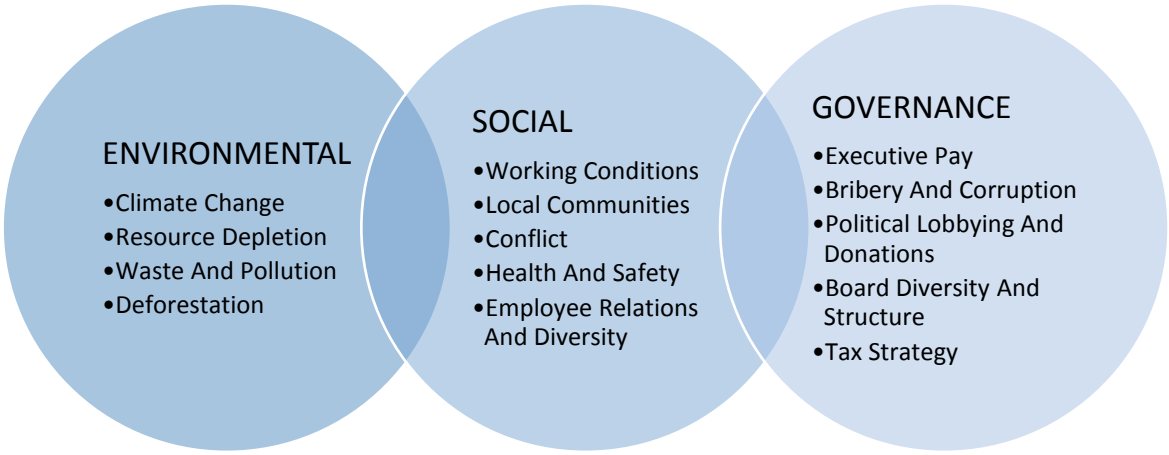
The three Stages of GRI are: -

1) Issue Identification: A company determines what will be included in the report by identifying topics that are important to its operations and have an impact on stakeholders.

2) Assessment/ Analysis: To determine how the issues identified influence the organisation and its impacts on individuals touched by it, an assessment is conducted (either by the organisation itself or by an independent assessor).

3) Reporting: The Company informs stakeholders of the approach used for this study, the findings of the evaluation, and any additional pertinent issues that have been identified throughout this process.

Figure 3: Components of ESG



2.2.1.4 PURPOSE OF GRI REPORTS

The primary objectives of a GRI Report are:

- To improve transparency and accountability.
- To enable comparisons over time.
- To give stakeholders insights into an organization's performance in relation to sustainability.

By offering a standard framework for companies to report on their long-term performance in a way that is independent, credible, and transparent, the GRI makes it possible to make comparisons over time. Stakeholders can learn more about an organization's present performance in relation to its goals and historical performance due to the high-quality data provided in a GRI Report. This understanding, when combined with the credibility of an independent certification from GRI Reports, can increase accountability and transparency by empowering stakeholders to actively engage organisations on matters of vital interest to them.

"The GRI is a global reporting standard for sustainability designed by investors and organisations to evaluate business performance. Leading institutional investors, governmental authorities, and development groups all around the world have made the GRI a prerequisite. Based on the widely held belief that such information might reveal novel insights into how businesses function and their contribution to sustainable development, the GRI establishes an international framework for sustainability reporting."

The GRI is significant because it may offer investors independent, transparent, and trustworthy information. Based on the idea that such data might reveal novel insights into how businesses function and their contribution to sustainable development, it establishes common standards for sustainability reporting.

2.2.1.5 DIFFERENCE BETWEEN SUSTAINABILITY AND CORPORATE SOCIAL RESPONSIBILITY

A self-regulating business concept called corporate social responsibility (CSR) aids an organisation in becoming socially accountable to the public, its stakeholders, and itself. The ability to sustain is sustainability. This indicates that "sustainable practises take into account all facets of society and do not harm the next generation. It is about preserving the natural resources so that succeeding generations might prosper. CSR is distinct in that it does not always take future generations into account. It only focuses on the company's current stakeholders and what they need or want at this time."

2.2.2 SUSTAINABILITY ACCOUNTING STANDARDS BOARD

Sustainability Accounting Standards Board (hereafter SASB) enable organizations to provide industry-based sustainability disclosures about risks and opportunities affecting value. SASB standards identify the subset of environmental, social and governance issues most relevant to

financial performance and enterprise value for 77 industries.[6] Although there is no fixed reporting time, this framework could be supplemented by additional organisational disclosures. The requirements cover risks and opportunities associated with sustainability that are reasonably likely to have an impact on an organization's financial situation, operational effectiveness, or risk profile. The Standards were created through a "rigorous and open standard-setting procedure, which included:

- evidence-based research;
- broad and balanced participation from companies, investors and subject-matter experts;
- Oversight and approval from the independent SASB Standards Board."

These Standards are recognised by global investors as crucial prerequisites for companies seeking to provide sustainability information in a uniform and comparable manner.

2.2.2.1 NEED FOR SUSTAINABILITY ACCOUNTING STANDARDS BOARD

Companies encounter opportunities and challenges affecting their long-term sustainability, including urbanisation, technological innovation, resource scarcity, and climate change. Institutional investors must assess how these challenges affect businesses in order to make informed investment decisions. Companies all across the world use SASB Standards to identify, monitor, and manage the subset of ESG issues that have the biggest long-term effects on business value development. Leading international investors want to assess how businesses are handling the governance, social, and environmental issues that also have an impact on financial performance. Yet previously, they never had access to the comparable, consistent data they need to make decisions.

[6]Accessed from the Sustainability Accounting Standards Board's website on January 1, 2023, at https://www.sasb.org/standards/

This need is addressed by SASB Standards, which are specially designed for investors. The SASB Standards enable the integration of sustainability concerns into investment and stewardship choices across global portfolios and asset classes since they are industry-based, metric-driven, and centred on financial materiality. Also, they offer comparable data to investors, which fuels the ecosystem of data and analytics.

2.2.3 CARBON DISCLOSURE PROJECT

The Carbon Disclosure Project (hereafter, CDP) is a global non-profit organisation that supports and encourages businesses and governments using corporate procurement and capital markets, to disclose their environmental impacts, to lower greenhouse gas emissions, protect water resources and protect forests.[7] The largest and most complete dataset on environmental action in the world is held by CDP, which has more than 18,700 corporations as members. For motivating and monitoring global progress towards a carbon-free, water-secure, and deforestation-free world, CDP's insights are essential.

With CDP's three corporate questionnaires on climate change, water security, and forests-companies can provide information. This makes it easier for businesses to communicate to their customers, investors and other stakeholders about their environmental goals and strategies, governance, and risk and opportunity management. Via CDP, both investors and customers may ask businesses for environmental information, and both groups use the information to guide their decisions and take appropriate action. In 2022, more than 680 investors with over US$130 trillion in assets requested companies to disclose through CDP[8].

[7] Accessed from the Sustainability Accounting Standards Board's website on January 1, 2023, at https://www.cdp.net/en/info/about-us/what-we-do

[8] Accessed from the Carbon Disclosure Project's website on January 1, 2023, at https://www.cdp.net/en/info/about-us/what-we-do

2.2.4 SUSTAINABLE DEVELOPMENT GOALS

The UN approved Sustainable Development Goals (hereafter SDGs), sometimes referred to as the Global Goals, in 2015 as a "global call to action to eradicate poverty, safeguard the environment, and guarantee that by 2030 all people enjoy peace and prosperity". The 17 SDGs recognise that "development must balance social, economic, and environmental sustainability and that actions in one area will have an effect on outcomes in others. Governments have agreed to give those who are falling behind, the most priority while making progress. The SDGs main aim is to eradicate AIDS, hunger, poverty, and prejudice against women and girls. The SDGs must be achieved in every context, and this requires the creativity, knowledge, technology, and financial resources of the entire population". 80% of the top 100 Indian companies for sustainability and Corporate Social Responsibilities (CSR) in 2021 incorporated Sustainable Development Goals (SDGs) in their responsible business actions.[9] Understanding the SDG framework and several industry-specific standards are essential for alignment with the SDGs. "The UN SDGs consist of 17 goals and 169 targets with 230 agreed-upon indicators, namely:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation, and Infrastructure

[9] https://thecsrjournal.in/top-100-companies-india-csr-sustainability-2021/

10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace and Justice Strong Institutions
17. Partnerships to achieve the Goal"

Businesses generally prosper when they can satisfy customer demands with desirable solutions and when a profitable business model can be built around that connection. Most often, business asks decision-makers for robust, long-term policy frameworks that are clear and within which they can function and within which they can utilise them to make decisions about business development, target innovation, and drive investments. This encouraged many corporations to participate in the new, open UN SDG process, launched in 2012. "The private sector in general hoped to be able to inform, inspire and influence the process to deliver an outcome with much more private sector relevance and appeal compared to the Millennium Development Goals." [10]

2.3 EVOLUTION OF INTEGRATED REPORTING

The Prince's Accounting for Sustainability Project (hereafter, A4S) was established in 2004, and in 2007 and 2009, respectively, it produced a reporting framework and a reporting guide that outline how all aspects of organisational performance can be presented in a connected, integrated manner that reflects the organization's strategy and management style.

[10] The UN Sustainable Development Goals (SDGs) are a great gift to business! Written by Claus Stig Pedersen; Published in: Available online at www.sciencedirect.com https://doi.org/10.1016/j.procir.2018.01.003

Following the success of A4S's work, His Royal Highness the Prince of Wales called for the establishment of an "International Integrated Reporting Council" (IIRC) at the A4S Forum event on December 17, 2009, on behalf of A4S, the Global Reporting Initiative (GRI), and the International Federation of Accountants (IFAC). The IIRC would be responsible for guiding the development of a global connected and integrated approach to corporate reporting.

The Accounting for Sustainability promotes integrated thinking, which is necessary for firms to successfully implement IR. This can only be demonstrated through IR once organisations are thinking holistically.

Integrative thinking is the ability to actively tackle the tensions between competing models and rather than favouring one over the other, to come up with a novel solution to the tension in the form of a new model that incorporates the best features of both but outperforms them too.

The IIRC when it was established in 2010, was made up of a multinational cross section of leaders from the corporate, investment, accounting, securities, regulatory, academic, and standard-setting sectors, as well as civil society.

2.3.1 THE KING III REPORT ON CORPORATE GOVERNANCE

King III, the code of corporate governance, which was published in 2009, brought the idea of integrated reporting to South Africa. Since the implementation of King III, which mandates that listed firms publish an Integrated Report, in March 2010, the form of corporate reporting has undergone a significant evolution. Integrated Reporting has since come to be known as a complicated process, by many. But, the goal of integrated reporting was not to make it more difficult to report on company operations. Instead, it was developed to encourage fully integrated corporate strategies that are focused on building genuinely sustainable enterprises. Companies will have no difficulty at all in presenting an Integrated Report on their business activities if they thoroughly comprehend these King III concepts and apply them into their fundamental business strategies. And because of this, planning is crucial.

The King Report on Corporate Governance for South Africa, which was issued in 2009 and took effect on March 1st, is referred to as King III. According to King III, businesses must publish an annual integrated report that offers a trustworthy, thorough, and holistic picture of the organisation from both a financial and non-financial perspective. Companies should be able to describe how their operations affect the economic, social, and environmental domains in which they operate. The Triple Bottom Line refers to these three components.

In essence, "King III acknowledges that businesses cannot separate their financial goals and drive for profitability from sustainability. Hence, integrated reporting should offer a more thorough evaluation of a company, taking into account both its economic and social value as well as its book value. Sustainability is the primary moral and economic imperative for the 21st century as said by Mervyn King."[11]

2.3.1.1 THE KEY COMPONENTS OF KING III

Some of the "key elements of business as is addressed in the King III Integrated Report:

- Effective Ethical Leadership and Corporate Citizenship: To ensure that a business's operations have a positive impact on the triple bottom line and that the company is hence eligible to be recognised as a good corporate citizen, a board should design and implement the required policies and procedures;
- Governance of Risk: King III focuses on the establishment of roles and responsibilities for a comprehensive risk management strategy that is deeply ingrained in every facet of a company's activities;
- The Governance of information Technology: King III acknowledges the growing significance of technology in business and points out that effective administration and management of IT resources is essential for any company to succeed;

[11] http://www.sun.ac.za/english/policy/Policy%20Documents/King%20III%20integrated%20report.pdf

- Compliance with Laws, Codes, Rules and Standards: King III takes corporate compliance to a whole new level by vigorously encouraging compliance with various non-binding rules, codes, and standards that would promote good governance, in addition to statutory laws and minimum regulations; and
- Governing Stakeholder Relationships: In King III, a new idea known as Alternative Dispute Resolution is presented, recognising also the value of ADR and stakeholder engagement in terms of effective dispute resolution, taking into account all parties, and maintaining commercial connections as crucial elements of good corporate governance.
- Integrated reporting and disclosure: The board will need to verify that integrated reporting is reliable. Controls must exist to guarantee the integrity of the integrated report. The report should be produced annually, provide enough financial and sustainability performance, prioritise content above presentation, and explain how the organisation generates revenue. They will also need to delegate oversight and reporting of sustainability to the audit committee, comment on the financial results, disclose if the company is a going concern and describe the positive and negative effects of operations and how they will be improved in the following year (who should ensure that sustainability reporting and disclosure is independently assured).”[12]

2.3.2 INTERNATIONAL INTEGRATED REPORTING COUNCIL

The International Integrated Reporting Council (hereafter IIRC), formerly known as the International Integrated Reporting Committee, “was established in August 2010 with the goal of developing a framework that is universally recognised for a procedure that results in communications by an organisation about value creation over time.”

[12] https://assets.kpmg/content/dam/kpmg/pdf/2016/07/Corporate-Governance-and-King-III.pdf

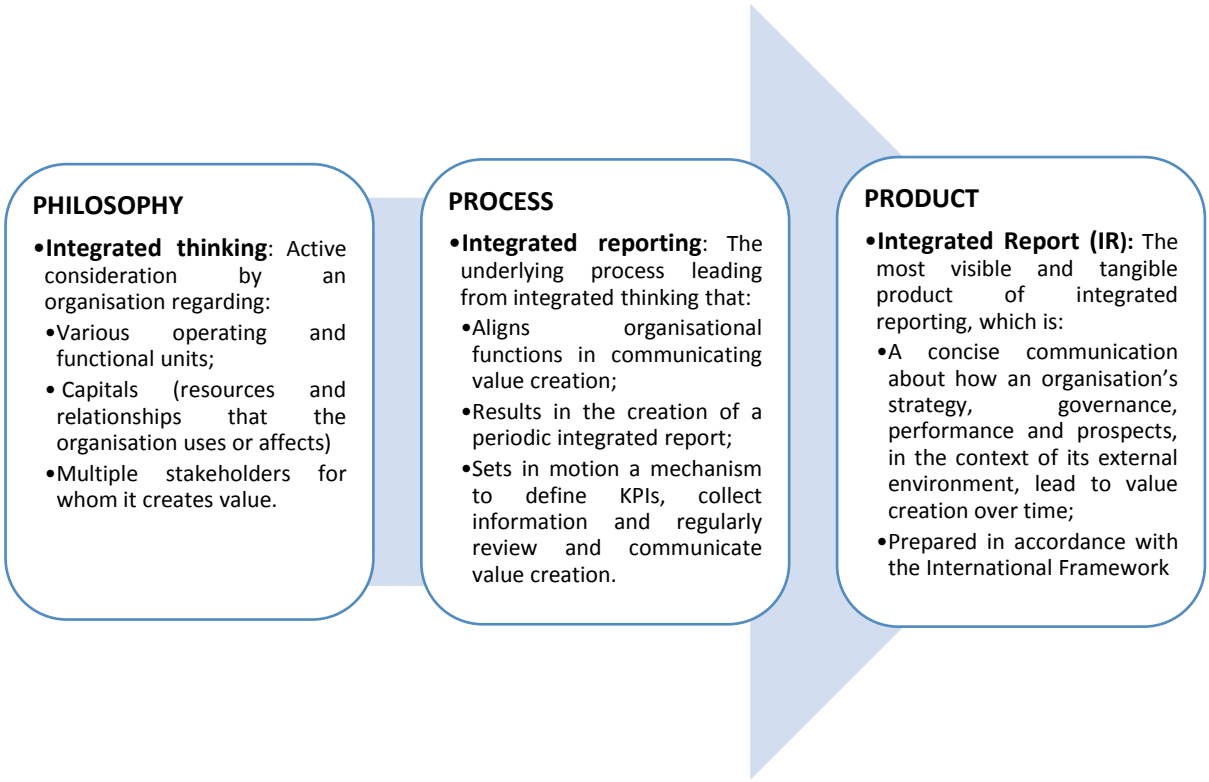
A cross section of individuals from the corporate, investing, accounting, securities, regulatory, academic, standard-setting, and civil society sectors are represented at the IIRC. “It comprises of a Steering Committee, a Working Group and three taskforces (dealing with content development, engagement and communications, and governance).

The IIRC's stated objective is to establish an internationally recognised integrated reporting framework by 2014 in order to provide the groundwork for a new reporting model that would allow organisations to communicate their value creation processes concisely over time. The IIRC refers to this process as Integrated Reporting. Integrated Reporting (IR), which is designed around the organization's strategic objectives, its governance, and its business model and integrates both relevant financial and non-financial information.”

The objectives for an integrated reporting framework are to:

- support long-term investors' information demands by demonstrating the larger and longer-term effects of decisions;
- highlight the connection between sustainability and economic value by taking into account the links between environmental, social, governance, and financial issues in decisions that have an impact on long-term performance and condition;
- provide the framework required for the systematic consideration of environmental and social concerns in reporting and decision-making;
- rebalance performance measures to place less focus on immediate financial results;
- bring reporting closer to the information that management uses to manage the company on a daily basis.

Figure 4: The Three-Tiered Approach



In order to enable more decision-useful reporting, changes to the Integrated Reporting Framework were issued in January 2021. These were the first revisions to the Integrated Reporting Framework since it was "first released in 2013 and is a result of thorough market research involving 1,470 people in 55 jurisdictions. The consultation demonstrated that the conceptual thinking and principles of the Integrated Reporting Framework remain fit for the purpose and is robust."[13]

2.3.2.1 THE IR FRAMEWORK

An integrated report is a concise assessment of how an organization's strategy, governance, performance, and prospects, in the context of its external environment, contribute to the short, medium, and long-term creation, maintenance, or erosion of value. The Framework should be followed in the preparation of an integrated report.

[13]Accessed from the International Integrated Reporting Council's website on January 1, 2023, at https://www.integratedreporting.org/resource/international-ir-framework/

The Framework's objective is to establish the guiding principles and content elements that direct an integrated report's overall content and to explain the essential ideas that support those principles and content elements. The Framework is primarily developed for private, for-profit businesses of any size, but it can also be used by public sector and not-for-profit organisations with the appropriate adaptations. The Framework does not define benchmarks for things like the calibre of an organization's strategy or the extent of its performance; rather, it highlights information to be included in an integrated report for use in evaluating an organization's capacity to create value. When referring to the generation of value in the Framework, it refers to both situations in which value is kept and those in which it is lost through time (i.e. over the short, medium and long term). The primary purpose of an integrated report is to explain to providers of financial capital how an organization creates, preserves or erodes value over time. It therefore contains relevant information, both financial and other. All parties interested in an organization's capacity to generate value over time, including employees, clients, suppliers, business partners, local communities, lawmakers, regulators, and decision-makers, benefit from an integrated report. The Framework is based on principles. The principles-based approach aims to achieve the right balance between flexibility and prescription that acknowledges the wide range of individual circumstances of various organisations while permitting a sufficient level of comparability across companies to address pertinent information demands. The Framework does not specify certain assessment methods, key performance indicators, or the disclosure of particular matters. Given the unique characteristics of the company, those in charge of creating and presenting the integrated report must use discretion to decide which items are relevant and how they should be reported, including when to use commonly accepted measurement and disclosure methodologies. Information in an integrated report is prepared on the same basis as, or is readily reconcilable with, other information published by the organisation when it is similar to, or based on, that other information.

An integrated report is meant to be more than a summary of information from other communications (such as financial statements, a sustainability report, analyst calls, or information on a website), as it explicitly communicates the connectivity of information to explain how value is created, maintained, or lost over time. It is possible to create an integrated report in response to current compliance standards. For instance, a company can be mandated by regional legislation to create a management commentary or another report that contextualises its financial results. This report may qualify as an integrated report if it is also created using the Framework. The report can still be regarded as an integrated report even if it must contain specific information that is not defined in the Framework as long as it does not obscure the concise information that the Framework requires. An integrated report may be a stand-alone document or a distinct, visible, and easily accessible component of another document or communication. It might be presented at the start of a report that also contains the financial accounts of the company, for instance.

Therefore, an integrated report seeks to offer insight into the factors that influence an organization's external environment, the assets and connections it uses and is impacted by—collectively referred to as the Capitals in the Framework and divided into the following categories: financial, manufactured, intellectual, human, social and relationship, and natural capital—as well as how the organisation works with these factors to create, preserve, or erode value in the short, medium and long term.

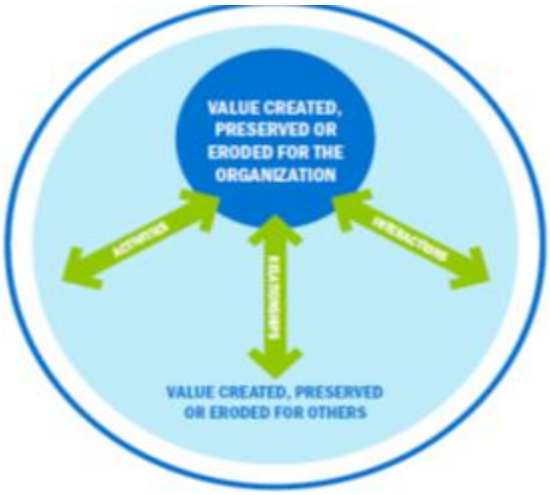
2.3.2.2 VALUE CREATION, PRESERVATION OR EROSION FOR THE ORGANIZATION

Increases, decreases, or transformations of capitals brought on by the organization's business operations and outputs represent the value that an organisation creates, maintains, or erodes through time. That value has two interrelated aspects – value created, preserved or eroded for:

- The organisation itself, which influences financial returns to financial capital suppliers;
- Others (i.e. stakeholders and society at large).

Financial capital providers are interested about the value an organisation produces for itself. They are especially interested in the value an organisation provides for others when it impacts its capacity to do so or connects to one of the organization's declared goals (such as an explicit social purpose) that influences their evaluations. An organization's capacity to add value for itself is correlated with the value it adds to the world. As illustrated in Figure 3, in addition to those that are immediately linked to changes in financial capital, such sales to consumers, this occurs through a wide range of other activities, interactions, and relationships.[14] These include, for instance, how the company's operations and outputs affect customer satisfaction, the suppliers' willingness to do business with the company and the terms and conditions they accept, the initiatives that partners in business take on with the company, the company's reputation, the restrictions placed on the company's social licence to operate, and the imposition of supply chain restrictions or legal requirements. These relationships, interactions, and activities are included in the integrated report when they have a significant impact on the organization's capacity to generate value for itself.

Figure 5: Value created, preserved or eroded for the organization and for others[15]



[14] INTERNATIONAL FRAMEWORK JANUARY 2021; https://www.integratedreporting.org/wp-content/uploads/2021/01/InternationalIntegratedReportingFramework.pdf

[15] Accessed from the IR Framework published by IIRC; https://www.integratedreporting.org/wp-content/uploads/2021/01/InternationalIntegratedReportingFramework.pdf

Externalities can be either positive or negative (i.e., they may result in a net increase or decrease to the value embodied in the capitals). Externalities have the potential to raise or diminish the value that is ultimately produced for the company; as a result, financial capital providers need information regarding material externalities in order to evaluate their effects and allocate resources appropriately. Value is not likely to be produced by maximising one capital while ignoring the others since it is produced over different time periods and for a variety of stakeholders. For instance, it is unlikely to maximise value for the business over the long run if financial capital (such as profit) is maximised at the expense of human capital (such as through ineffective human resource policies and practises).

2.3.2.3 THE CAPITALS

All organisations rely on different types of capital to succeed. Financial, manufactured, intellectual, human, social and relationship, and natural capitals are the components of the IR Framework. The actions and outputs of the organisation increase, reduce, or transform the capitals, which represent stocks of value. For instance, when a company makes a profit, its financial capital increases, and when people receive better training, its human capital improves. The total supply of capitals fluctuates throughout time. As the capitals grow, shrink, or change, there is a constant flow between and within them. For instance, when a company invests in staff training to increase its human capital, the resulting training costs deplete its financial capital. The result is that human capital has replaced financial capital. This example shows the ongoing interaction and transformation between the capitals, even if it is straightforward and only provided from the viewpoint of the organisation, even though the rates and results may vary. Numerous different actions result in increases, declines, or transformations that are much more complicated than the example given above and include a wider variety of capitals or of the parts that make up a capital.

• **Financial capital** – The pool of funds that an organisation has at its disposal for use in producing goods or rendering services; these funds may have been gained through finance such as debt, equity, or grants, or they may have been generated through operations or investments.

• **Manufactured capital** – Buildings, machinery, and infrastructure are examples of manufactured physical objects (as opposed to natural physical objects) that are available to an organisation for use in the production of commodities or the delivery of services (such as roads, ports, bridges, and waste and water treatment plants). Assets manufactured by the reporting organisation for sale or when they are kept for internal use are included in manufactured capital.

• **Intellectual capital** – It is the intellectual property, comprising patents, copyrights, software, rights, and licences, as well as organisational capital, including tacit knowledge, systems, procedures, and protocols, are examples of knowledge-based intangibles used in organisations.

• **Human capital** – It is the competencies, skills, and experience of people, as well as their commitment to and support of an organization's governance framework, risk management strategy, and ethical values, as well as their capacity to comprehend, develop, and put into practise an organization's strategy, as well as their motivations to innovate with a view to enhancing procedures, products, and services, including their capacity to manage, lead, and collaborate.

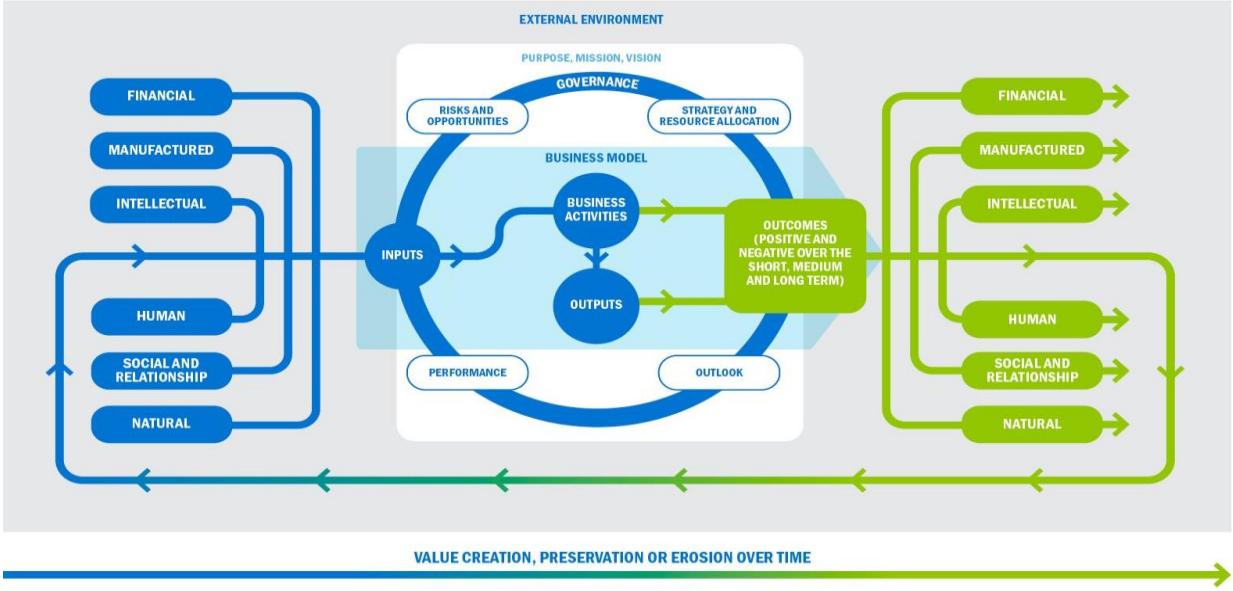
• **Social and relationship capital** – It is the ability to communicate information to improve individual and societal well-being, as well as the institutions and relationships within and between communities, stakeholder groups, and other networks. Social and relationship capital includes shared norms, values and behaviours, key stakeholder relationships, trust and engagement with external stakeholders that an organisation has built and works to maintain, as well as intangibles connected to the brand and reputation that an organisation has built, or an organization's social licence to operate.

• **Natural capital** – It includes any natural processes and resources, both renewable and non-renewable, that produce goods or services that contribute to an organization's past, present, or future prosperity. Air, water, land, minerals, forests, biodiversity, and the health of ecosystems are all included.

2.3.2.4 PROCESS THROUGH WHICH VALUE IS CREATED, PRESERVED OR ERODED

Although it is the goal of businesses to produce value, the total stock of capitals can also either move up or down or stay the same. Value is either lost or retained in such circumstances. the process through which value is created, maintained, or lost is depicted in Figure 5. A suitable supervision structure must be established by those in charge of governance to support the organization's ability to generate value. The organization's business model, which uses diverse capitals as inputs and turns them into outputs through its operations, is what drives it. The business operations and outputs of the firm produce results that have an impact on the capitals. The organization's longer-term viability may be impacted by the business model's ability to adapt to changes. Planning, designing, and producing items as well as using specialised knowledge and abilities to provide services are examples of business activities. In terms of creating new products and services that anticipate consumer demand, introducing efficiencies and better technology use, substituting inputs to minimise negative social or environmental effects, and finding alternative uses for outputs, encouraging an innovation culture is frequently a key business activity. Outcomes are the internal and external (positive and negative) effects that an organization's operations and outputs have on its capitals. Risks and opportunities that are pertinent to the company, its strategy, and its business model are identified by ongoing monitoring and analysis of the external environment in the context of the organization's purpose, goal, and vision.

Figure 6: Process through which value is created, preserved or eroded[16]



The organization's strategy identifies how it plans to minimise risks, manage them, and take advantage of opportunities. Plans for resource allocation are used to carry out the strategies it lays forth for achieving strategic goals. The establishment of measurement and monitoring systems is necessary to provide the organisation with the information needed for decision-making. The process of value generation, preservation, or degradation is not static; rather, it is subject to regular examination of each component and its relationships with other components, as well as attention to the organization's viewpoint.

2.3.2.5 THE INTEGRATED REPORT

Guiding Principles: The seven Guiding Principles serve as the foundation for creating and presenting an integrated report, guiding both the information's presentation and its content.

- *Strategic focus and future orientation*: An integrated report should to throw light on the organization's strategy and how it connects to the capacity of the organisation to produce value over the short, medium, and long terms as well as on how it uses and

[16] Accessed from the IR Framework published by IIRC; https://www.integratedreporting.org/wp-content/uploads/2021/01/InternationalIntegratedReportingFramework.pdf

influences capital. It also includes stating with clarity the organization's capacity to execute its strategic goals and provide value depending on the continuing availability, quality, and cost of significant capitals.

- *Connectivity of information*: An integrated report should provide a comprehensive overview of the relationships, interactions, and dependencies among the variables that influence an organization's capacity to generate value across time. The more effortlessly information will flow into management reporting, analysis, and decision-making, the more integrated thinking will be ingrained into an organization's actions. When an integrated report is logically organised, attractively presented, written in simple, understandable, and jargon-free language, and includes useful navigational aids like clearly defined sections and cross-referencing, the connectivity of the information and the overall usefulness of the report are improved. Information and communication technology can be applied in this situation to enhance information access, search, combination, connection, customization, reuse, or analysis.
- *Stakeholder relationships:* An integrated report should shed light on the nature and quality of the organization's interactions with its major stakeholders, including how well it recognises, and addresses these stakeholders' legitimate demands and interests.
- *Materiality:* Information about issues that materially impact an organization's capacity to generate value over the short, medium, and long terms should be disclosed in an integrated report. Identifying relevant matters based on their capacity to influence value creation, assessing the importance of relevant matters in terms of their known or potential impact on value creation, prioritising matters based on their relative importance, and deciding what information to disclose about material matters are all part of the materiality determination process for the purpose of preparing and presenting an integrated report.

- *Conciseness:* An integrated report needs to be concise. Without being overburdened with less pertinent information, an integrated report provides enough context to comprehend the organization's strategy, governance, performance, and prospects. In its integrated report, the organisation aims to strike a balance between conciseness and the other Guiding Principles, especially completeness and comparability. An integrated report strives for clarity by using the materiality determination process, adhering to a logical structure, and including internal cross-references when necessary to avoid repetition. It also favours plain language over the use of jargon or highly technical terminology and stays away from disclosures that are overly general.
- *Reliability and completeness:* An integrated report needs to be accurate and balanced in its presentation of all relevant information, both good and bad. Information's balance and lack of major inaccuracy have an impact on how reliable it is. Mechanisms include strong internal control and reporting systems, stakeholder participation, internal audit or equivalent duties, and independent, external assurance help to increase reliability (also known as faithful representation).
- *Consistency and comparability:* An integrated report should present data in a way that allows for comparison with other companies to the extent that doing so is relevant to the organization's ability to sustainably produce value.

Content Elements: The integrated report that an organisation produces will contain information specific to that organisation. As a result, rather than being presented as a list of precise disclosures, the Content Elements are expressed as questions. In light of this, it is necessary to use discretion when adopting the Guiding Principles to choose what information is published and how it is reported.

Organizational overview and external environment: An integrated report describes the organization's goals, objectives, vision and offers crucial context by mentioning things like:

- The company's culture, ethics, and values; ownership and operating structure; primary activities and markets; competitive landscape and market positioning (taking into account elements like the threat of new competition and substitute products or services; the bargaining power of customers and suppliers; and the intensity of competitive rivalry); position within the value chain; and important quantitative data like number of employees, revenue, and number of countries in which the organization operates.
- External environment: Aspects of the legal, commercial, social, environmental, and political context are significant external environmental elements that have an impact on an organization's potential to generate value in the short, medium, or long term. These may have a direct or indirect impact on the company.

- *Governance*: The ability of the company to create value over the short, medium, and long terms should be addressed in an integrated report. An integrated report offers insight into the connections between the following issues and its capacity to add value: the leadership structure of the organisation, including the qualifications and diversity of those in charge of governance as well as whether regulatory requirements have an impact on the design of the governance structure; specific procedures used to make strategic decisions as well as to establish and monitor the organization's culture, including its risk-taking behaviour and mechanisms for resolving integrity and ethical issues; how the organization's culture, ethics, and values are reflected in its use of and effects on capitals, including its relationships with key stakeholders; whether the organisation is implementing governance practises that exceed legal requirements; the responsibility of those responsible for governance take for promoting and enabling innovation; and how compensation and incentives are linked to value creation in the short, medium, and long-term, including how they are linked with key stakeholders.

- *Business model*: An integrated report should provide a response for what is the organization's business model. The mechanism used by an organisation to convert inputs into outputs and results that are intended to accomplish its strategic goals and add value over the short, medium, and long terms is known as its business model. The business model is described in an integrated report along with important inputs, business operations, outputs, and outcomes.
- *Risks and opportunities*: What are the unique risks and opportunities that have an impact on the organization's capacity to generate value over the short, medium, and long terms, and how is the organisation addressing them? should be the subject of an integrated report. An integrated report analyses the main opportunities and risks that are unique to the organisation, including those that are connected to how the organisation will affect the short-, medium-, and long-term availability, quality, and cost of important capitals.
- *Strategy and resource allocation*: Where the organisation wants to go and how it plans to get there should be covered in an integrated report. An integrated report typically outlines the organization's short, medium, and long-term strategic objectives, the strategies it has in place or plans to implement to meet those objectives, the resource allocation plans it has in place to carry out its strategy, and the metrics it will use to track progress towards its short, medium, and long-term goals.
- *Performance*: An integrated report should answer the question: How well did the organisation do in achieving its short-term strategic goals and what were the results in terms of their impact on the capitals? An integrated report includes both qualitative and quantitative performance data, which may cover topics like: quantitative indicators with regard to targets, risks, and opportunities, explaining their significance, their implications, and the methods and assumptions used in compiling them; the

organization's effects (both positive and negative) on the capitals, including material effects on capitals up and down the value chain; the state of key stakeholder relations;

- *Outlook*: What challenges and uncertainty is the organisation likely to face as it implements its plan, and what potential repercussions would this have for its operating structure and performance. An integrated report highlights anticipated changes over time and offers information, based on reliable and transparent analysis, about the organization's expectations about the external environment it is likely to encounter in the short, medium, and long-term, how that will affect the organisation, and how the organisation is currently equipped to respond to the serious challenges that may arise.

2.3.3 VALUE REPORTING FOUNDATION

In November 2020, the IIRC and SASB announced they would merge to form the Value Reporting Foundation (hereafter VRF).[17] A worldwide non-profit organisation called VRF provides a full range of services to help investors and company owners better understand enterprise value. It is possible to employ the SASB Standards, Integrated Thinking Principles, and Integrated Reporting Framework individually or jointly, depending on business needs.[18] Given the current senario, the Integrated Reporting Framework was taken over by the IFRS Foundation as of August 2022. The International Sustainability Standards Board (ISSB) and the International Accounting Standards Board (IASB) of the IFRS Foundation will collaborate to reach a consensus on how to enhance and incorporate the Integrated Reporting Framework into respective standard-setting initiatives and needs. The Chairs of the IASB and ISSB as well as the IFRS Foundation strongly support preparers' ongoing use of the Integrated Reporting Framework.[19]

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[17] https://www.integratedreporting.org/news/iirc-and-sasb-form-the-value-reporting-foundation-providing-comprehensive-suite-of-tools-to-assess-manage-and-communicate-value/

[18] https://www.valuereportingfoundation.org/ , accessed January 1st 2023.

[19] IFRS Foundation completes consolidation with Value Reporting Foundation; https://www.ifrs.org/news-and-events/news/2022/08/ifrs-foundation-completes-consolidation-with-value-reporting-foundation/

CHAPTER 3: LITERATURE REVIEW, RESEARCH GAP AND OBJECTIVES OF THE STUDY

The first publication about integrated reporting was in June 2005, by Allen White, one of the co-founders of the Global Reporting Initiative (GRI), where he had observed integrated reporting as the future of corporate reporting. He begins by claiming that "A quiet renaissance in corporate reporting is gradually transforming its purpose, content and readership."[20] He rightly described integrated reporting as "embryonic" at the time in contrast to sustainability reporting which he refers to as being in the "pre-adolescence" stage since by then over 2,000 companies were producing sustainability reports, albeit by various names. While most discussions were focused on sustainability reporting, White saw IR as the future of corporate reporting. Most of his focus is on the information function, but there is some discussion on how an integrated report enables a company to transform itself since "cross-functional collaboration and learning triggers conversations that otherwise would not occur, insights that would not otherwise surface, and innovations that would not otherwise materialize."[21]

3.1 THEMATIC REPRESENTATION OF THE LITERATURE REVIEW

Research on integrated reporting can be divided into three categories:

1) Conceptual Research
2) Case Study based Research
3) Firm Characteristics based Research

3.1.1 CONCEPTUAL RESEARCH ON INTEGRATED REPORTING

Firstly, we have conceptual research papers that focuses on the history, framework, content, advantages, difficulties, and value relevance of integrated reporting.

[20] "New Wine, New Bottles: The Rise of Non-Financial Reporting," A Business Brief for Business for Social Responsibility by Allen L. White, June 20, 2005.
[21] Ibid., p. 4.

The term "conceptual research" refers to a methodology in which research is carried out by observing and evaluating material that is already available on a particular issue. Doing real-world trials is not part of conceptual research. It is associated with intangible ideas or concepts. For centuries, philosophers have employed conceptual investigation to create original theories or reframe old ones.

Eccles and Krzus (2010) according to their study, the development in management information systems and control procedures connected to the sustainability data has resulted from integrated reporting, which has increased the credibility and accuracy of sustainability information.

Eccles & Serafeim (2011) this study introduces the idea of integrated reporting by giving a brief history of its development. It then reviews the current state of its application and presents a plan for institutional change that would hasten the adoption of integrated reporting. The study ends by urging readers to institute an institutional change.

Dragu &Tudor (2013) argued in their study that the political, cultural, and economic elements are the emerging determinants of the voluntary adoption of an integrated reporting system. Their institutional theory-based study design included a content analysis of the reports produced by the firms participating in the IIRC pilot programme. This study was created to look into whether there was any connection between the institutional theory's suggested external political, cultural, and economic elements and the voluntary adoption of integrated reporting. The results demonstrate that factors such as politics, culture, and the economy have an impact on when integrated reports are released.

Athma & Laxmi (2013) in their study, the authors discussed how India's Sustainability Reports present data on non-financial issues related to the environment, governance, and social performance. They continued by outlining the idea of integrated reporting, which combines sustainability and financial data into a single document to convey a complete view of the

organization. The goal of this study was to raise knowledge of integrated reporting and its value as a better investor-company communication tool, which would improve the company's reputation and long-term viability of the enterprise.

Abeysekera (2013) this research study sought to present a template for integrated reporting in businesses and provides an overview of the integrated reporting idea. As stated in the study's conclusion, the integrated report should describe how the organization's values, management, and governance worked together to achieve its vision while utilizing various types of resources, including financial capital, intellectual capital, social capital, and environmental capital. The study concludes by suggesting an integrated reporting framework and offering an illustration of a template that can be applied in businesses.

Ioana & Adriana (2013) in their study they gave a very brief history of integrated reporting in their study. It notes the advent of non-financial reporting initiatives, the sustainability era, and contemporary integrated reports as the three stages in the growth of the integrated report. Although the paper does not mention specific areas for further research, it suggests how global reporting standards can promote the creation of excellent integrated reports.

DeVilliers, Rinaldi & Unerman (2014) in their paper, the authors made an effort to analyze and incorporate the findings from accounting and accountability research into the quickly developing subject of integrated reporting and offer a thorough research agenda for the future. They came to the conclusion that early developments in the practice of integrated reporting are occurring quickly. They added that there are currently theoretical and empirical difficulties as a result of the various interpretations and implementations of integrated reporting that exist within institutions. The article also identifies a number of areas in which more thorough academic research is required to inform future policy and practice changes.

Humphrey, O'Dwyer & Unerman (2014) this research looked at the development of integrated reporting. The International Integrated Reporting Council (IIRC) attempted to institutionalize this reporting practice as essential to the long-term value and relevance of corporate reporting, as well as to the preservation of social well-being and the long-term viability of businesses, are examined in this paper. By examining the relationship between conceptualizations of enlightened corporate reporting and enlightened investing behavior, number of significant potential and difficulties for both theoretical and practical development were identified.

Cheng, Green, Conradie, Konishi & Romi (2014) their study's key objectives, which they outlined in their article, were rather simple. Introduction of the integrated reporting concept as defined by the International Integrated Reporting Council was the study's initial goal (IIRC). The history of the concept's development during the course of the IIRC's four-year existence, beginning in 2010, is given. The IIRC's release of a Consultation Draft (CD) of the integrated reporting framework in March 2013 is the culmination of this history. Second, the paper outlines significant problems that are now under discussion in relation to the Consultation Draft and that the IIRC will need to settle before the anticipated publication of their Integrated Reporting framework in late 2013. This discussion is based on problems that a group of international accounting academics from the International Association for Accounting Education and Research (IAAER) subcommittee identified and reported to the IIRC. In its final section, the article identifies a variety of prospective research topics connected to the creation and application of integrated reporting.

Thiagarajan & Baul (2014) in this paper wanted to provide an integrative and comprehensive summary on both the theoretical and empirical underpinnings as well as to focus readers on the important issues affecting the understanding and application of value reporting and integrated reporting. They concluded by stating that value reporting and integrated reporting have a

holistic approach. Application and performance of all the resources are reported through an integrated report which would be very beneficial for the stakeholders.

Ioana & Adriana (2014) in their study began by defining integrated reporting as the incorporation of sustainability and CSR data into the annual report. They then discussed how integrated reporting emerged from non-financial reporting methods and socio-environmental literature, both in theory and in practise. They also examined various methodological approaches for evaluating the formation of integrated reports in addition to the key foundational theories that underpin integrated reporting research. They demonstrated in their study how the major theories that pertain to the background of integrated reporting are actually interconnected, ranging from the institutional and legitimacy approach to the adoption and diffusion of integrated reporting practises or shareholders versus stakeholder theories. Descriptive/empirical research, comparative/content analyses, or field studies like interviews and questionnaires, they found, can all help advance our understanding of the literature on IR.

Bavagnoli, Comoli, Gelmini & Riva (2014) conducted this study with the new idea of Integrated Reporting to look at the relationship between materiality and conciseness, two of the primary guiding principles of Integrated Reporting. Both principles must be balanced for integrated reporting to be effective and beneficial. A theoretical and empirical analysis of the relationship between materiality and conciseness revealed that they have a significant and advantageous impact on integrated reporting.

Villiers (2014) in this study initially explained integrated reporting as a method for sustainable development. The study suggests increasing the participation of stakeholders, NGOs, and civil society in the creation of the integrated reporting system. The study suggests that a suitable assurance system is needed as a conclusion.

Flower (2015) examined the International Integrated Reporting Council's four-year history from its founding in 2010. The research report reveals that the IIRC's primary goal was to advance sustainability accounting. The report makes the claim that the IIRC has given up on sustainability accounting in the Framework. This conclusion is based on two arguments: first, the IIRC's definition of value is "value for investors," not "value for society;" second, the IIRC does not require businesses to report harm caused to external entities (such the environment) when there is no ensuing effect on the business. The paper also outlines the IIRC's proposals lack the necessary impetus to significantly alter corporate reporting practices.

Adams (2015) in their study to further integration of sustainability activities and impacts into corporate strategic planning and decision-making, analyses integrated reporting and its potential to alter corporate actors' perspectives. In order to ensure that this promise is realized, this study also urges academics to participate in the process and to contribute to the creation of new types of accountings.

Eccles & Spiesshofer (2015) this paper observed that corporate and financial reporting is an essential element of capitalism which is too short-term oriented and rewards companies for creating negative externalities. It was stated that as integrated reporting is concentrated on the significant issues that have an impact on a company's capacity to generate value over the short, medium, and long terms, it can play a significant role in changing this. This study concluded by stating that each country must take its own path to integrated reporting.

Havlováa (2015) focused on the early adopters of integrated reporting and the main aim of this paper was to investigate how the reporting changed since the adoption of Integrated Reporting. Also, they conducted research to determine the advantages of adopting integrated reporting and how it alters reporting practises. Finally, the study shows that the use of integrated reporting

has increased the use of information technology. Based on this, the article claimed that the use of information technology and the volume and scope of disclosures are altered by IR.

Demirel & Erol (2016) their investigation focused on how corporate reporting and integrated reporting have evolved. The authors made an effort to explain the foundational ideas, theoretical context, and development process of integrated reporting. According to the study's findings, integrated reporting was favored by most large organizations in 2012. The survey also showed that integrated reporting is produced in the European region and that the financial services industry is the industry that publishes integrated reports most frequently.

Lozano & Valencia (2016) in their research aimed to comprehend the current situation regarding the level of attention given to the Integrated Reporting principles in the industrial companies that had embraced this effort in their communications regarding the creation of a sustainable environment. The findings demonstrate that the investigated organisations still have a way to go in addressing the guiding principles, particularly with regard to the principle of "conciseness," despite their efforts. Also, it has been established that the companies under study were not affected by the level of attention paid to the adoption of this form of reporting.

Perego, Kennedy, & Whiteman (2016) in their study used a qualitative methodology to achieve its two goals. In order to compile existing knowledge, the study offers a review of the early academic literature in the area of integrated reporting. The study also offers the sense-making methods of three important experts who have an impact on integrated reporting practices at the worldwide level using semi-structured interviews, filling a gap in the literature on managerial perspectives of integrated reporting. Experts think that the industry is fragmented and that most businesses now have a limited understanding of the economic benefits of IR.

Dumay, Bernardi & Demartini (2016) in order to get insight into how integrated reporting research is progressing, this study explores the field of integrated reporting. This study also provides a critique of earlier studies and discusses potential areas for future investigation. The key conclusions of this study were that there is little research analyzing integrated reporting practice and that most published integrated reporting research gives normative justifications for integrated reporting. The paper concluded by recommending that, to define how integrated reporting research might evolve, analogies be made from intellectual capital research, which outlines four distinct research stages.

Zhou, Simnett & Green (2016) by examining the Johannesburg Stock Exchange's Integrated Reporting listing requirements, conducted research on the advantages of Integrated Reporting disclosures. This study came to the conclusion that, as the degree of alignment with the Integrated Reporting framework improves, the analysts' forecast error and dispersion decrease.

Melloni, Caglio & Perego (2017) wanted to examine an array of performance criteria to learn more about what makes integrated reporting simple, complete, and balanced. They studied a sample of the early adopters of integrated reporting and found that the Integrated Report tends to be less succinct and more upbeat when a company has poor financial performance. Additionally, they discover that companies with poorer social performance deliver reports that are less clear and contain fewer data on their sustainability performance.

Rupley, Brown & Marshall (2017) highlighted both integrated reporting and corporate social responsibility reporting in their analysis. They also discussed about what integrated reporting is and how widely it has been adopted in the United States of America. They drew attention to the fact that while economic and social success metrics are covered in the integrated reports, governance is not given much attention. Their additional investigation revealed that the evaluated Integrated Reports did not offer the information that investors were most interested

in (i.e. market share, executive compensation, and product safety). Also, this study offered a baseline for regulators and businesses drafting Integrated Reports.

De- Villiers & Sharma (2017) in their study, the authors made an effort to look into the future of reporting on intellectual capital by offering a critical analysis of the various reporting formats with an emphasis on integrated reporting. They sought to comprehend and evaluate how intellectual capital would be reported in the International Integrated Reporting Council, the Global Reporting Initiative framework for corporate social responsibility disclosures, and the other numerous financial reporting regulators that appear to be vying for supremacy. They came to the conclusion that IR will probably not replace conventional financial statement reporting and won't be able to give all the data currently reported in GRI-style reports.

Romolini, Fissi & Gori (2017) examined studies of integrated reporting that have been done to date, indicating points of analysis and outlining potential directions for advancement. Utilizing three of the most important databases for scientific publications—Science Direct, Ebsco, and Scopus—as well as the Google Scholar research engine, the exploratory study examines the dynamics of IR studies and the dissemination of those studies from the time the concept first appeared to the present. The data reveals that interest in integrated reporting skyrocketed starting in 2013 and that most current research employs qualitative methods. The article also offers some potential directions for future integrated reporting research. This essay offers the first thorough examination of contemporary literature on integrated reporting. The findings serve as a helpful platform for academics to consider potential directions for future research and to create a theoretical framework for integrated reporting.

Sunder (2017) proposes a theoretical justification and framework for Integrated Financial Reporting (IFR) for both commercial and non-business groups, which would expand or augment the current versions of financial reporting in different countries. The study's

conclusion noted that an integrated reporting system would provide better information for macroeconomic, governmental, and corporate decision-making.

Basu (2022) observed the need for convergence of the diversified practices in Sustainability Reporting Practices. They considered all the present practices of sustainability reports from all over and concluded by stating that we need to adopt a unified and globally accepted sustainability reporting practices.

Serpeninova (2022) attempted to enlist the most published works on IR. The Scopus, Web of Science, and Google Scholar databases were used to sort publications based on the use of the keywords "integrated reporting" in article titles, abstracts, and keywords. By clustering publications using the VOSviewer software and creating a bibliometric map of the publication based on the Scopus and Web of Science databases, systematic theme orientation of publications on integrated reporting by keywords is implemented. According to the analysis's findings, integrated reporting is a relatively recent scientific subfield that has been the subject of ongoing research for the past ten years. The most pertinent studies in the field of integrated reporting are those pertaining to the investigation of its quality, connection with the Sustainable Development Goals, formation of the value of the firm, etc. The chronological representation of the bibliometric landscape of publications in recent years demonstrates this.

Azmiyanti & Sukiswo (2022) examined the integrated reporting disclosure from a voluntary standpoint in their analysis of the IR framework. They looked for five related papers using various keywords, which they then reviewed. They made references to pieces that appeared in Emerald and Science Direct. In contrast to other countries, South Africa has a rule requiring integrated reporting and makes it essential to do so, according to this study. It was discovered that the highest aspect to be provided was an overview of organisations, risk, and opportunity, while the foundation of presentation and preparation was not fully disclosed. There are no

regulations for publishing integrated reporting, but according to a number of researchers they were able to use it to their advantage. The report's value is that it offers fresh perspective on the integration of financial and non-financial reporting. The study's findings were summarised by the assertion that numerous research studies must contribute to the development of regulations governing the publication of integrated reports, and that organisations may consider doing so in order to foster positive relationships with stakeholders and generate value.

Alatawi & Daud (2022) wanted to offer a taxonomy of the body of research on the connection between integrated reporting and financial performance of businesses. Through a variety of reputable journals published by Springer, Taylor & Francis, JSTOR, Wiley, Elsevier, Sage, and Emerald, they gathered published research articles on integrated reporting techniques. They looked over 110 study articles in all. The study connected to the examination of integrated reporting methods was primarily concentrated in rich countries as compared to developing countries, they discovered after thoroughly evaluating all the papers. There is no universally agreed direction of the association between integrated reporting and company performance because the outcome varies in different cultural and economic circumstances. Moreover, a little reduction in research studies over the past few years has been noted. By offering an exhaustive overview of the many types of research that have been conducted thus far in the field of IR and firm performance, this study makes a valuable contribution to the academic literature.

3.1.2 CASE STUDY BASED RESEARCH ON INTEGRATED REPORTING

Secondly, the internal and disclosure methods used by early adopters of integrated reporting were examined in the case study-based research. A case study is a type of research methodology that produces a thorough, multifaceted understanding of a complex problem in its actual setting. It is a well-known research strategy that is widely applied in a range of fields, especially the social sciences.

Azcárate, Carrasco & Fernández (2011) examined how integrated indicators used in sustainability reporting projects can show how businesses contribute to sustainable development. To determine which sustainability arguments in the entire collection of indicators were strong or weak, content analysis of the five major efforts was done. The results show that the activities under analysis raise a number of integrated indicators that point to managerial adoption of the notion of sustainable development.

Solomon & Maroun (2012) made an effort to investigate the new themes and reporting patterns from 2009 to 2011 in their paper. In order to find specific social, environmental, and ethical information in the integrated and annual reports of 10 major firms listed on the JSE, interpretive text analysis was used. Overall, the study concluded that a rise in SEE disclosures has been brought about by the implementation of King-III and the IRCSA's discussion paper on IR.

Stubbs, Higgins, Milne & Hems (2014) explained how businesses build value over time is the main goal of integrated reporting. The purpose of this study was to investigate Australia's adoption of integrated reporting. The IIRC's position was largely supported, and it was agreed that there were difficulties with the current corporate reporting regime. The purpose of this study was to determine whether Integrated Reporting is the answer to these issues. Finally, it was determined that Integrated Reporting has the potential to close the information gap between the information provided by enterprises and the information needed by financial capital providers to make investment decisions.

Eccles & Serafeim (2014) in their study, the authors discussed the two main purposes of corporate reporting (information and transformation), as well as the reasons why the existing siloed financial and sustainability reporting are unlikely to fulfil these purposes in an efficient manner. In their study, they also discussed the idea of integrated reporting and the reasons it would be a better method for carrying out these tasks. They concluded by stating that integrated

reporting is an attempt to complete both financial reporting and sustainability reporting, which are more focused on the information function and the transformation function, respectively.

Sulkowski & Waddock (2014) this study seeks to answer a few questions like whether greater disclosures are explicitly and specifically required or not, and they also wanted to find whether the basic principles of existing laws which already have a great amount of disclosure, would gain from greater and more explicit guidance from legislators or regulators. The study also includes information on the existing requirements of investors and recent market trends, as well as information on the history, state, motivations, and implications of sustainability reporting and regulation-by-disclosure. It also discusses the meaning of "materiality" as it relates to U.S. securities laws and regulations, as well as the necessity for corporations to make pertinent information publicly available for investors' benefit. In its final section, the report makes suggestions for legislators, managers, lawyers, and accountants.

Hao (2014) discusses the impact of integrated reporting at the firm level. The growth of integrated reporting in Canada is also shown, along with how corporate practitioners and non-corporate practitioners view the practice. According to the research, the Canadian business sector has not fully equipped itself with the necessary skills, perspectives, and resources to adopt a more integrated corporate reporting model. Whether or not company executives choose to use Integrated Reporting, the research concludes that a more integrated corporate governance strategy should be adopted. Overall, the report offers a number of recommendations for corporate directors to advance the integration process.

Dhingra, Singh & Magu (2014) wanted to address the various shortcomings of the present financial reporting and sustainability reporting, their study focused on identifying the disclosures necessary if integrated reporting is adopted. This paper, more importantly, wanted to examine if Integrated Reporting could be successfully adopted in India as compared to other

countries like South Africa and countries in Europe and also to study the need and viability of Integrated Reporting in India. The study revealed that a new form of reporting is required that would have information regarding the ecological footprints of operations, Economic, Social, and Environmental impact. The research paper further suggested the incorporation of Environmental, Social & Governance (ESG) issues and Sustainability into the core strategy of business would help in making a better study on the topic.

Raju (2015) in this study, looked at the Tata Steel Company Ltd.'s integrated reporting methods. An extensive analysis of Tata Steel's organisational overview, including its business model, operating contexts, risks and opportunities, strategic objectives and strategies, governance, performance, and outlook, led to the conclusion that every business should adopt integrated reporting practises to project both financial and non-financial information that is helpful to stakeholders, investors, policymakers, government banks, and financial institutions.

Lee & Yeo (2015) observed at the relationship between Integrated Reporting and firm valuation in their paper. They conducted their research by selecting a sample of South African listed companies, after which they looked at the relationship between cross-sectional variation in Integrated Reporting disclosures and business valuation in the years following its introduction. The study's findings revealed that integrated reporting disclosures are favorably correlated with corporate valuation. This finding indicated that, generally speaking, integrated reporting is more advantageous than it is expensive. They also expected that in businesses with complex operating and informational environments, integrated reporting will lower information processing costs.

Oprisor (2015) this study was done to give information on the subject of auditing integrated reports in the form of a literature review and to identify the key steps that must be completed to give the topic a clear perspective. The main findings demonstrate that it is challenging to

achieve a high or reasonable level of assurance in the case of integrated reports due to the absence of audit regulations, the characteristics of integrated reports that are company-specific, and key performance indicators for non-financial information. The author proposed collaboration between the IIRC and other standard setters, preferably in the field of audit, as a remedy because it was viewed as the best approach to get around the challenges and provide usable audit procedures.

UshaKiran & Goud (2015) they aimed to examine and analyze the necessity for integrated reporting in banks in their study. They came to the conclusion that before beginning the integrated reporting agenda, Indian Banks should adopt and build a strong reporting methodology for identifying material issues and target audience. They also stressed the need for Indian banks to transition from limited or partial integration to full integration.

Martinez (2016) examined the connection between information asymmetry and the South African Integrated Reporting system. Two major contributions are made by this paper. Firstly, it disproves a claim made by earlier writers about the potential impact of integrated reporting on information asymmetry. Secondly, it offers a potential justification for variations in the degree of conformity to the Integrated Reporting framework.

Kurochkina, Shuvalova, & Novozhilova (2016) wanted to promote transparency, openness, and conformity of their reporting with the international norms. Thus, the authors of the study sought information about integrated reporting of transport and communication firms. The integrated reporting idea has been studied in the context of creating a sustainable business, and the findings are presented in this paper. There are still unresolved concerns associated with the ambiguity and variety of the methodologies used to calculate valuation, despite the active debate of valuation-related issues in scholarly literature. In this regard, the article offers a proposal for the information-block construction of an integrated reporting that synergistically

links three fundamental perspectives: the intrinsic value of a firm; the value embodied in the capitals' value and changes therein; and the created value that is influenced by stakeholders.

Bal & Dhal (2020) examined many research articles to assess the progress in research in the area of IR. They then analyzed the data of 12 companies in 6 sectors to analyze the value creation process in the six capitals. They concluded by saying that human capital, social and relationship capital and financial capital fared better compared to the other capitals.

Kurniawati (2022) this study intends to ascertain the impact of implementing integrated reporting features on the reporting of approximately 45 businesses that were listed on the Indonesia Stock Exchange in 2018 on company value in the years following their implementation. Measurement of integrated reporting element disclosure using 2013 International Integrated Reporting Committee content elements via annual reports, sustainability reports, and information on the business website, the content part of integrated reporting is identified. 34 companies were chosen as the purposive sampling method was used to choose the samples for this study. The findings indicated that the incorporation of integrated reporting components into corporate reporting had an impact on the rise in company value during the post-implementation period. The company value variable (Tobin's Q) can be explained by the disclosure of the integrated reporting element by 38.2%, while the remaining 61.8% is explained by other factors, according to the study's coefficient of determination, which has a value of 38.2%.

3.1.3 FIRM CHARACTERISTICS BASED RESEARCH ON INTEGRATED REPORTING

Thirdly, we have research on integrated reporting and firm characteristics.

Aceituno, Ariza & Sanchez (2013) studied how the legal system, one of the most significant institutional elements, affected the creation of integrated reports. A logit methodology was used

to analyse the panel data after 750 worldwide enterprises from the years 2008 to 2010 were selected as a sample. The findings demonstrate that businesses are more likely to produce and distribute a wide variety of integrated reports when they are situated in nations with civil law systems and high indices of law and order. A few suggestions were made, including the possibility of establishing national laws and protection mechanisms to encourage and guarantee comprehensive transparency and the requirement that managers be able to choose the best disclosure practices within the constraints of their own legal systems in order to maximize the benefits of their choices.

Lyons (2013) concentrated on dealing with problems like Integrated Thinking, Integrated Intelligence, Value Creation, and Value Preservation in Integrated Reporting. It was observed that with the recent financial crisis, the requirement for an improved corporate reporting framework approach, in order to safeguard stakeholders, is very much needed and that integrated reporting might be an answer to it.

Serafeim (2014) studied the relationship between integrated reporting and the build of a company's investor base. It was discovered that companies that used integrated reporting had an investor base that was more committed to the long term and contained fewer transitory investors. It was observed that the outcome applied more to businesses with great potential for expansion. Also, it was found that adopting Integrated Reporting practices is a result of investor action on environmental or social issues or widespread worries about a firm's influence on the environment or society. Also, it was observed that companies that report more details on the various forms of capital as outlined in the IIRC's Integrated Reporting Framework have an investor base that is more long-term oriented.

Hao (2014) discusses the impact of integrated reporting at the corporate level. The growth of integrated reporting in Canada is also shown, along with how corporate practitioners and non-

corporate practitioners view the practice. According to the research, the Canadian business sector has not fully equipped itself with the necessary skills, perspectives, and resources to adopt a more integrated corporate reporting model. Whether or not company executives choose to use Integrated Reporting, the research concludes that a more integrated corporate governance strategy should be adopted. Overall, the report offers a number of recommendations for corporate directors to advance the integration process.

Smith (2014) discusses the three pillars, that is, corporate governance, stakeholder engagement, and integrated financial reporting and how each one affects how a business manages its internal operations and engages with both internal and external stakeholders. The paper continues by discussing how these patterns collectively constitute a fundamental change in how business is conducted, reported on, and how firms engage with their environments. The study concludes by stating that these three pillars are interconnected by market demand and synergistic relationships, and they appear to have a big influence on how enterprises function and disclose their findings to other market participants.

Das (2015) through this study wanted to comprehend the current situation of corporate reporting globally and to review earlier research, to determine whether integrated reporting has an impact on business performance and, consequently, financial capital providers. According to the paper's research, integrated reporting has a long-term impact on both corporate performance and shareholder value.

Basu & Wats (2015) in their study aimed to comprehend and assess the function that integrated reporting plays in corporate reporting and the necessity of enterprise performance management systems. They also sought to see whether integrated reporting and enterprise performance management systems were related in any way. They concluded by suggesting that integrated reporting and enterprise performance management systems do in fact have a very strong

relationship. By giving external value investors a more thorough insight of possibilities and dangers from the perspectives of the economy, environment, and society at large, integrated reporting through enterprise performance management may be helpful.

Mio, Marco & Pauluzzo (2016) had conducted research to examine "Generali, an Italian insurance provider that internalized Integrated Reporting (IR) principles and produced an Internal Integrated Report (IIR)." They also intended to investigate whether and how management control system advancement could be achieved through the internal use of Integrated Reporting concepts (MCS). They discovered that by combining the literature on management control systems with integrated reporting, various factors that might eventually cause management control systems to evolve could be determined. They were able to compare "the hypothetical advantages gained from the literature with the real benefits derived from the Generali case thanks to the case study analysis of the Generali Internal Integrated Reporting."

Wilburn & Wilburn (2016) discuss the Volkswagen AG crisis which exposed a flaw in corporate social responsibility. This paper offers a brief explanation of the ethical and stakeholder theories that support corporate social responsibility, as well as the significance of CSR and consumer reactions to it. The study suggests that an integrated model may be the answer to standardizing what is meant by being socially responsible and ensuring that the consumers' belief in the significance of corporate social responsibility. This is because corporate social responsibility is becoming increasingly important.

Burke & Clark (2016) in their study, used the "transcripts of 19 unstructured panel interviews at a global symposium on the topic and addressed the business case for integrated reporting as well as the variety of difficulties a company may encounter when starting its integrated reporting journey." Interviewees shared their insights and advice on a variety of topics, including the advantages of integrated thinking, how to use the International Integrated

Reporting Council's framework most effectively, how to get high-quality data, who should read these types of reports, and the options for report assurance.

Pavlopoulos, Magnis & Iatridis (2017) in their paper, looked at the relationship between corporate governance practices and integrated reporting disclosure quality. They also conducted a study to determine the effect of the accounting data from Integrated Reporting on the degree of earnings quality and agency expenses. They used 82 worldwide firms sample for the years 2011 through 2015 as the basis for their analysis. They discovered a favorable correlation between corporate governance characteristics and the quality of IR disclosure.

Bhasin (2017) analyzed Integrated Reporting's rise. This study included an analysis of the "corporate integrated reports issued in 2013 and accessible on the International Integrated Reporting Council (IIRC) Emerging Examples Database". Information about the company, report information, and report content were examined in integrated reports. The results of this study show that early integrated reports were frequently lengthy, hadn't followed all the guiding principles, and had only covered four of the six indicated capitals. The study's ultimate recommendation is that, within the next five to ten years, integrated reporting of both financial and nonfinancial performance should be a necessity for all globally listed firms.

Maroun (2017) this study makes a first start towards addressing the question of how integrated reports could be the focus of a traditional assurance engagement despite their increasing importance as a channel for stakeholder communication. In order to conduct a thorough analysis of this matter, primary information was gathered through audio recordings of interviews. These interviews were then supplemented by existing professional assurance standards and three interpretive assurance models.

Iacuzzi, Garlatti, Fedele & Lombrano (2020) aimed to examine integrated reporting (IR) in reality and analyze the difficulties connected with its implementation in order to make the case for it and demonstrate its ability to bring about change in the public sector. Rather than a radical overhaul of current systems and procedures, IR might be seen as an incremental change. The analysis revealed that the University of Udine challenged and debated the IR approach before ultimately reconceiving and implementing its own version that better suited its strategic objectives, its intended audience, and its status as a public entity. This was due to the ambiguity, complexity, and inherent discrepancy between the IR concept and its operationalization.

From the Indian perspective, we observe that relatively little research has been done on the topic of integrated reporting. Since there are very few studies in the Indian context, our research will not only add to the body of knowledge but also deepen understanding of integrated reporting in the context of certain selected Indian enterprises.

From an academic perspective, there is a growing interest in Integrated Reporting and several papers have been presented at accounting conferences. At the same time, there is a small but growing number of articles published in academic journals. Therefore, Integrated Reporting can be considered as an emerging research topic and thus warranting further research.

Also, not much study has been done to know the extent of integration of financial and non-financial data in reporting by Indian Companies. And with SEBI's recent circular, where they are encouraging the top 500 BSE listed companies to consider Integrated Reporting, there is a need to analyse the various aspects of Integrated Reporting.[22]

3.2 RESEARCH GAP

India has made significant progress in corporate reporting and disclosures over the last few years. Transparency and a widening of business disclosures beyond traditional financial criteria

[22] https://www.sebi.gov.in/legal/circulars/feb-2017/integrated-reporting-by-listed-entities_34136.html

have been made possible by investor demands, society expectations, and the establishment of rules. The Securities and Exchange Board of India's (SEBI) 2017 circular encouraging the Top 500 companies to explore using the IR Framework for annual reporting was one important motivator. As a result, the IR Framework and its multi-capital reporting strategy have seen a surge in adoption. A few pioneering Indian businesses, like Tata Steel, Mahindra & Mahindra, Wipro, and Reliance Industries, started their IR journeys in 2017. Subsequently, in the year 2018, there was a significant increase with more than 30 companies having adopted the IR Framework.[23] Initial findings show that adopting integrated reporting has advantages for both the adopting companies and their stakeholders, particularly the investment community, like,

- Boards are taking charge of integrated reporting and taking the initiative to explain how value is created. Corporate governance, risk reporting, strategy is more closely related.
- Companies from diverse industries take into account and report on the use and impact of various capitals using quantitative indicators and narratives.
- Annual reports are more cohesive and demonstrate how the business model and strategies are producing value. Companies now disclose results for themselves and for their stakeholders, particularly on natural and social capitals, as a result of the multi-capital perspective.
- User engagement and presentation quality have improved because to infographics and web technology used effectively.

To minimize the reporting burden on businesses, national and international efforts to streamline reporting systems are necessary. The relevance and readability of the reports can be further improved by the effective use of materiality principles and the use of web technologies.

[23] https://www.integratedreporting.org/news/integrated-reporting-in-india-2019/

The challenge for rising, rapidly developing countries like India will be to aggressively expand their economies and invest in infrastructure, human capital, and education to match the ambitions of a growing middle class and millennial population. Understanding and influencing the trade-offs associated with declining forest cover, scarce water supplies, poor air quality, climatic vulnerability, and income disparity is also necessary. Therefore, this momentum "towards better reporting should continue to progress with more companies embracing the integrated thinking approach."[24]

The recent SEBI[25] circular also "seeks disclosures from listed entities on their performance against the principles of the 'National Guidelines on Responsible Business Conduct' and reporting (w.e.f. the financial year 2022-2023)." It mandates the filing of a compulsory report for the top 1,000 listed companies (by market capitalisation). However, in spite of the growing importance of IR, the lack of and the inconsistence in previous research on IR is a cause of concern. Further, studies in the Indian context are scanty. Limited research has been conducted on the extent of integration of financial and non-financial factors by Indian Companies.

Extant literature suggest that IR is an important tool in improving the understanding of the relationship between financial and non-financial factors that determine firm performance and of how it creates sustainable value in the longer term. However, the key concern here is the measuring and quantification of the IR parameters for use in an empirical study. Besides, there exists limited evidence on the association between IR and firm performance.

[24] https://www.integratedreporting.org/news/integrated-reporting-in-india-2019/

[25] "SEBI Circular (No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562, dated 10 May 2021) on Business responsibility and sustainability reporting by listed entities. Available at https://www.sebi.gov.in/legal/circulars/may-2021/business-responsibility-and-sustainability-reporting-by-listed-entities_50096.html"

3.3 OBJECTIVES OF THE STUDY

Even though integrated reporting has gained importance globally, there hasn't been much research done on the topic in India. These works are basically conceptual or case study based. There are others relating to company wise disclosure of the various elements (both content and capital) recommended by IIRC and also relating to the level of integration in India. An effective set of objectives gives our research focus and clarity to the reader, wherein the objectives indicate what is to be achieved and how will it be achieved.

Given the extant literature and the research gap thus identified, the present study will be concerned with the following objectives:

- To investigate the extent to which the companies in India are integrating financial and non-financial data in their reporting.
- To make a comparative analysis across private and public sector companies in India with respect to companies integrating financial and non-financial data in their reporting.
- To construct IR Index for different time periods across all companies and to differentiate the companies on that basis.
- To ascertain the factors emerging out of the parameters defined by IIRC in the context of integrated reporting.
- To find out the association between the various IR factors and firm performance.

CHAPTER 4: SAMPLE AND RESEARCH METHODOLOGY

Research methodology is a means for solving a problem in research in a systematic fashion and achieving the specified goals. It emphasizes how research is conducted, namely, the numerous techniques that are commonly used in investigating a research problem, as well as the rationale that underpins them.

An empirical and analytical study was undertaken for the financial years 2010-11 to 2019-20 to give us an overview about IR for the said period. Top five hundred most valuable companies were selected from the ET 500[26] list as on 2019-2020. From this total data set, banking companies were excluded owing to their accounting policies and practices being different. The final selected data set consisted of 403 companies to substantiate our first two objectives and 402 companies were selected to substantiate the next three objectives. The reason for eliminating the one company i.e. Rama Synthetics, was that enough relevant data could not be procured for the study. The study has been initiated by analysing company annual reports. "An integrated report is intended to be more than a summary of information in other communications (e.g., financial statements, a sustainability report, analyst calls, or on a website). It may be either a standalone report or it can be included as a distinguishable, prominent and accessible part of another report. In India IR normally has been made a part of the annual report and hence the company annual reports have been studied and analysed." Thus, we have derived our data from such an analysis with the help of a Longitudinal Qualitative Document Analysis, to be able to capture trends and the absolute IR levels of Indian companies for our sample period. Data was also collected from the Prowess database, which is widely used for firm-level research in India. (Bertrand et. al 2002).

[26] ET 500 is published by the Economic Times. "The annual edition of ET 500 ranks a list of investable companies with good fundamentals and future-ready business models. Available at https://economictimes.indiatimes.com/et500.cms"

We thus, firstly, constructed an IR Index comprising of 14 parameters. Thereafter, Factor analysis and Multiple Regression analysis were performed. The variables for factor analysis were obtained through Longitudinal Qualitative Document Analysis. Exploratory Factor Analysis (EFA) was applied for extraction of factors. Multiple Regression analysis was then performed in order to assess the impact of the factors so extracted on firm performance.

4.1 INTEGRATED REPORTING INDEX

The International Integrated Reporting Council (IIRC) was an international alliance of regulators, customers, companies, standard-setters, experts in accounting, researchers, and NGOs. This partnership agreed that the next stage in the development of corporate reporting is the communication of value creation, preservation, and erosion. To address this need and lay the groundwork for the future, the IIRC established the International Framework.

An integrated report's main objective is to describe to financial capital providers how a company builds, protects, or loses value over time. All parties interested in an organization's capacity to generate value over time, including employees, clients, suppliers, business partners, local communities, lawmakers, regulators, decision-makers, benefit from an integrated report.

The Framework follows a set of guiding principles. The goal is to achieve a suitable balance between flexibility and prescription that takes into account the wide range of particular circumstances of various companies while permitting a sufficient level of comparability across businesses to address pertinent information demands. It does, however, provide a minimal number of standards that must be followed before an integrated report can be regarded to be in compliance with the Framework. These requirements do not specify any specific key performance indicators, measurement techniques, or the disclosure of individual items. A standalone integrated report or one that is a distinct, visible, and easily available component of another report or communication may be created in response to current compliance needs.

The goal of integrated reporting is to increase the quality of information available to financial capital providers so that capital can be allocated more effectively and productively. Integrated reporting encourages a more unified and effective approach to corporate reporting. The long-term goal of the IIRC is to see integrated thinking become ingrained in common business practises in both the public and commercial sectors, made possible through integrated reporting being the standard for corporate reporting.

The Framework's objective is to lay out the guiding principles and content elements that direct an integrated report's overall content and to explain the fundamental ideas that support those principles and content elements. In order to evaluate the organization's capacity to generate value, the Framework specifies the data that should be included in an integrated report. It does not provide standards for issues like the effectiveness of a company's strategy or the degree of its performance. It's primarily developed for private profit-making businesses, but it can also be used by public sector and not-for-profit organisations with appropriate adjustments.

Pertaining to earliest studies on IR, the first publication by Allen White (2005), one of the co-founders of the GRI, observed IR as the "future of corporate reporting. Globally speaking studies on integrated reporting can be divided into three categories. First, we have the conceptual research papers emphasizing on its history, framework, content, benefits, challenges and its value relevance (Eccles and Krzus 2010; Loska 2011; Adams and Simnett 2011; Jensen and Berg 2012; Owen 2013; Abeysekera 2013; Ioana and Tiron-Tudor 2013; De Villiers et al. 2014; Cheng et al. 2014; Stubbs and Higgins 2014; Brown and Dillard 2014; Van Bommel 2014; Flower 2015; Adams 2015; Barker and Kasim 2016; Perego et al. 2016). Second, the in-depth examination of the internal and disclosure practises used by early adopters of integrated reporting was done through case study research (Higgins et al. 2014; Stubbs and Higgins 2014; Janeka et al. 2016). Third, finding the degree of compliance with guidelines is the goal of content analysis of integrated reports (Hindley and Buys 2012; Van Zyl 2013;

Maubane et al. 2014; Adams et al. 2016) and levels of integration (Gurvitsh and Sidorova 2012). Fourth, according to study on integrated reporting, business characteristics such as firm size and industry had an impact on how integrated reporting was implemented (Frías-Aceituno et al. 2013b; Sierra-García et al. 2015), financial performance (Dragu and Tiron-Tudor 2013a), the degree of ownership concentration and market coordination the intensity of market coordination and ownership concentration (Jensen and Berg 2012), corporate governance mechanisms (Frías-Aceituno et al. 2013b; Velte 2014), and country, political, and cultural factors (Eccles and Serafeim 2011; Jensen and Berg 2012; Dragu and Tiron-Tudor 2013b; Frías-Aceituno et al. 2013a; Garcia-Sánchez et al. 2013) and firm valuation (Lee and Yeo 2016). We found that relatively little research has been done on the topic of integrated reporting from an Indian perspective. For instance, we have Thiagarajan and Baul (2014) giving a thorough explanation and justification for the use of integrated reporting or value reporting, with a special emphasis on intellectual capital. In their 2015 study of integrated reporting among banks, Kiran and Goud discovered that most Indian banks only have limited integration, and that they should transition to full integration from limited or partial integration. Raju (2015) investigated the Tata Steel Company Ltd.'s integrated reporting procedures. In their 2013 paper, Athma and Laxmi came to the conclusion that raising awareness of integrated reporting and its value as a better tool for communication between businesses and investors would improve the company's reputation and long-term viability of the business." As a result, our research seeks to not only add to the body of knowledge, but to help deepen knowledge of integrated reporting with respect to particular Indian enterprises.

4.1.1 DATA SOURCE AND STUDY DESIGN

To provide an overview of integrated reporting for the financial years 2010–2020, an empirical and analytical study was conducted. The analysis of the company's annual reports served as the study's primary secondary source. In India, integrated reporting is typically requested to be

included in the annual report; as a result, the annual reports of many companies have been examined. The results of this analysis were then used to generate data for absolute integrated reporting levels of Indian companies for the ten-year period and to identify trends using longitudinal qualitative document analysis. According to Glaser and Strauss (1967), qualitative document analysis focused on understanding the organisation as well as how it was presented and defined the meanings, prominence, and theme of messages. For this investigation, four categories had been determined. Below is a detailed description of each category.

4.1.1.1 PRESENCE OF INTEGRATED REPORT CATEGORY - Understanding how an organisation creates value over time is essential for all stakeholders who have an interest in its capacity to do so, including employees, clients, suppliers, business partners, local communities, lawmakers, regulators, and investors. Via this category, we attempted to track whether integrated reports were present in the company's annual reports, which would help to analyse the importance placed by the companies explaining to stakeholders how an organisation develops value over time. We assigned the binary 1 if integrated report was present in the annual reports. Otherwise we assigned 0.

4.1.1.2 DISCLOSURE OF CONTENT ELEMENT CATEGORY - Through this category, we attempted to investigate whether the IIRC's specified content elements were present in the integrated report, if the company had issued one, and included it in the annual report, or whether they were present in the various annual report segments. "The various segments include a message from the chairman or CEO, the director's report, a letter to the shareholders, a letter from the CEO, CFO, or president, and management discussion and analysis. The content elements selected for this portion are: • Organizational overview and external environment • Governance • Business model • Risks • Opportunities • Strategy and resource allocation • Performance • Outlook." We assigned the binary 1 if the companies disclosed such elements otherwise 0.

4.1.1.3 DISCLOSURE OF CAPITAL CATEGORY - All organisations rely on different types of capital to succeed. These capitals serve as value reservoirs and, in one way or another, support the organization's business model. The activities of the organisation also result in the increase, decrease, or transformation of the capitals. "In the Integrated Reporting Framework, the six capitals mentioned are: • Financial capital. • Manufactured capital. • Intellectual capital. • Human capital. • Social and relationship capital. • Natural capital. Through this category, we have tried to observe the various capitals that the companies have disclosed." We assigned the binary 1 if the companies disclosed about such capitals otherwise 0.

4.1.1.4 EXTENT OF COMPLIANCE CATEGORY - We have made an effort to assess the degree of integration between the information revealed by the companies regarding the various content elements covered above and the types of capital specified by the IR framework. This data aids in determining an organization's capacity to produce value. In our study we have taken the 14 variables of disclosure. Since there are 14 variables of disclosure the maximum score for each sampled company will be 14. Thus, the maximum IRI score is "100" and the minimum score is "0". Hence a score of 100 or closer to it suggests higher compliance by the company and a score of "0" or closer to it suggests low compliance by the company. We then calculated the median score for each of the companies for all ten years.

$$IRI = (\sum di/n) \times 100 = TS$$

Where:

IRI = Integrated Reporting Index

di: 1 if item i is disclosed; 0 if item i is not disclosed

n = no of items = Maximum Score

TS = Total Score

We have then identified four main stages of compliance— companies with high compliance (Q4), companies with progressive compliance (Q3), companies with moderate compliance

(Q2) and companies with low compliance (Q1). We allocated the companies into quartiles, ranging from 0-25 to 76-100. Companies falling within the range of 0-25 are marked as ‘Q1’; Companies falling within the range of 26-50 are marked as ‘Q2’; Companies falling within the range of 51-75 are marked as ‘Q3’ and Companies falling within the range of 76-100 are marked as ‘Q4’.

4.1.1.5 SELECTION OF COMPANIES - The top 500 companies were chosen from the Economic Times' ET 500 list for the financial years 2018–2019 and 2019–2020. These companies were ranked on the basis of market capitalization. The common companies that had managed to maintain their rank and position within the list of "500 most valuable companies" for the two consecutive years were selected and from this the top 500 companies were taken into consideration for the study. Banks were excluded and thus we have considered 403 companies and that made up the final chosen data set. The stock price multiplied by the quantity of outstanding shares is known as market capitalization. This parameter was chosen to determine how companies are ranked because it shows us both the company's present and future possibilities. The companies were analysed on the basis of the study design specified above for the time period 2010–2020 i.e. ten years.

Looking a little more closely, all banks and financial institutions, namely 97 in number, have been excluded from the sample, since the accounting practices and policies adopted by them are different. Upon such exclusion the sample size stood at 403 companies, summing up to 4,030 firm years. We have a well-diversified dataset, constituting firms from 14 industry groups, namely 198 companies from the manufacturing, mining and extraction sectors, remaining 205 companies from the service sectors (made up of 42 engineering and construction, 29 software and consultancy, 28 diversified and others, 10 transport storage and warehouse, 12 retail sales, 9 television and picture, 25 healthcare, 4 hospitality, 8

telecommunication, 28 energy, 1 aviation, 1 wholesale based companies) and 8 Agro based companies.

4.1.1.6 VARIABLES USED FOR THE STUDY - For the purpose of this study fourteen independent variables and seven dependent variables have been considered, encompassing a combination of accounting-based performance metrics and market-based measurement examined with IR.

1) Organisational Overview and External Environment: The organization's goal and vision are identified in an integrated report, which also includes information on the organization's culture, ethics and values, ownership and operating structure, key activities and markets, competitive environment, market positioning, and place within value chain.

2) Governance: An integrated report offers insight into the leadership structure of the organisation, the workforce's skills and diversity, the specific processes used to establish and monitor the organization's culture, including its risk-taking behaviour and mechanisms for resolving integrity and ethical issues, the organization's culture, ethics, and values and how they affect the capitals employed, as well as how compensation and incentives are linked to value creation in the short, medium and long term.

3) Business Model: The process employed by a company to transform inputs into outputs and outcomes that are intended to accomplish its strategic goals and add value over the short, medium, and long terms is known as its business model.

4) Risk: An integrated report identifies the main risks, including those that involve how the organisation will affect the short, medium, and long-term availability, quality and cost of relevant capitals.

5) Opportunities: The key opportunities specific to the organisation are identified in an integrated report, including those that have to do with how the organisation will affect the short, medium, and long-term availability, quality and cost of relevant capitals.

6) Strategy and Resource Allocation: An integrated report identifies the organization's short, medium, and long-term strategic objectives, the strategies it has implemented or plans to implement to meet those objectives, the resource allocation plans it has in place to implement its strategy, and how it will measure success and target outcomes over the next three to five years.

7) Performance: An integrated report includes both qualitative and quantitative performance information, which may cover topics like: quantitative indicators with respect to targets, risks, and opportunities, explaining their significance, their implications, and the methods and assumptions used in compiling them; the organization's effects (both positive and negative) on the capitals, including material effects on capitals up and down the value chain; the state of key stakeholder relations; and other topics and how the organisation has responded to the legitimate needs and interests of important stakeholders, as well as the connections between past and present performance and between present performance and future plans.

8) Future Outlook: An integrated report typically highlights anticipated changes over time and provides information about the organization's expectations regarding the external environment the organisation is likely to face in the short, medium, and long terms, how that will affect the organisation, and whether the organisation is currently equipped to respond to the serious challenges and uncertainties that are likely to arise.

9) Financial Capital: The pool of funds that an organisation has access to is its financial capital. Both debt and equity financing are a part of this. Financial capital places more emphasis

on the source of money than on how it is used, which leads to the acquisition of manufactured and other types of capital.

10) Manufactured Capital: Equipment and tools used in manufacturing that are built by humans are referred to as manufactured capital. Although though they frequently appear in financial statements, manufactured capital possessed by an organisation is not financial capital. It depends on the flow of money in order for resources to be used to create it.

11) Intellectual Capital: With a close connection and dependence between investments in R&D, innovation, human resources, and external relationships, which can define the organization's competitive edge, intellectual capital is a crucial component of an organization's future earning potential.

12) Human Capital: It is based on a person's abilities as well as the knowledge, expertise, and experience of the company's staff. Management theorists, economists, and social theorists all frequently use the term "human capital."

13) Social and Relationship Capital: The strength/effectiveness of supply chain ties, community acceptability, government interactions, relationships with competitors, and customer loyalty are all aspects of social and relationship capital in a commercial setting relevant to integrated reporting. Building relationships is the only way for an organisation to retain its social licence to operate.

14) Natural Capital: Natural resources or environmental assets (such as soil, water, atmosphere, and ecosystems) that produce a stream of beneficial commodities or services both now and in the future can be referred to as natural capital.

With respect to the dependent variables, while both metrics provide information about a firm's performance, each has its own set of merits and drawbacks. Accounting-based indices tend to be backward looking in nature (Shan & McIver, 2011), implying that it can provide insight into

how a stock or market has reacted to a variety of different variables, from regular economic cycles to sudden, exogenous world events. In this situation, these accounting profit ratios are impacted by accounting practices and they stress on management outcome. Analysts review historical return data when trying to predict future returns or to estimate how a security might react to a particular situation. It also evaluates the firm's operating and financial effectiveness as an accounting-based measure (Klapper & Love, 2002). Furthermore, it indicates a corporation's potential to effectively use its assets in order to satisfy the interests of its shareholders. Market based measures, on the other hand tend to be forward looking and future oriented, indicating that management will be incentivized to adjust their shareholding based on their predictions for the firm's future performance, which will be based on market expectations (Ballesta and Meca, 2007). They are also are less susceptible to fabrication of earnings (Dechow, Sloan, & Sweeney, 1996). The following are the seven-dependant variable used for our study:

1) Market-to-Book Value ratio (PB) - It's basically a measure of a company's market value to its book value. Thus, it indicates how much each rupee of the book value as per the balance sheet is worth to the investors. This ratio, also known as price-to-book value, attempts to define a connection between the book values specified in the balance sheet and the stock's actual market price. Where the ratio is less than one, a simple examination will reveal undervaluation, and when it is greater than one, it implies overvaluation.

2) Price-Earnings Ratio (P/E): For the calculation of this ratio, analysts and investors can use earnings from various time frames; however, the most widely used variable is a company's earnings pertaining to the previous twelve months. It's often referred to as the price-to-earnings multiple. This ratio is a commonly used measure by analysts and investors all over the world. It denotes how much money an investor is willing to put into a single share of a firm for ₹ 1 of its earnings. As a result, a high P/E Ratio indicates that the firm

is either overvalued or on a rising trend. Another explanation of a high P/E ratio is that the company anticipates increased sales in the future, and analysts and investors have speculated on this, leading to a rise in its current stock prices. A low Price to Earnings Ratio, on the other hand, indicates stock undervaluation due to market risk, whether systematic or unsystematic. To interpret a low P/E ratio differently, it could also suggest that a business would underperform in the future, causing its stock prices to decline in the present.

3) Return on Capital Employed (ROCE): This is a financial ratio which can be used to evaluate the profitability and capital efficiency of a business. In other words, this ratio can be used to determine how well an organization generates income from its resources as it is invested. When evaluating a business for investment, financial analysts, stakeholders, and potential investors use the ROCE ratio, which is one among the several profitability ratios. It is basically the ratio between Earnings before Interest and Taxes to Capital Employed.

4) Return on Net Worth (RONW): It is a percentage representation of a company's total return divided by the shareholders' equity. The terms "return on net worth ratio" (RONW) and "return on equity ratio" are interchangeable (ROE). The ratio demonstrates how much profit a business makes using equity shareholders' capital. Hence, you can also call it a Return on Equity Ratio.[27] This ratio is quite helpful for comparing the profitability or annual return of a company to that of others in the same industry. Since it integrates the income statement and the balance sheet, wherein net income or profit after tax is compared to shareholders' equity/fund, ROE is a two-part ratio in its estimation. The overall return on equity capital is a measure of a company's ability to transform equity investments into profit. Put differently, it estimates the gains made from shareholders' equity for each rupee. A business that has a consistent and rising ROE across time is good at producing shareholder value because it

[27] https://www.stockmaniacs.net/return-on-net-worth-ratio-ronw/

recognizes how to reinvest its earnings strategically to boost productivity and profits. A diminishing ROE, on the other hand, may indicate that management is reinvesting capital in inadequate assets.

5) Debt-to-Equity Ratio (DE): A leverage ratio, also known as the "debt-equity ratio," "risk ratio," or "gearing," assesses the weight of overall debt and financial liabilities against total shareholders' equity. The denominator used in the computation of the D/E Ratio is taken as total equity, as opposed to the debt-assets ratio, where the denominator used is total asset. This ratio shows how a firm's capital structure is skewed toward debt or equity funding. A high debt-to-equity can be beneficial as it indicates that the debt obligations of a company can be comfortably serviced (via cash flow) while still leveraging returns from equity. The cost of debt being usually lower than the cost of equity is also seen as an advantage, so increasing the D/E ratio (up to a point) tend to reduce the weighted average cost of capital (WACC) of the given company. However, if there is an unprecedented rise in the debt-to-equity ratio, the cost of borrowing, as well as the cost of equity, will surge, and the company's WACC will spike, bringing down its share price.

6) Net Profit Margin: In earlier studies, it was frequently used as an explanatory variable in determining firm value. According to previous research, one of the best indicators of a company's potential to generate better rates of return in the future is its historical profit margin. As a result, it is reasonable to anticipate that profit margin will have a positive valuation impact. Thus, we use net profit margin in relation to net revenue of a firm, as an explanatory variable.

7) Return on Assets (ROA): It's among the profitability criteria that tests how well a company uses its assets to generate profits over a given time span. ROA, as an accounting-based indicator, also assesses the firm's operational and financial efficiency (Klapper & Love, 2002). The higher the ROA, the more effectively assets are utilized to benefit shareholders (Haniffa & Huduib, 2006). It also represents the ability of a corporation to efficiently utilize its

assets with respect to meeting the shareholders' interests (Ibrahim & AbdulSamad, 2011). Accounting-based performance metrics, according to Hutchinson and Gul (2004) and Mashayekhi and Bazazb (2008), shows the conclusions of management decisions and are therefore favoured over market-based measures. As a result, a good ROA performance means that an organization has achieved its anticipated performance (Nuryanah & Islam, 2011). A negative ROA result, on the other hand, suggests that the expected high performance was not achieved, necessitating a revision of plans to improve short-term performance. Investors (both domestic and international) lose money as a result of the sub-standard performance. If the organization intends to obtain a competitive advantage, it must revisit its objectives regularly.

Table 2 shows the independent and dependent variables used in the study.

Table 2: Variables used in the Study

VARIABLE	ABBREVIATION	DESCRIPTION
INDEPENDENT VARIABLES		
1. Organisational Overview and External Environment	ORGREV	Identifies the organization's mission and vision, organization's Culture, ethics and values, Ownership and operating structure, Principal activities and markets.
2. Business Model	BM	System of transforming inputs, through its business activities, into outputs.
3. Strategy and Resource Allocation	STRA	Identifies the organization's short, medium and long-term strategic objectives.
4. Governance	GOVERNAN	Insight into an organization's leadership structure, diversity of the workforce, specific processes used to make strategic decisions.
5. Performance	PERFORMANCE	Qualitative and Quantitative information about the firm's performance.
6. Risk	RISK	Identifies the key risks in the short, medium and long term.
7. Opportunities	OPPOR	Identifies the key opportunities in the short, medium and long term.
8. Future Outlook	OUTLOOK	Highlights anticipated changes over time and provides information about the organization's expectations
9. Financial Capital	FC	Pool of funds available to an organization.
10. Human Capital	HC	Knowledge, skills and experience of the company's employees.

11. Manufactured Capital	MC	Human-created, production-oriented equipment and tools.
12. Intellectual Capital	IC	Key element in an organization's future earning potential which can determine the organization's competitive advantage.
13. Natural Capital	NC	Stock of natural resources that provides a flow of useful goods or services, now and in the future.
14. Social and Relationship Capital	SC	Relationships established within and between group of stakeholders to enhance individual and collective well-being.
DEPENDENT VARIABLES		
1. Market Value to Book Value	PB	Measure of a company's market value to its book value.
2. Price-Earnings Ratio	PE	Denotes how much money an investor is willing to put into a single share of a firm for ₹ 1 of its earnings.
3. Return on Capital Employed	ROCE	Used to evaluate the profitability and capital efficiency of a business.
4. Return on Net Worth	RONW	Percentage representation of a company's total return divided by the shareholders' equity.
5. Debt-Equity Ratio	DE	Shows how a firm's capital structure is skewed toward debt or equity funding.
6. Net Profit Margin	NPM	Used as an explanatory variable in deciding firm value.
7. Return on Assets	ROA	Assesses the firm's operational and financial efficiency.

4.2 PRINCIPAL COMPONENT ANALYSIS

Further, we devised an alternative measure for evaluating the quality of firm-level IR using PCA. Identifying components or clusters of associated variables is the objective of PCA. Each component is made up of a set of factors that have a stronger correlation amongst themselves than with other variables that aren't part of that component. Instead of a conceptual premise or previous empirical substantiation, the factors are compiled depending on their statistical features. As a result, rather than employing equal or subjective weights as in index creation, here the scaling strategy is statistical. The fundamental factors of PCA are obtained through the correlation matrix's Eigen Value breakdown.

To study our fourth objective, we ran Factor Analysis, with PCA as the method used. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy (hereafter, KMO), is a measure of

whether distribution of values is adequate for conducting Factor Analysis. The range of the KMO statistic is 0 to 1. A score of 0 implies that the pattern of correlations has diffused, with the sum of partial correlations being large relative to the sum of correlations (hence, factor analysis is likely to be inappropriate). When the score is close to 1, it means that the patterns of correlations are generally compact, which means that factor analysis should provide distinct and reliable factors.

4.3 REGRESSION ANALYSIS

Regression analysis is a statistical method for connecting a dependent variable to one or more independent (explanatory) variables. A regression model can demonstrate whether variations in the dependent variable are related to variations in one or more explanatory variables. To substantiate our fifth objective, we employed Multiple Regression Analysis. The link between a single dependent variable and a number of independent variables can be examined using the statistical technique called multiple regression. Using known independent variables whose values can be used to predict the value of a single dependent value is the goal of multiple regression analysis. Each predictor value is given a weight, with the weights signifying their relative contribution to the overall prediction. The use of multiple regression analysis has made it possible to evaluate the degree of the relationship between a result (the dependent variable) and a number of predictor variables as well as the contribution of each predictor to the relationship, frequently with the effect of other predictors statistically eliminated. To test the robustness, we use the three factor scores so generated by PCA and keeping the seven ratios as the dependent variables, to capture firm performance, we ran Regression and tried to examine the impact of the above-mentioned factors on them. Seven models were developed to gauge the impact of independent variables on the firm's performance.

CHAPTER 5: DATA ANALYSIS AND INTERPRETATION

The technique of attributing meaning to the data obtained and finalizing the conclusions, relevance, and consequences of the findings is referred to as "data analysis and interpretation". However, reverting to the objective of the analysis, creating a pattern for the arrangement of the data and a direction for the analysis, the processes associated with data analysis, are a function of the nature of information obtained.

Thus, we have five objectives for our study, which are classified and explained distinctively.

5.1 EXTENT TO WHICH THE COMPANIES IN INDIA ARE INTEGRATING FINANCIAL AND NON-FINANCIAL DATA IN THEIR REPORTING.

To answer our first objective, Annual reports of the selected 403 companies for the years 2010-11 to 2019-20 from the ET survey have been studied carefully to calculate the disclosure score of reporting content elements and capitals.

For this purpose, we have divided the study into 3 parts. This was done to give us a clear picture of IR in India.

Thus, in this section of our study, we wanted to find out how many of the selected 403 publicly traded companies in India have published an IR. Along with this we also tried to find out how many companies have disclosed information regarding the various Content Elements and Capitals as mentioned by the IIRC.

5.1.1 COMPANIES THAT PUBLISH AN INTEGRATED REPORT AS MENTIONED BY IIRC

Integrated reporting is a management and communication tool which helps in understanding and measuring the organizations value now and in the future. The main objective of an

integrated report is not to provide more information, but to provide better information to the investors. Thus, a company in its integrated report needs to address the following areas:

- Organizational overview
- Governance
- Business model
- Risk and opportunities
- Strategy and resource allocation
- Performance
- Outlook

Organizations also mainly depend on the various forms of capital. They are:

- Financial Capital
- Human Capital
- Intellectual Capital
- Manufacturing Capital
- Natural Capital and Social and
- Relationship Capital.

These capitals are stores of value that become inputs to the organization's business model. They increase, decrease or transform through the activities of the organization.

Annual reports of the selected 403 companies for the years 2010-11 to 2019-20 from the ET survey have been studied carefully to calculate the disclosure score of reporting elements and capitals. The binary '1' is assigned for reporting and '0' for not reporting the elements and capitals for making a check list.

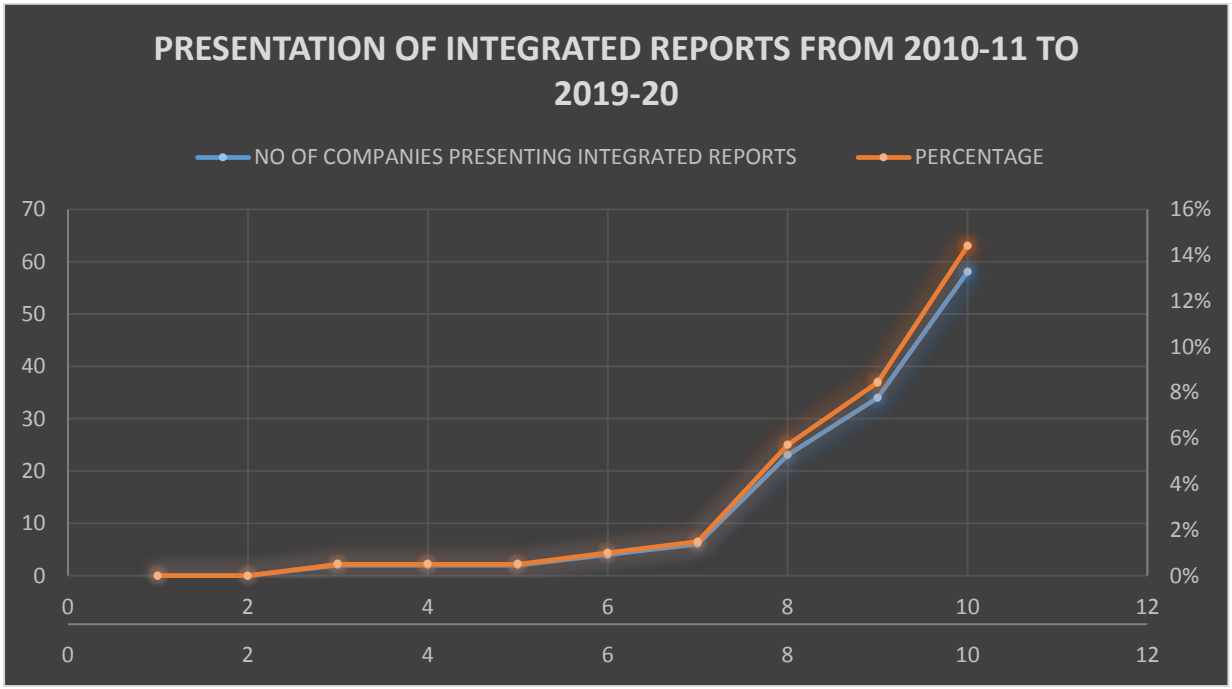
Thus, from our analysis we can see that, out of the 403 companies, none of the companies have included integrated reports in their annual reports in the year 2010-11 but slowly we see that it keeps increasing to 1% in 2015-16, to 6% in the year 2017-18, to 8% in the year 2018-19 and 14% in the year 2019-20.

The main aim of Integrated Reporting was to reduce the gap between current reporting and information needs of investors and other stakeholders. Table 3 and Figure 7 show the percentage of companies that have published an integrated report in their annual reports from the years 2010-11 to 2019-20.

Table 3: *List of companies publishing an Integrated Report according to IIRC for the years 2010-11 to 2019-20.*

YEAR	NO. OF COMPANIES PRESENTING INTEGRATED REPORTS	PERCENTAGE
2010-2011	0	0%
2011-2012	0	0%
2012-2013	2	0%
2013-2014	2	0%
2014-2015	2	0%
2015-2016	4	1%
2016-2017	6	1%
2017-2018	23	6%
2018-2019	34	8%
2019-2020	58	14%

Figure 7: *Presentation of percentage of companies publishing an Integrated Report for the years 2010-11 to 2019-20.*



5.1.2 DISCLOSURE OF CONTENT ELEMENTS

The Content Elements is the basis of preparation and presentation and General reporting guidelines of an Integrated Report and is an essential part of an Integrated Report. They are:

- Organizational overview and external environment,
- Governance,
- Business model,
- Risks and opportunities,
- Strategy and resource allocation,
- Performance,
- Outlook,

Annual reports of the selected 403 companies for the sampled years from the ET survey have been studied carefully to calculate the disclosure score of reporting elements. The binary '1' is assigned for reporting and '0' for not reporting the content elements for making a check list.

The table below shows the percentage of companies who disclose the different content elements in the years 2010-11 to 2019-20. For the data to be presented, we have compiled the presence and absence of the particular content element for the 403 companies studied.

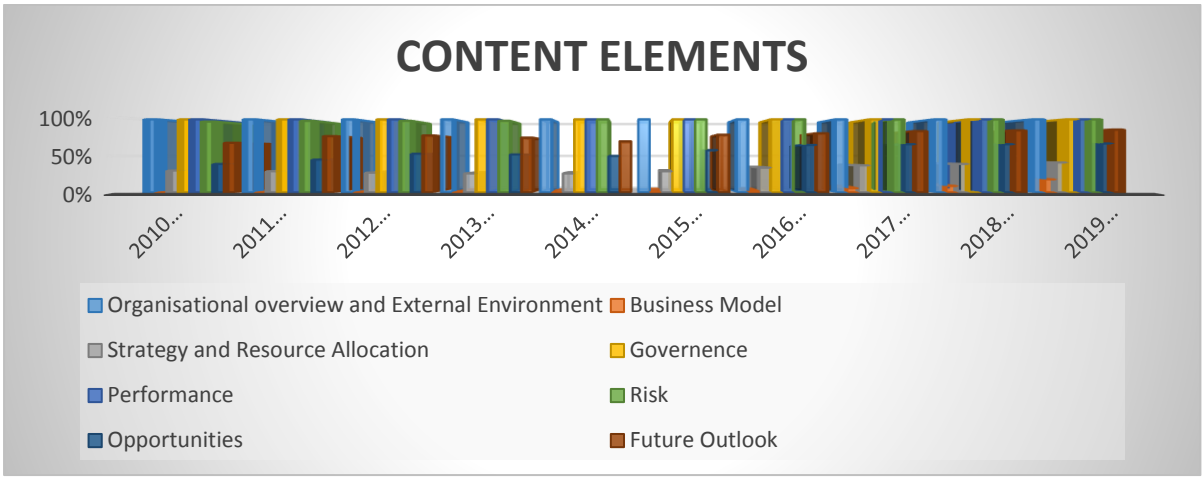
Table 4: Tabular presentation of percentage of companies disclosing various content elements for the years 2010-11 to 2019-20.

CONTENT ELEMENTS	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Organizational overview and External Environment	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Business Model	0%	0%	0%	0%	0%	1%	2%	6%	9%	18%
Strategy and Resource Allocation	30%	29%	27%	26%	26%	29%	34%	37%	39%	41%
Governance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Performance	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Risk	97%	98%	98%	98%	100%	100%	100%	100%	100%	100%
Opportunities	39%	45%	53%	52%	50%	58%	65%	66%	66%	67%
Outlook	68%	77%	78%	75%	70%	79%	81%	84%	85%	86%

From Table 4, we can see that all the 403 companies have disclosed information regarding their business overview, performance and their governance model.

The content element of Governance talks about the organization's leadership structure also including the skills and diversity i.e., the background, gender, competence and experience of those charged with governance. The main goal of Integrated Reporting is understanding value creation over time. In this respect, governance element shows how remuneration, incentives and proper functioning of the company are linked to value creation in the short, medium and long term, including how they are linked to the organization's use of and effects on the capitals and therefore to maintain stakeholders' interest in the company, it is seen that the companies focus on governance as an important content element of integrated reporting.

Figure 8: Percentage of companies disclosing various content elements for the years 2010-11 to 2019-20.



Another content element with 100% disclosure is Performance. It concentrates on stakeholder relationships and whether the organisation has been successful in meeting the stakeholder's needs and interests or not. So, it becomes very important for the company to present its performance report which mainly shows the link between past and current performance.

At the same time, it can also be noted that business model is presented by the least number of companies which basically includes key inputs, business activities, output and outcomes. It is

also to be noted that companies like Indian oil corporation, Airtel, ONGC, etc, still do not present its business model in their annual report. The reason could be related to the fact that any failure in the achievement of the stipulated growth can lead to the destruction of company's value created over the time and this will be a great setback for the company.

5.1.3 COMPANIES THAT DISCLOSE THE VARIOUS CAPITALS

For their success, organizations mainly depend on the various forms of capital. They are:

- Financial Capital,
- Human Capital,
- Intellectual Capital,
- Manufacturing Capital,
- Natural Capital and
- Social and Relationship Capital.

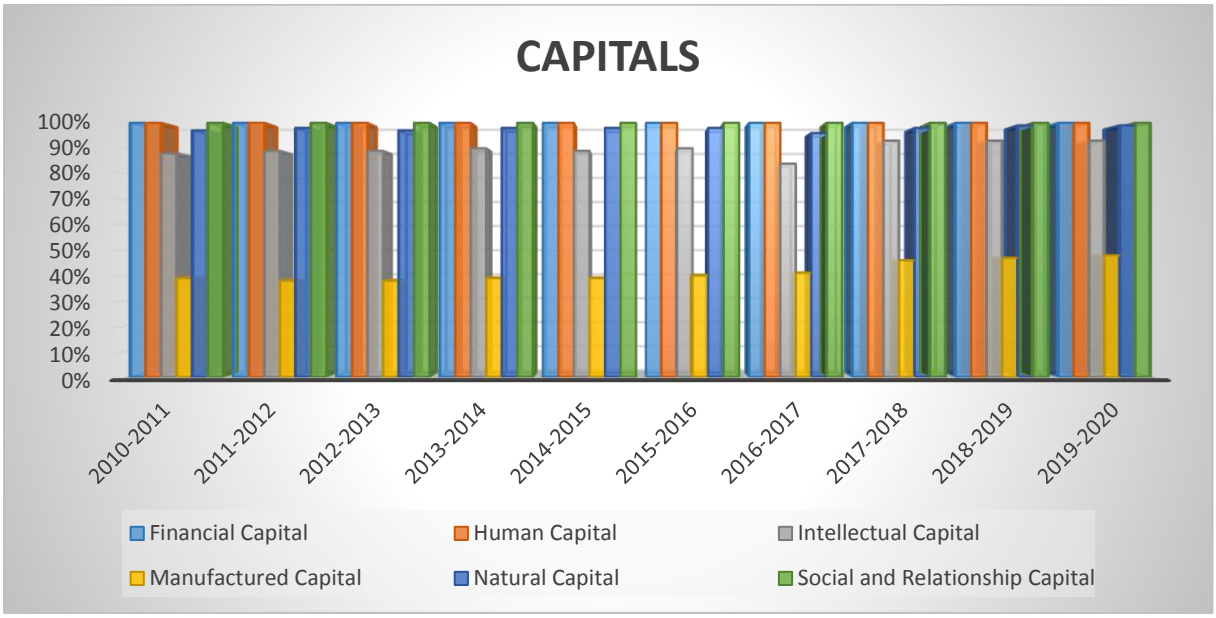
These capitals are stores of value that become inputs to the organization's business model. They increase, decrease or transform through the activities of the organization. The table below shows the percentage of various capitals disclosed by the 403 companies. The binary '1' is assigned for the presence and '0' for absence the various capitals for making a check list.

Table 5: *Tabular presentation of percentage of companies disclosing various capitals for the years 2010-11 to 2019-20.*

CAPITALS	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**
Financial Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Human Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Intellectual Capital	88%	89%	89%	90%	89%	90%	84%	93%	93%	93%
Manufactured Capital	39%	38%	38%	39%	39%	40%	41%	46%	47%	48%
Natural Capital	97%	98%	97%	98%	98%	98%	96%	98%	99%	99%
Social and Relationship Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

After going through the annual reports of all the 403 companies it was observed that almost all the companies had disclosed and spoken about the Financial, Human and Social and Relationship Capital.

Figure 9: Companies disclosing various capitals for the years 2010-11 to 2019-20 (in %)



Intellectual capital is a key element in an organization's future earning potential, with a tight link between investment in R&D, innovation, human resources and external relationships, which can determine the organization's competitive advantage. The companies in today's competitive world prefer not to disclose their intellectual property and hence we see that the information on intellectual capital keeps decreasing over the years.

Manufactured capital is basically human-created, production-oriented equipment and tools. This capital contributes to the firm's productive capacity and therefore still many companies prefer not to disclose their manufactured capital. As it can be seen in the table above, very few companies out of 403 companies disclose information regarding the manufactured capital.

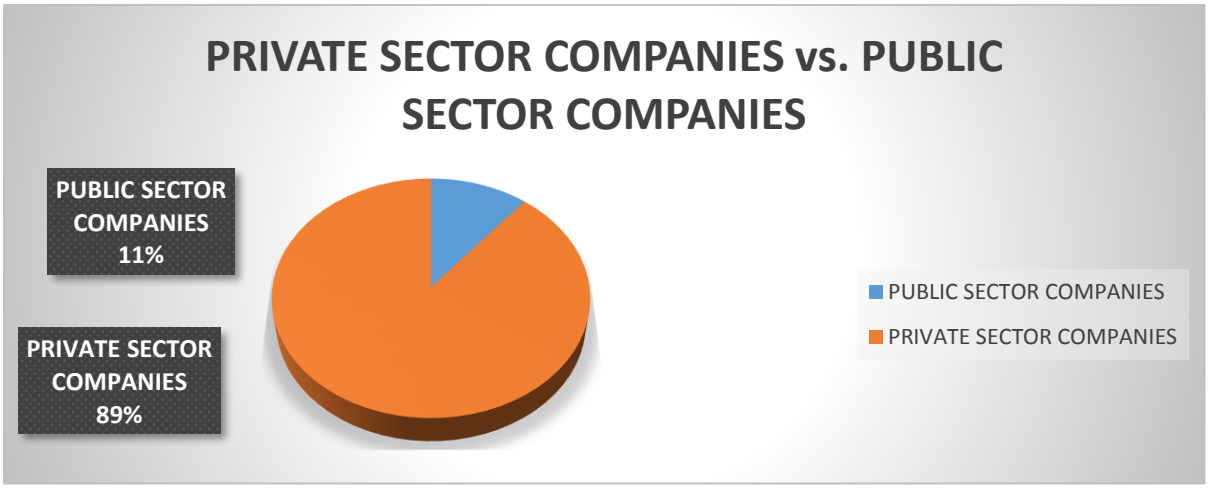
5.2 COMPARATIVE ANALYSIS ACROSS PRIVATE AND PUBLIC SECTOR COMPANIES IN INDIA WITH RESPECT TO COMPANIES INTEGRATING FINANCIAL AND NON-FINANCIAL DATA IN THEIR REPORTING.

Our second objective is to make a comparative study across all the 403 companies for 10 years, i.e., for the years 2010-11 to 2019-20, to calculate the disclosure score of reporting elements and capitals of the public sector and private sector companies.

5.2.1 COMPARATIVE ANALYSIS ACROSS PRIVATE AND PUBLIC SECTOR COMPANIES IN INDIA

From our analysis we see that out of the 403 companies in our study, there are only 44 companies that belong to the public sector and 359 companies that belong to the private sector. A representation has also been provided in Figure 10 below:

Figure 10: *Representation of Public and Private sector companies*



Out of the 44 public sector companies, none of the companies have prepared and published an integrated report in all 10 years, i.e., 2010-11 to 2019-20. In contrast, out of the 359 private sector companies, the numbers look encouraging. Though none of the 359 companies have included integrated reports in their annual reports in the year 2010-11 but slowly we see that it keeps increasing to four companies in 2015-16 publishing an integrated report, to six companies publishing an integrated report in 2016-17, to 23 companies publishing an integrated report in the year 2017-18, to 34 companies publishing an integrated report in 2018-19 and it goes up to 58 companies in the year 2019-20.

Tables 6 and 7 show the number of private sector companies and the number of public sector companies that publish an Integrated Report respectively.

Table 6: *Number of private sector companies publishing an Integrated Report according to IIRC for the years 2010-11 to 2019-20.*

YEAR	NO OF PRIVATE COMPANIES PRESENTING INTEGRATED REPORTS
2010-2011	0
2011-2012	0
2012-2013	2
2013-2014	2
2014-2015	2
2015-2016	4
2016-2017	6
2017-2018	23
2018-2019	34
2019-2020	58

Table 7: *Number of public companies publishing an Integrated Report according to IIRC for the years 2010-11 to 2019-20.*

YEAR	NO OF PUBLIC COMPANIES PRESENTING INTEGRATED REPORTS
2010-2011	0
2011-2012	0
2012-2013	0
2013-2014	0
2014-2015	0
2015-2016	0
2016-2017	0
2017-2018	0
2018-2019	0
2019-2020	0

5.2.2 COMPARATIVE ANALYSIS OF PUBLIC AND PRIVATE COMPANIES THAT PROVIDE INFORMATION ABOUT DIFFERENT CONTENT ELEMENTS

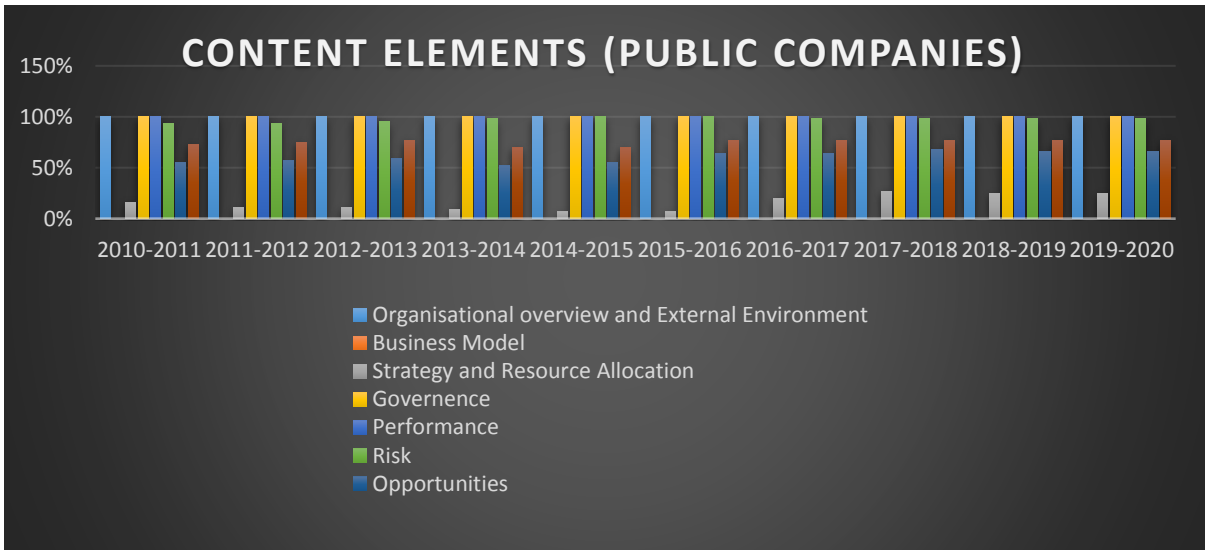
The table below shows the number of public companies who disclose the different content elements in the years 2010-11 to 2019-20. For the above data to be presented we have compiled the presence and absence of the particular content element for the 44 public companies. The binary '1' is assigned for the presence and '0' for absence the elements for making a check list.

Table 8: Tabular presentation of number of public companies disclosing various content elements for the years 2010-11 to 2019-20.

CONTENT ELEMENTS	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020
Organizational overview & External Environment (%)	100	100	100	100	100	100	100	100	100	100
Business Model (%)	0	0	0	0	0	0	0	0	0	0
Strategy & Resource Allocation (%)	16	11	11	9	7	7	20	27	25	25
Governance (%)	100	100	100	100	100	100	100	100	100	100
Performance (%)	100	100	100	100	100	100	100	100	100	100
Risk (%)	93	93	95	98	100	100	98	98	98	98
Opportunities (%)	53	57	59	52	55	64	64	68	66	66
Future Outlook (%)	73	75	77	70	70	77	77	77	77	77

After going through this table, we understand that none of the public companies have shown their business model but almost all the 44 companies have disclosed information on organisational overview, governance and performance. In case of the other content elements, we see that there is an increasing trend of disclosing information by the companies which is a good sign. A graphical representation has also been provided in figure 11:

Figure 11: *Percentage of public sector companies disclosing various content elements for the years 2010-11 to 2019-20.*



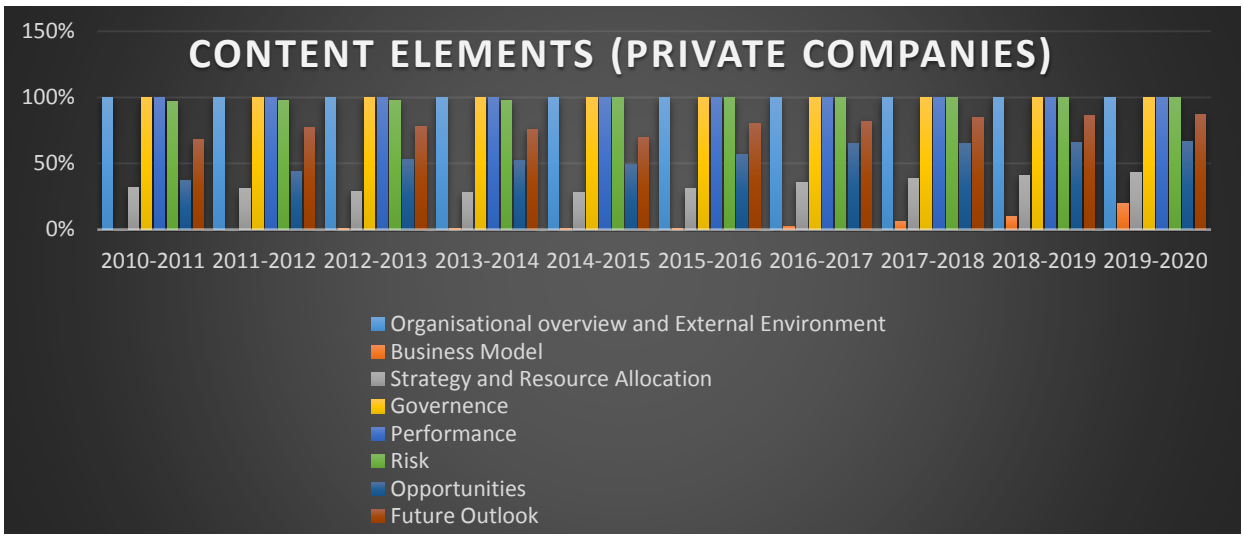
The next table shows the number of private companies who disclose the different content elements in the years 2010-11 to 2019-20. For the above data to be presented we have compiled the presence and absence of the particular content element for the 359 private companies. The binary '1' is assigned for the presence and '0' for absence the elements for making a check list.

Table 9: Tabular presentation of number of private companies disclosing various content elements for the years 2010-11 to 2019-20

CONTENT ELEMENTS	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015	2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020
Organizational overview and External Environment (%)	100	100	100	100	100	100	100	100	100	100
Business Model (%)	0	0	1	1	1	1	2	6	10	20
Strategy and Resource Allocation (%)	32	31	29	28	28	31	36	39	41	43
Governance (%)	100	100	100	100	100	100	100	100	100	100
Performance (%)	100	100	100	100	100	100	100	100	100	100
Risk (%)	97	98	98	98	100	100	100	100	100	100
Opportunities (%)	37	44	53	52	49	57	65	65	66	67
Future Outlook (%)	68	77	78	76	70	80	82	85	86	87

Here in table 9, we see that, for the content element of business model, we observe that more and more private companies are disclosing information about it, i.e., in the 2010-11 none of the 359 companies disclosed their business model but as years progress, we now see that in the year 2019-20, almost 20% of the companies i.e., around 70 companies have now disclosed their business model which indicates an increase in awareness level among the private companies about the importance for disclosing their business model to stakeholders and also need for publishing an integrated report.

Figure 12: *Percentage of private sector companies disclosing various content elements for the years 2010-11 to 2019-20.*



5.2.3 COMPARATIVE ANALYSIS OF PUBLIC AND PRIVATE COMPANIES THAT HAVE DISCLOSED INFORMATION ABOUT DIFFERENT CAPITALS

The table below shows the various capitals disclosed by the top 44 public sector companies. The binary '1' is assigned for the presence and '0' for absence the various capitals for making a check list.

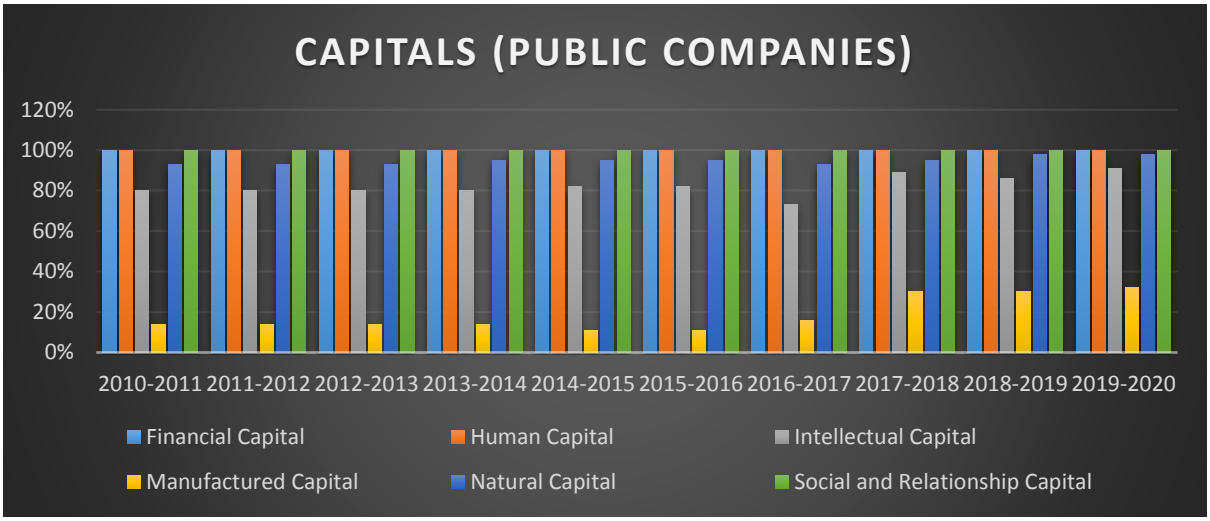
Table 10: Tabular presentation of number of public sector companies disclosing various Capitals for the years 2010-11 to 2019-20.

CAPITALS	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Financial Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Human Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Intellectual Capital	80%	80%	80%	80%	82%	82%	73%	89%	86%	91%
Manufactured Capital	14%	14%	14%	14%	11%	11%	16%	30%	30%	32%
Natural Capital	93%	93%	93%	95%	95%	95%	93%	95%	98%	98%
Social and Relationship Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Here we see that out of the 44 public sector companies, almost all disclose information regarding financial, human and social and relationship capital. Information on intellectual

capital is also being disclosed by most of the companies indicating that more companies understand the need to disclose this information. On the other hand, information on manufactured capital is the least disclosed, but over the years we see an increasing trend of disclosure which is a positive sign. A graphical representation has been provided in figure 13:

Figure 13: *Graphical presentation of public sector companies disclosing various capitals for the years 2010-11 to 2019-20.*



The next table shows the various capitals disclosed by the top 359 private sector companies. The binary '1' is assigned for the presence and '0' for absence the various capitals for making a check list.

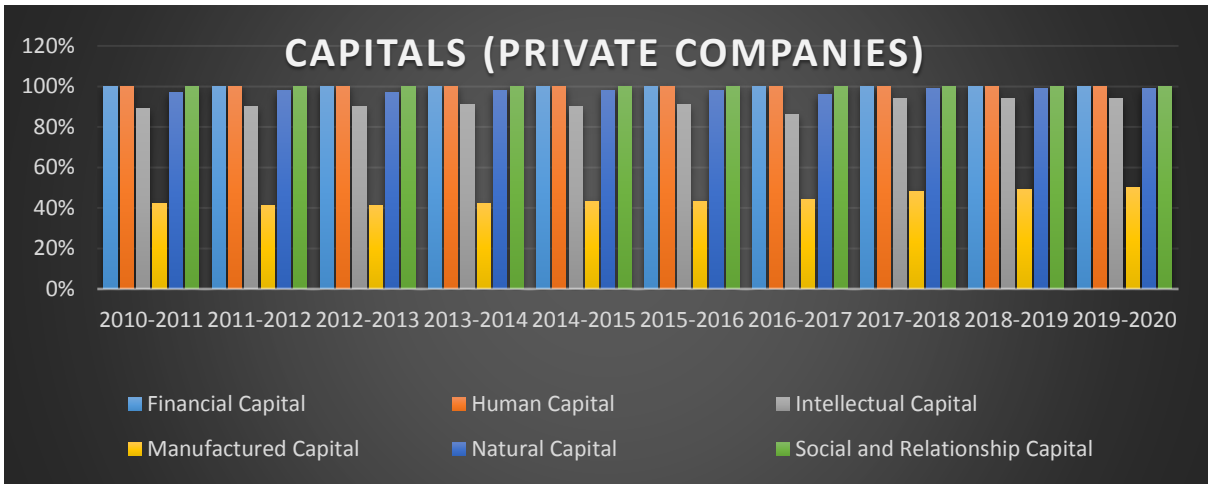
Table 11: Tabular presentation of number of private sector companies disclosing various Capitals for the years 2010-11 to 2019-20.

CAPITALS	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Financial	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Human	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Intellectual	89%	90%	90%	91%	90%	91%	86%	94%	94%	94%
Manufactured	42%	41%	41%	42%	43%	43%	44%	48%	49%	50%
Natural	97%	98%	97%	98%	98%	98%	96%	99%	99%	99%
Social and Relationship	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Here, we observed that most of the private sector enterprises have understood the need for publishing an integrated report. Thus, we see that a good number of private companies have disclosed information about most of the capitals. Almost all 359 private sector companies have disclosed information regarding financial, human and social and relationship capital. Information on intellectual capital is also being disclosed by almost 90% of the companies, indicating that more companies understand the need to disclose this information now.

Information on manufactured capital is the least disclosed parameter by private sector companies but over the years we see an increasing trend of disclosure, with nearly 50% of the total 359 private sector companies, which is a positive sign.

Figure 14: *Graphical representation of private sector companies disclosing various capitals for the years 2010-11 to 2019-20.*



5.3 CONSTRUCTION OF AN INTEGRATED REPORTING INDEX

To answer our third objective, Annual reports of the selected 402 companies for the years 2010-11 to 2019-20 have been studied carefully to construct an IR Index. To study the firm performance and the level of compliance with IR amongst the various companies in India, we have constructed an IR Index (IRI) and thereafter used PCA. We developed the IRI employing 14 parameters across 402 companies for ten financial years. For the construction of the Index,

certain variables were used to ascertain the level of compliance among the selected companies. The 14 variables are as follows:

Table 12: *Independent Variables selected for the study*

INDEPENDENT VARIABLES	ABBREVIATION
1. Organisational Overview and External Environment	ORGREV
2. Business Model	BM
3. Strategy and Resource Allocation	STRA
4. Governance	GOVERNAN
5. Performance	PERFORMANCE
6. Risk	RISK
7. Opportunities	OPPOR
8. Future Outlook	OUTLOOK
9. Financial Capital	FC
10. Human Capital	HC
11. Manufactured Capital	MC
12. Intellectual Capital	IC
13. Natural Capital	NC
14. Social and Relationship Capital	SC

Table 13, indicates the basis for assignment of the binary values to the different variables, based on which IRI was constructed.

Table 13: *Basis for assignment of the Binary Values for each variable used in the IRI Construction*

INDEPENDENT VARIABLES	BASIS FOR ASSIGNMENT OF BINARY VALUES
Organisational Overview and External Environment	*This variable is assigned a value of one if information on Organisational Overview and External Environment is disclosed in the Annual Report and zero otherwise*
Business Model	*This variable is assigned a value of one if information on Business Model is disclosed in the Annual Report and zero otherwise*
Strategy and Resource Allocation	*This variable is assigned a value of one if information on Strategy and Resource Allocation is disclosed in the Annual Report and zero otherwise*
Governance	*This variable is assigned a value of one if information on Governance is disclosed in the Annual Report and zero otherwise*
Performance	*This variable is assigned a value of one if information on Performance is disclosed in the Annual Report and zero otherwise*

Risk	*This variable is assigned a value of one if information on Risk is disclosed in the Annual Report and zero otherwise*
Opportunities	*This variable is assigned a value of one if information on Opportunities is disclosed in the Annual Report and zero otherwise*
Future Outlook	*This variable is assigned a value of one if information on Future Outlook is disclosed in the Annual Report and zero otherwise*
Financial Capital	*This variable is assigned a value of one if information on Financial Capital is disclosed in the Annual Report and zero otherwise*
Human Capital	*This variable is assigned a value of one if information on Human Capital is disclosed in the Annual Report and zero otherwise*
Manufactured Capital	*This variable is assigned a value of one if information Manufactured Capital is disclosed in the Annual Report and zero otherwise*
Intellectual Capital	*This variable is assigned a value of one if information on Intellectual Capital is disclosed in the Annual Report and zero otherwise*
Natural Capital	*This variable is assigned a value of one if information on Natural Capital is disclosed in the Annual Report and zero otherwise*
Social and Relationship Capital	*This variable is assigned a value of one if information on Social and Relationship Capital is disclosed in the Annual Report and zero otherwise*

On the basis of the binary allocation, as indicated in the table above, the average of each of the 14 parameters was found across all ten years. Table 14, thus, shows the companies with their respective total scores after their year wise binary assignment. Further, to prepare the IRI, the year wise median value for all 14 parameters was considered across the 402 companies for the ten years. Then the actual value of a given variable for each sample firm was compared with the median, and a binary value (i.e., one or zero) was assigned, based on the grading used for that variable, to get the firm score.

Table 14: Integrated Repoing Inex and Year-wise Median values

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
3M India	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Aarti Industries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Aban Offshore	78.57	78.57	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57143
ABB India	64.29	64.29	71.43	64.29	64.29	64.29	71.43	71.43	71.43	71.43	67.85714
Abbott India	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
ACC	78.57	78.57	78.57	78.57	78.57	78.57	92.86	100	100	100	78.57143
Adani	71.43	71.43	71.43	71.43	71.43	71.43	85.71	78.57	78.57	78.57	71.42857
Adani Ports & Special Economic Zone	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	92.85714
Adani Power	57.14	57.14	57.14	57.14	57.14	57.14	64.29	85.71	85.71	85.71	57.14286
Aditya Birla Fashions and retail	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	92.86	89.28571
AEGIS Logistics	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Aia Engineering	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Akzo Nobel India	78.57	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57143
Alembic Pharma	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Allcargo Logistics	78.57	85.71	85.71	78.57	78.57	78.57	78.57	78.57	78.57	85.71	78.57143
Alok Industries	78.57	78.57	78.57	85.71	85.71	78.57	85.71	71.43	71.43	78.57	78.57143
Amara Raja Batteries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Ambuja Cements	71.43	78.57	78.57	78.57	78.57	85.71	92.86	92.86	92.86	100	82.14286
Amtek Auto	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	85.71	78.57143
Apar Industries	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
APL Apollo Tubes	92.86	85.71	92.86	92.86	92.86	85.71	92.86	92.86	92.86	100	92.85714
Apollo Hospitals Enterprises	85.71	85.71	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	85.71429
Apollo Tyres	78.57	78.57	78.57	78.57	78.57	78.57	92.86	100	100	100	78.57143
Arvind Ltd	78.57	78.57	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Asahi India Glass	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Ashapura Minechem	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Ashok Leyland	64.29	71.43	71.43	71.43	71.43	71.43	64.29	78.57	78.57	78.57	71.42857
Asian Paints	71.43	71.43	64.29	64.29	71.43	71.43	71.43	85.71	92.86	85.71	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Asoka Buildcon	71.43	71.43	71.43	78.57	78.57	71.43	71.43	71.43	71.43	71.43	71.42857
Atul Ltd	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	100	89.28571
Aurobindo Pharma	71.43	71.43	71.43	71.43	71.43	71.43	64.29	78.57	78.57	78.57	71.42857
Avanti Feeds	64.29	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	71.43	67.85714
Bajaj Auto	64.29	64.29	64.29	64.29	71.43	71.43	64.29	78.57	78.57	78.57	67.85714
Bajaj Electricals	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	100	78.57143
Bajaj Finance	64.29	64.29	64.29	64.29	57.14	57.14	57.14	64.29	64.29	64.29	64.28571
Bajaj Finserv	64.29	64.29	57.14	57.14	57.14	57.14	57.14	64.29	64.29	64.29	60.71429
Bajaj Hindustan sugar	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Balkrishna Industries	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Balmer Lawrie & compny	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Balrampur Chini mills	92.86	92.86	92.86	92.86	92.86	100	100	100	100	100	96.42857
BASF India	78.57	78.57	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Bata India	64.29	64.29	64.29	64.29	64.29	64.29	78.57	78.57	78.57	78.57	64.28571
Bayer Cropscience	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
BEML Ltd	64.29	64.29	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	64.28571
Berger Paints	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
BGR Energy systems	64.29	64.29	71.43	71.43	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Bharat Electronics	78.57	71.43	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	78.57143
Bharat Forge	71.43	85.71	85.71	85.71	85.71	85.71	85.71	85.71	92.86	100	85.71429
Bharat Heavy Electricals	78.57	78.57	78.57	78.57	78.57	78.57	78.57	85.71	78.57	78.57	78.57143
Bharat Petroleum	85.71	85.71	85.71	85.71	85.71	85.71	78.57	85.71	78.57	78.57	85.71429
Bharti Airtel	71.43	85.71	78.57	78.57	78.57	78.57	64.29	92.86	92.86	92.86	78.57143
Bharti Infratel	71.43	71.43	71.43	78.57	71.43	78.57	78.57	100	100	100	78.57143
Bilcare Ltd	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Binani Industries	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Biocon	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Birla corp	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Blue dart Express Ltd	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
Blue Star	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Bombay Burmah Trading Corp	64.29	64.29	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	78.57143
Bombay rayon Fashions	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Bomnay dyeing & Manufacturing Company	71.43	71.43	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Bosch Ltd	78.57	78.57	78.57	78.57	92.86	85.71	85.71	92.86	92.86	92.86	85.71429
Brittannia Industries	85.71	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	85.71429
Cadila Healthcare	71.43	71.43	71.43	71.43	71.43	78.57	64.29	78.57	78.57	78.57	71.42857
Carborundum Universal	78.57	78.57	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	85.71429
Castex Tech	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Castrol India	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Ceat Ltd	85.71	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	100	85.71429
Century Textiles & Industries	92.86	92.86	92.86	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.85714
CESC	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
CG Power and Industrial Solutions	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Chambal Fertilizers and Chemicals	78.57	78.57	78.57	78.57	78.57	78.57	64.29	78.57	78.57	78.57	78.57143
Chennai Petro	85.71	71.43	71.43	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.42857
Cholamandalam Investment & Finance Company	71.43	78.57	85.71	78.57	78.57	85.71	92.86	92.86	92.86	92.86	85.71429
Cipla	78.57	78.57	78.57	85.71	85.71	85.71	85.71	100	100	100	85.71429
Coal India	78.57	78.57	85.71	78.57	78.57	78.57	78.57	85.71	85.71	85.71	78.57143
Colgate-Palmolive	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Compuage Infocom	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Container Corporation of India	71.43	71.43	78.57	64.29	64.29	78.57	78.57	78.57	78.57	78.57	78.57143
Coromondal International	78.57	78.57	78.57	78.57	71.43	71.43	85.71	78.57	78.57	78.57	78.57143
Cummins India	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Cyient Ltd	71.43	71.43	71.43	78.57	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Dabur India	78.57	85.71	85.71	85.71	85.71	85.71	85.71	92.86	100	100	85.71429
Dalmia Bharat Ltd	85.71	85.71	85.71	85.71	85.71	85.71	85.71	92.86	100	100	85.71429
Dampur Sugar Mills	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	92.85714
DB Corp	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
DCM Shriram	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Deepak Fertilisers & Petrochemicals Corp	78.57	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Dewan Housing Finance Corp	71.43	71.43	78.57	71.43	71.43	71.43	78.57	78.57	78.57	78.57	75
Dhunseri Ventures Ltd	71.43	71.43	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57143
Dish TV India	92.86	92.86	85.71	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.85714
Divi's Lab	85.71	85.71	92.86	85.71	85.71	78.57	85.71	85.71	85.71	85.71	85.71429
DLF	64.29	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Dr. Reddy's	71.43	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	85.71	71.42857
Edelweiss Financial Services	78.57	78.57	78.57	85.71	85.71	85.71	92.86	92.86	92.86	92.86	85.71429
Eicher Motors	64.29	78.57	78.57	78.57	78.57	85.71	71.43	71.43	71.43	71.43	75
EID Parry	71.43	64.29	64.29	64.29	64.29	64.29	71.43	71.43	78.57	85.71	67.85714
EIH Ltd	57.14	57.14	57.14	57.14	57.14	57.14	71.43	71.43	71.43	71.43	57.14286
Electrosteel Castings	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Electrosteel Steels	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Emami Ltd	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Engineers India	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Escorts Ltd	85.71	92.86	92.86	85.71	85.71	85.71	92.86	92.86	92.86	100	92.85714
Essar Shipping	78.57	78.57	78.57	71.43	71.43	78.57	78.57	71.43	71.43	71.43	75
Essel Propack	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Excide Industries	78.57	71.43	71.43	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
Fertilizers and Chemicals Travancore	64.29	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Finolex Cables	85.71	85.71	85.71	85.71	85.71	78.57	85.71	85.71	85.71	85.71	85.71429
Finolex Industries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714
Firstsource Solutions	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Forbes & Company	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Force Motors	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Fortis Healthcare	78.57	78.57	78.57	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57143
Future Enterprises	71.43	64.29	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	67.85714
Future lifestyles Fashions	71.43	78.57	78.57	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57143
GAIL	85.71	85.71	78.57	78.57	78.57	78.57	85.71	71.43	71.43	71.43	78.57143
Gammon India	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
GE Power	71.43	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
GE T&D India	85.71	78.57	85.71	85.71	85.71	78.57	85.71	85.71	85.71	85.71	85.71429
GHCL Ltd	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	100	100	85.71429
Gillete India	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
GlaxoSmithKline Consumer Healthcare	85.71	85.71	85.71	85.71	78.57	92.86	92.86	92.86	92.86	92.86	89.28571
GlaxoSmithKline Pharma	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Glenmark Pharma	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
GMR Infra	64.29	71.43	64.29	57.14	57.14	64.29	64.29	78.57	78.57	78.57	64.28571
Godawari power	64.29	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Godfrey Phillpis	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Godrej Consumer Products	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	100	100	78.57143
Godrej Industries	85.71	78.57	78.57	78.57	78.57	85.71	78.57	85.71	85.71	85.71	82.14286
Godrej Properties	71.43	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Gokul Refoils & Solvent	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Grasim	71.43	71.43	71.43	71.43	71.43	71.43	78.57	71.43	71.43	71.43	71.42857
Great Eastern shipping Co	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
GTL Ltd	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Gujarat Alkalies	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Gujarat Ambuja Exports	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Gujarat Fluorochemicals	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	92.86	100	85.71429
Gujarat Gas Ltd	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Gujarat Narmada Valley	78.57	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Gujarat State Fertilizer & Chemicals	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
GVK Power and Infra	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Hathway Cable and datacom	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Hatsun Agro Products	71.43	85.71	85.71	78.57	71.43	85.71	85.71	85.71	85.71	85.71	85.71429
Havells India	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	100	100	78.57143
HCL Infosystem	71.43	71.43	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
HCL Tech	85.71	85.71	85.71	85.71	78.57	78.57	71.43	71.43	71.43	71.43	78.57143
HDFC	64.29	64.29	64.29	64.29	71.43	71.43	64.29	64.29	64.29	64.29	64.28571
Heritage Foods	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Hero MotoCorp	71.43	71.43	71.43	64.29	64.29	78.57	78.57	71.43	71.43	100	71.42857
Hexaware Tech	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Himachal Futuristic Comm	85.71	85.71	78.57	78.57	78.57	85.71	78.57	78.57	78.57	78.57	78.57143
Himatsingka Seide	78.57	78.57	78.57	78.57	78.57	92.86	92.86	92.86	92.86	92.86	85.71429
Hindalco	64.29	64.29	64.29	64.29	64.29	64.29	71.43	85.71	85.71	85.71	64.28571
Hinduja Global Solutions	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Hindustan Construction Company	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Hindustan Petroleum	71.43	71.43	71.43	71.43	78.57	78.57	85.71	85.71	85.71	85.71	78.57143
Hindustan Unilever	78.57	78.57	85.71	78.57	78.57	85.71	92.86	92.86	100	100	85.71429
Hindustan Zinc	64.29	64.29	71.43	71.43	71.43	71.43	78.57	92.86	92.86	100	71.42857
Hindusthan National Glass & Industries	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Honeywell Automation	92.86	92.86	85.71	92.86	92.86	92.86	85.71	85.71	85.71	85.71	89.28571
HSIL lTd	85.71	92.86	92.86	92.86	85.71	92.86	92.86	92.86	92.86	92.86	92.85714
HT Media	78.57	78.57	71.43	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
IDFC	64.29	64.29	64.29	64.29	57.14	57.14	57.14	64.29	64.29	64.29	64.28571
IFCI	64.29	78.57	78.57	64.29	64.29	78.57	78.57	78.57	78.57	78.57	78.57143
IIFL Holdings	85.71	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	100	85.71429
IL&FS engineering & Construction	50	50	50	50	50	50	50	50	50	50	50
IL&FS Transportation Networks	57.14	50	50	50	50	50	50	50	50	50	50
India Bulls Real Estate	78.57	78.57	78.57	85.71	85.71	85.71	78.57	78.57	78.57	78.57	78.57143
India Cements	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
India Glycols	78.57	85.71	78.57	78.57	71.43	85.71	78.57	78.57	78.57	78.57	78.57143
Indiabulls Housing Finance	71.43	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Indian Hotels Company	85.71	85.71	92.86	85.71	85.71	85.71	92.86	92.86	100	100	89.28571
Indian Oil Corporation	78.57	78.57	78.57	78.57	78.57	78.57	78.57	92.86	92.86	92.86	78.57143
Indo Count Industries	92.86	92.86	92.86	92.86	92.86	85.71	92.86	92.86	92.86	100	92.85714
Indraprastha Gas	64.29	78.57	71.43	64.29	64.29	78.57	78.57	78.57	78.57	78.57	78.57143
Infosys	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Inox Wind	64.29	64.29	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	75
Ipca Lab	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
IRB Infra	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
ISGEC Heavy Engineering	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
ITC	64.29	64.29	64.29	64.29	64.29	64.29	64.29	78.57	78.57	78.57	64.28571
ITD Cementation	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
IVRCL Ltd	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	78.57	71.42857
Jagran Prakasan	71.43	78.57	78.57	78.57	71.43	78.57	85.71	85.71	85.71	85.71	78.57143
Jain Irrigation Systems	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Jaiprakash Associates	78.57	78.57	78.57	78.57	71.43	78.57	50	78.57	78.57	78.57	78.57143
Jayaswal nici Industries	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Jaypee Infratech	64.29	64.29	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	64.28571
JBF Industries	57.14	57.14	57.14	57.14	57.14	57.14	57.14	57.14	57.14	57.14	57.14286
Jindal Poly Films	71.43	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Jindal Saw	78.57	71.43	71.43	78.57	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Jindal Stainless	71.43	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Jindal Stainless (Hisar)	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Jindal Steel & Power	64.29	64.29	57.14	57.14	78.57	71.43	64.29	71.43	71.43	71.43	67.85714
JK Cement	71.43	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
JK Lakshmi ement	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	75
JK Paper	92.86	92.86	92.86	92.86	85.71	92.86	92.86	92.86	92.86	100	92.85714
JK Tyre & Industries	85.71	92.86	92.86	85.71	85.71	85.71	92.86	92.86	92.86	92.86	92.85714
JMC Projects	85.71	85.71	78.57	92.86	92.86	85.71	85.71	85.71	85.71	85.71	85.71429
JSW Energy	78.57	78.57	78.57	85.71	85.71	85.71	57.14	92.86	92.86	92.86	85.71429
JSW Steel	85.71	78.57	78.57	78.57	78.57	78.57	92.86	100	100	100	82.14286
Jubilant Life Sciences	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Jubliant Foodworks	85.71	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Jyoti Structures	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Kajaria Ceramics	64.29	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Kalpataru Power Transmissions	92.86	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Kama Holdinds	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Kansai Nerolac Paints	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
KEC International	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	100	85.71429
KEI Industries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Kirloskar Brothers	92.86	92.86	92.86	85.71	85.71	92.86	92.86	92.86	100	100	92.85714
Kirloskar Oil engines	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Kkalpana iNdustries	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Kothari Products	78.57	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
KPIT Tech	71.43	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
KPR Mill	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
KRBL Ltd	85.71	85.71	92.86	92.86	92.86	85.71	92.86	92.86	92.86	92.86	92.85714
KSK EnergyVentures	64.29	64.29	78.57	71.43	71.43	71.43	78.57	78.57	78.57	78.57	75
Kwality	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
L&T Finance Holdings	92.86	85.71	92.86	85.71	85.71	85.71	92.86	92.86	92.86	100	92.85714
Lakshmi Machine works	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Larsen & Tourbo	85.71	85.71	85.71	85.71	85.71	78.57	85.71	100	100	100	85.71429
LIC Housing	64.29	64.29	64.29	71.43	71.43	78.57	71.43	85.71	85.71	85.71	71.42857
LT Foods	85.71	92.86	92.86	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.85714
Lupin	57.14	57.14	57.14	57.14	57.14	57.14	71.43	71.43	85.71	85.71	57.14286
Mahanagar Telephone Nigam	57.14	57.14	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Mahindra & Mahindra	85.71	85.71	85.71	85.71	85.71	85.71	78.57	100	100	100	85.71429
Mahindra & Mahindra Financial Services	85.71	85.71	85.71	85.71	85.71	85.71	85.71	92.86	100	100	85.71429
Mahindra CIE Automotive	78.57	78.57	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Manappuram Finance	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Mangalore Chemical and Fertilizers	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Mangalore Refinery	78.57	78.57	78.57	64.29	78.57	71.43	78.57	85.71	85.71	85.71	78.57143
Marico Ltd	85.71	92.86	92.86	85.71	85.71	92.86	92.86	92.86	100	100	92.85714
Maruti Suzuki	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
MBL Infra	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
McLeod Russel	64.29	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	75
McNally Bharat Engineering	78.57	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
MEP Infra	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Metalyst Forgings	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Minda Corp	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Minda Industries	85.71	92.86	92.86	85.71	78.57	92.86	92.86	92.86	92.86	100	92.85714
MindTree	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714
MMTC	57.14	57.14	57.14	57.14	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Monnet Ispat & Energy	78.57	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	78.57143
Motherson Sumi	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Mphasis Ltd	85.71	85.71	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
MRF	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Mukand Ltd	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Muthoot Finance	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Nahar Industrial Ent	57.14	64.29	71.43	57.14	57.14	71.43	71.43	71.43	71.43	71.43	71.42857
Nahar Spinning	57.14	64.29	64.29	64.29	57.14	71.43	71.43	71.43	71.43	71.43	67.85714
National Aluminium Company	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
National Fertilizers	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
NBCC	92.86	92.86	92.86	92.86	78.57	78.57	78.57	92.86	92.86	92.86	92.85714
NCC	57.14	57.14	57.14	71.43	57.14	57.14	64.29	64.29	64.29	64.29	60.71429
Nestle India	78.57	85.71	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Network 18 Media & Investments	64.29	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.42857
NHPC	78.57	78.57	78.57	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57143
Niit Tech	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
Nilkamal Ltd	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
NLC India	85.71	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
NMDC	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
NTPC	78.57	78.57	78.57	78.57	78.57	78.57	92.86	78.57	78.57	78.57	78.57143
Oil India	78.57	78.57	78.57	85.71	78.57	78.57	71.43	71.43	71.43	71.43	78.57143
ONGC	71.43	57.14	64.29	64.29	64.29	64.29	50	85.71	85.71	85.71	64.28571
Optiemus Infracom	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Orient paer And industries	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Patel Engineerimg	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Paul Merchants	71.43	71.43	64.29	71.43	64.29	78.57	78.57	78.57	78.57	78.57	75
PC Jeweller	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
PDS Multinational Fashions	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Persistent Systems	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857
Petronet	57.14	57.14	57.14	57.14	57.14	57.14	64.29	64.29	64.29	71.43	57.14286
Pfizer Ltd	78.57	85.71	78.57	71.43	71.43	85.71	85.71	85.71	85.71	85.71	85.71429
Pheonix Mills	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	100	100	92.85714
Phillips Carbon Black	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714
PI Industries	85.71	85.71	85.71	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71429
Pidilite Industries	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Piramal Enterprises	85.71	85.71	92.86	85.71	85.71	85.71	92.86	92.86	92.86	92.86	89.28571
PNC Infratech	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Polyplex Corp	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Power Finance Corp	71.43	71.43	71.43	71.43	71.43	71.43	78.57	85.71	85.71	85.71	71.42857
PowerGrid	71.43	71.43	71.43	71.43	71.43	71.43	71.43	85.71	85.71	85.71	71.42857
Prakash Industries	64.29	64.29	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Pratibha Industries	64.29	64.29	78.57	78.57	64.29	64.29	71.43	71.43	71.43	71.43	71.42857
Prestige Estates Projects	71.43	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	100	85.71429
Prism Johnson	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Procter & gamble Hygiene & Heatlhcare	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
PTC Ltd	50	57.14	57.14	57.14	57.14	57.14	64.29	64.29	64.29	64.29	57.14286
Punj Lloyd	57.14	57.14	64.29	64.29	57.14	57.14	57.14	57.14	57.14	57.14	57.14286
Rain Industries	85.71	85.71	78.57	78.57	78.57	78.57	64.29	92.86	92.86	92.86	82.14286
Rajesh Exports	42.86	42.86	42.86	42.86	50	50	71.43	71.43	71.43	71.43	50
Ramco Cements	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Ramky Infra	64.29	64.29	64.29	78.57	78.57	71.43	71.43	71.43	71.43	71.43	71.42857
Rane Holdings	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Rashtriya Chemicals & Fertilizers	71.43	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Ratnamani Metals & Tubes	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Rattanindia Power	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
raymond	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
REC ltd	71.43	71.43	64.29	78.57	78.57	78.57	71.43	85.71	85.71	92.86	78.57143
Redington India	50	64.29	50	50	64.29	57.14	64.29	71.43	71.43	71.43	64.28571
Reliance Capital	78.57	78.57	78.57	78.57	78.57	78.57	64.29	71.43	71.43	71.43	78.57143
Reliance Industries	92.86	92.86	92.86	92.86	92.86	100	100	100	100	100	96.42857
Reliance Infra	71.43	71.43	71.43	71.43	71.43	71.43	57.14	71.43	71.43	71.43	71.42857
Reliance Power	71.43	71.43	71.43	71.43	71.43	71.43	57.14	64.29	64.29	64.29	71.42857
Responsive Industries	64.29	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
RSWM Ltd	71.43	78.57	78.57	78.57	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
Ruchi Soya	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Sadbhav Engineering	57.14	64.29	64.29	57.14	57.14	64.29	64.29	64.29	64.29	64.29	64.28571
SAIL	85.71	85.71	85.71	85.71	85.71	85.71	92.86	78.57	78.57	85.71	85.71429
Sanofi India	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Schaeffler India	78.57	92.86	92.86	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.85714
SEL Manufacturing Company	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	75
Shipping Corp of india	78.57	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Shirpur Gold refinery	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Shoppers Stop	85.71	85.71	92.86	85.71	85.71	85.71	92.86	92.86	92.86	92.86	89.28571
Shree Cements	92.86	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	89.28571
Shree Renuka Sugars	64.29	64.29	64.29	64.29	64.29	64.29	71.43	92.86	92.86	92.86	64.28571
Shriram City Union finance	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Shriram Transport Finance Co	71.43	78.57	78.57	78.57	78.57	78.57	64.29	78.57	78.57	78.57	78.57143
Siemens	64.29	64.29	64.29	64.29	71.43	71.43	85.71	71.43	71.43	71.43	71.42857
Simplex Infra	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Sintex Industries	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Siyaram Silk mills	71.43	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
SJVN Ltd	71.43	78.57	78.57	71.43	71.43	78.57	85.71	85.71	85.71	85.71	78.57143
SKF India	92.86	92.86	85.71	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Sobha Ltd	78.57	78.57	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	82.14286
Sonata Software	71.43	71.43	71.43	71.43	71.43	78.57	78.57	71.43	71.43	71.43	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Southern Petrochemicals Industries	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Spice mobility(Digispice)	78.57	78.57	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57143
SpiceJet	71.43	78.57	78.57	71.43	71.43	78.57	85.71	85.71	85.71	85.71	78.57143
SPML Infra	64.29	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
SREI Infra Finance	71.43	71.43	71.43	71.43	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
SRF	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
SRS LTd	50	50	50	50	50	50	50	50	50	50	50
State Trading Corp of India	78.57	78.57	78.57	78.57	78.57	78.57	64.29	78.57	78.57	78.57	78.57143
Sterlite Tech	92.86	85.71	85.71	92.86	92.86	85.71	85.71	85.71	85.71	100	85.71429
Sun Pharma	64.29	71.43	71.43	64.29	78.57	85.71	78.57	78.57	78.57	85.71	78.57143
Sun TV Network	64.29	64.29	64.29	64.29	64.29	64.29	71.43	71.43	71.43	71.43	64.28571
Sundaram Clayton	85.71	85.71	85.71	85.71	85.71	85.71	78.57	78.57	78.57	78.57	85.71429
Sundaram Finance	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Sundram Fasteners	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Supreame Industries	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Supreame Petrochem	71.43	71.43	71.43	78.57	78.57	71.43	71.43	71.43	71.43	71.43	71.42857
Surya Roshni	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Sutlej Textiles & Industries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	92.85714
Suzlon	78.57	78.57	78.57	78.57	71.43	85.71	64.29	71.43	71.43	71.43	75
Tamil Nadu newsprints and papers	71.43	78.57	85.71	78.57	78.57	78.57	85.71	85.71	85.71	85.71	82.14286
Tata Chemicals	71.43	78.57	78.57	78.57	85.71	92.86	100	100	100	100	89.28571
Tata Coffee	85.71	92.86	92.86	92.86	92.86	85.71	92.86	92.86	92.86	92.86	92.85714
Tata Comm	71.43	64.29	57.14	57.14	71.43	64.29	64.29	85.71	85.71	100	67.85714
Tata Global Beverages	92.86	92.86	92.86	92.86	92.86	92.86	100	100	100	100	92.85714
Tata Motors Ltd	78.57	85.71	85.71	85.71	92.86	92.86	100	100	100	100	92.85714
Tata Power	85.71	85.71	85.71	92.86	92.86	92.86	92.86	92.86	92.86	100	92.85714
Tata Steel	85.71	78.57	100	100	100	100	100	100	100	100	100
Tata Teleservices	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
TCS	85.71	71.43	71.43	64.29	64.29	71.43	85.71	92.86	92.86	100	78.57143
Tech Mahindra	71.43	71.43	71.43	71.43	85.71	92.86	78.57	85.71	85.71	85.71	82.14286

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Thermax Ltd	78.57	78.57	85.71	85.71	85.71	85.71	92.86	92.86	92.86	100	85.71429
Thomas Cook	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	100	100	78.57143
TI Financial Holdings	85.71	85.71	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Time Technoplast	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Titan	85.71	85.71	85.71	85.71	85.71	85.71	100	100	100	100	85.71429
Torrent Pharma	78.57	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Torrent Power	78.57	78.57	78.57	78.57	57.14	57.14	64.29	71.43	71.43	71.43	71.42857
Transport corp of India	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Trent Ltd	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Trident Ltd	85.71	85.71	85.71	78.57	78.57	78.57	78.57	78.57	92.86	100	82.14286
Triveni Engineering	92.86	92.86	85.71	85.71	85.71	92.86	85.71	92.86	92.86	92.86	92.85714
TVS Motor	78.57	78.57	71.43	71.43	71.43	71.43	78.57	85.71	85.71	85.71	78.57143
TVS Srichakra	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Uflex Ltd	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
UltraTech cement	71.43	71.43	71.43	64.29	71.43	78.57	64.29	85.71	85.71	85.71	71.42857
Unitech Ltd	71.43	71.43	64.29	64.29	64.29	71.43	64.29	64.29	64.29	64.29	64.28571
United Breweries	78.57	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
United Spirits	78.57	78.57	78.57	78.57	85.71	85.71	64.29	85.71	85.71	85.71	82.14286
UPL	85.71	78.57	71.43	78.57	85.71	85.71	78.57	85.71	85.71	100	85.71429
Usha Martin	71.43	71.43	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Uttam Galva Steels	78.57	78.57	85.71	78.57	71.43	71.43	78.57	78.57	78.57	78.57	78.57143
Uttam Value Steels	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Va Tech Wabag	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Vakrangee Ltd	71.43	92.86	92.86	85.71	71.43	92.86	92.86	92.86	92.86	100	92.85714
Vardhman Textiles	64.29	71.43	71.43	64.29	64.29	71.43	71.43	71.43	71.43	71.43	71.42857
Vedanta	71.43	71.43	71.43	100	100	100	92.86	100	100	100	100
Venkys	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
V-Guard Industries	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.86	92.85714
Videocon	78.57	78.57	78.57	78.57	78.57	78.57	64.29	78.57	78.57	78.57	78.57143
VLS Finance	71.43	71.43	71.43	71.43	71.43	71.43	78.57	78.57	78.57	78.57	71.42857

COMPANY NAME	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Median
Vodafone	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Voltas	78.57	92.86	92.86	85.71	85.71	85.71	85.71	85.71	100	100	85.71429
VRL logistics	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.42857
Weizmann Forex (ebixcash)	64.29	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Welspun Corp	78.57	78.57	78.57	85.71	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
West Coast Paper Mills	92.86	92.86	85.71	92.86	92.86	92.86	85.71	85.71	85.71	85.71	89.28571
Welspun India	78.57	78.57	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71	85.71429
Wheels India	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Whirlpool	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.29	64.28571
Wipro	71.43	78.57	85.71	85.71	85.71	100	100	100	100	100	92.85714
Wockhardt	64.29	64.29	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57	78.57143
Zee Entertainment Enterprises	64.29	85.71	85.71	85.71	85.71	85.71	92.86	92.86	92.86	92.86	85.71429
Zensar Tech	78.57	78.57	92.86	92.86	92.86	78.57	92.86	92.86	92.86	100	92.85714
Zuari Agro Chemicals	42.86	78.57	78.57	64.29	64.29	78.57	57.14	85.71	85.71	85.71	78.57143

We allocated the companies into quartiles, ranging from 0-25 to 76-100. Companies falling within the range of 0-25 are marked as 'Q1', with a median score of 71.24; Companies falling within the range of 26-50 are marked as 'Q2', with a median score of 78.57; Companies falling within the range of 51-75 are marked as 'Q3', with a median score of 82.14 and Companies falling within the range of 76-100 are marked as 'Q4', with a median score of 92.85.

Table 15: *Tabular Presentation of Companies in each Quartile*

	QUARTILE RANGE	**Q1**	**Q2**	**Q3**	**Q4**
2010-11	No. of Companies (n)	199	101	63	39
	Percentage [n/402]	49.50	25.12	15.67	9.70
2011-12	No. of Companies (n)	174	117	66	45
	Percentage [n/402]	43.28	29.10	16.41	11.19
2012-13	No. of Companies (n)	167	114	65	56
	Percentage [n/402]	41.54	28.35	16.16	13.93
2013-14	No. of Companies (n)	166	114	72	50
	Percentage [n/402]	41.29	28.35	17.91	12.43
2014-15	No. of Companies (n)	180	102	71	49
	Percentage [n/402]	44.77	25.37	17.66	12.18
2015-16	No. of Companies (n)	149	116	79	58
	Percentage [n/402]	37.06	28.85	19.65	14.42
2016-17	No. of Companies (n)	144	113	62	83
	Percentage [n/402]	35.82	28.10	15.42	20.64
2017-18	No. of Companies (n)	123	111	68	100
	Percentage [n/402]	30.59	27.61	16.91	24.87
2018-19	No. of Companies (n)	121	110	62	109
	Percentage [n/402]	30.09	27.36	15.42	27.11
2019-20	No. of Companies (n)	118	105	64	115
	Percentage [n/402]	29.35	26.11	15.92	28.60

The above table shows the division of the 402 companies into quartiles for each year. On the basis of this information, we divided the companies into four categories namely: Companies with High Compliance, Companies with Progressive Compliance, Companies with Moderate Compliance and Companies with Low Compliance. Thus,

Companies falling in Q1 are categorized as 'Companies with Low Compliance'.

Companies falling in Q2 are categorized as 'Companies with Moderate Compliance'.

Companies falling in Q3 are categorized as 'Companies with Progressive Compliance'

Companies falling in Q4 are categorized as 'Companies with High Compliance'.

The IRI score were then grouped into quartiles (see Table 16), to have a clear demarcation of the companies falling within a particular range.

Table 16: Integrated Reporting Index

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
3M India Ltd.	1	1	1	1	1	1	1	1	1	1
A B B India Ltd.	1	1	1	1	1	1	1	1	1	1
A C C Ltd.	2	2	2	2	2	2	4	4	4	4
A I A Engineering Ltd.	1	1	1	1	1	1	1	1	1	1
A P L Apollo Tubes Ltd.	4	3	4	4	4	3	4	4	4	4
Aarti Industries Ltd.	4	4	4	4	4	4	4	4	4	4
Aban Offshore	2	2	1	1	1	1	2	2	2	2
Abbott India Ltd.	3	3	4	4	4	4	4	4	4	4
Adani Enterprises Ltd.	1	1	1	1	1	1	3	2	2	2
Adani Ports & Special Economic Zone Ltd.	4	4	4	4	4	4	4	4	4	4
Adani Power Ltd.	1	1	1	1	1	1	1	3	3	3
Aditya Birla Fashion & Retail Ltd.	3	3	3	3	3	4	4	4	4	4
Aegis Logistics Ltd.	3	3	3	3	3	3	3	3	3	3
Akzo Nobel India Ltd.	2	1	2	2	2	1	2	2	2	2
Alembic Pharmaceuticals Ltd.	4	4	4	4	4	4	4	4	4	4
Allcargo Logistics Ltd.	2	3	3	2	2	2	2	2	2	3
Alok Industries	2	2	2	3	3	2	3	1	1	2
Amara Raja Batteries Ltd.	4	4	4	4	4	4	4	4	4	4
Ambuja Cements Ltd.	1	2	2	2	2	3	4	4	4	4
Amtek Auto	1	1	1	2	2	2	2	2	2	3
Apar Industries Ltd.	1	1	1	1	1	1	1	1	1	1
Apollo Hospitals Enterprise Ltd.	3	3	3	3	3	3	3	4	4	4
Apollo Tyres Ltd.	2	2	2	2	2	2	4	4	4	4
Arvind Ltd.	2	2	1	1	1	1	1	1	1	1

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Asahi India Glass Ltd.	1	2	2	2	1	2	2	2	2	2
Ashapura Minechem Ltd.	2	2	2	2	2	2	2	2	2	2
Ashok Leyland Ltd.	1	1	1	1	1	1	1	2	2	2
Ashoka Buildcon Ltd.	1	1	1	1	1	1	1	3	4	3
Asian Paints Ltd.	1	1	1	2	2	1	1	1	1	1
Atul Ltd.	3	3	3	3	3	4	4	4	4	4
Aurobindo Pharma Ltd.	1	1	1	1	1	1	1	2	2	2
Avanti Feeds Ltd.	1	1	1	1	1	1	1	1	1	1
B A S F India Ltd.	2	2	4	4	4	4	4	4	4	4
B E M L Ltd.	1	1	1	1	1	1	1	1	1	1
B G R Energy Systems Ltd.	1	1	1	1	1	1	1	1	1	1
Bajaj Auto Ltd.	1	1	1	1	1	1	1	2	2	2
Bajaj Electricals Ltd.	2	2	2	2	2	2	2	2	2	4
Bajaj Finance Ltd.	1	1	1	1	1	1	1	1	1	1
Bajaj Finserv Ltd.	1	1	1	1	1	1	1	1	1	1
Bajaj Hindusthan Sugar Ltd.	1	1	1	1	1	1	1	1	1	1
Balkrishna Industries Ltd.	2	2	2	2	2	2	2	2	2	2
Balmer Lawrie & Co. Ltd.	2	2	2	2	2	2	2	2	2	2
Balrampur Chini Mills Ltd.	4	4	4	4	4	4	4	4	4	4
Bata India Ltd.	1	1	1	1	1	1	2	2	2	2
Bayer Cropscience Ltd.	2	2	2	2	2	2	2	2	2	2
Berger Paints India Ltd.	4	4	4	4	4	4	4	4	4	4
Bharat Electronics Ltd.	2	1	2	2	2	2	2	3	3	3
Bharat Forge Ltd.	1	3	3	3	3	3	3	3	4	4
Bharat Heavy Electricals Ltd.	2	2	2	2	2	2	2	3	2	2
Bharat Petroleum Corpn. Ltd.	3	3	3	3	3	3	2	3	2	2
Bharti Airtel Ltd.	1	3	2	2	2	2	1	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Bharti Infratel (Indus Towers Ltd.)	1	1	1	2	1	2	2	4	4	4
Bilcare Ltd	1	1	1	1	1	1	1	1	1	1
Binani Industries Ltd.	2	2	2	2	2	2	2	2	2	2
Biocon Ltd.	4	4	4	4	4	4	4	4	4	4
Birla Corporation Ltd.	2	2	2	2	2	2	2	2	2	2
Blue Dart Express Ltd.	2	2	2	2	2	3	3	3	3	3
Blue Star Ltd.	4	4	4	4	4	4	4	4	4	4
Bombay Burmah Trading Corp	1	1	2	2	2	2	3	3	3	3
Bombay dyeing & Manufacturing Company	2	2	2	2	2	2	2	2	2	2
Bombay rayon Fashions	1	1	3	3	3	3	3	3	3	3
Bosch Ltd.	2	2	2	2	4	3	3	4	4	4
Britannia Industries Ltd.	3	3	3	3	3	3	4	4	4	4
C E S C Ltd.	1	1	1	1	1	2	1	2	2	2
C G Power & Indl. Solutions Ltd.	2	2	3	3	3	3	4	4	4	4
Cadila Healthcare Ltd.	1	2	2	2	1	2	2	2	2	2
Carborundum Universal Ltd.	2	2	1	2	2	2	2	2	2	2
Castex Tech	3	3	3	3	3	3	4	4	4	4
Castrol India Ltd.	4	4	4	3	3	3	3	4	4	4
Ceat Ltd.	1	1	1	1	1	1	1	1	1	1
Century Textiles & Inds. Ltd.	1	1	1	1	1	1	1	1	1	1
Chambal Fertilisers & Chemicals Ltd.	2	2	2	2	2	2	1	2	2	2
Chennai Petroleum Corpn. Ltd.	3	1	1	1	1	1	1	1	1	1
Cholamandalam Investment & Finance Co. Ltd.	1	2	3	2	2	3	4	4	4	4
Cipla Ltd.	2	2	2	3	3	3	3	4	4	4
Coal India Ltd.	2	2	3	2	2	2	2	3	3	3
Colgate-Palmolive (India) Ltd.	1	1	1	1	1	1	1	1	1	1
Compuage Infocom Ltd.	1	1	1	1	1	1	1	1	1	1

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Container Corpn. Of India Ltd.	1	1	2	1	1	2	2	2	2	2
Coromandel International Ltd.	2	2	2	2	1	1	3	2	2	2
Cummins India Ltd.	1	1	1	1	1	1	2	2	2	2
Cyient Ltd.	1	1	1	2	1	1	1	1	1	1
D B Corp Ltd.	2	3	3	3	3	3	3	4	4	4
D C M Shriram Ltd.	3	3	3	3	3	3	3	4	4	4
D L F Ltd.	4	4	4	4	4	4	4	4	4	4
Dabur India Ltd.	3	3	4	4	4	4	4	4	4	4
Dalmia Bharat Ltd.	1	1	2	2	2	2	2	2	2	2
Deepak Fertilisers & Petrochemicals Corpn. Ltd.	2	2	2	1	1	2	2	2	2	2
Dewan Housing Finance Corp (company name Piramal Capital and Housing Finance)	1	1	2	1	1	1	2	2	2	2
Dhampur Sugar Mills Ltd.	1	1	2	2	1	1	2	2	2	2
Dhunseri Ventures Ltd.	4	4	3	3	3	4	4	4	4	4
Dish T V India Ltd.	3	3	4	3	3	2	3	3	3	3
Divi'S Laboratories Ltd.	1	1	1	1	1	1	1	1	1	1
Dr. Reddy'S Laboratories Ltd.	1	1	1	1	1	1	1	2	2	3
E I D-Parry (India) Ltd.	1	1	1	1	1	1	1	1	2	3
E I H Ltd.	1	1	1	1	1	1	1	1	1	1
E P L Ltd. (Essel Propack Ltd.)	2	2	2	2	2	2	2	2	2	2
Ebixcash World Money India Ltd.	1	2	2	2	2	2	2	2	2	2
Edelweiss Financial Services Ltd.	2	2	2	3	3	3	4	4	4	4
Eicher Motors Ltd.	1	2	2	2	2	3	1	1	1	1
Electrosteel Castings Ltd.	1	1	2	2	2	2	2	2	2	2
Electrosteel Steels (company name E S L steel)	1	1	1	1	1	1	1	1	1	1
Emami Ltd.	3	3	4	4	4	4	4	4	4	4
Engineers India Ltd.	4	4	4	4	4	4	4	4	4	4
Escorts Ltd.	3	4	4	3	3	3	4	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Essar Shipping	2	2	2	1	1	2	2	1	1	1
Exide Industries Ltd.	2	1	1	2	2	3	3	3	3	3
Fertilisers & Chemicals, Travancore Ltd.	1	1	1	2	2	2	2	2	2	2
Finolex Cables Ltd.	3	3	3	3	3	2	3	3	3	3
Finolex Industries Ltd.	4	4	4	4	4	4	4	4	4	4
Firstsource Solutions Ltd.	2	2	1	2	2	2	2	2	2	2
Forbes & Co. Ltd.	2	2	2	2	2	2	2	2	2	2
Force Motors Ltd.	2	2	2	2	2	2	2	2	2	2
Fortis Healthcare Ltd.	2	2	2	1	1	1	2	2	2	2
Future Enterprises Ltd.	1	1	1	1	1	1	1	1	1	1
Future Lifestyle Fashions Ltd.	1	2	2	1	1	1	2	2	2	2
G A I L (India) Ltd.	3	3	2	2	2	2	3	1	1	1
G E Power India Ltd.	1	3	3	3	3	3	3	3	3	3
G E T & D India Ltd.	3	2	3	3	3	2	3	3	3	3
G H C L Ltd.	3	3	3	3	3	3	3	3	4	4
G M R Infrastructure Ltd.	1	1	1	1	1	1	1	2	2	2
G T L Ltd.	1	1	2	2	2	2	2	2	2	2
G V K Power & Infrastructure Ltd.	1	1	1	1	1	1	1	1	1	1
Gammon India	1	1	1	1	1	1	1	1	1	1
Gillette India Ltd.	1	1	2	2	2	2	2	2	2	2
Glaxosmithkline Consumer Healthcare Ltd. [Merged]	3	3	3	3	2	4	4	4	4	4
Glaxosmithkline Pharmaceuticals Ltd.	3	3	3	3	3	3	3	3	3	3
Glenmark Pharmaceuticals Ltd.	4	4	4	4	4	4	4	4	4	4
Godawari power (company name Godawari Energy Ltd.)	1	1	1	1	1	1	1	1	1	1
Godfrey Phillips India Ltd.	1	1	1	1	1	1	1	1	1	1
Godrej Consumer Products Ltd.	1	1	2	2	2	2	2	2	4	4
Godrej Industries Ltd.	3	2	2	2	2	3	2	3	3	3

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Godrej Properties Ltd.	1	2	3	3	3	3	3	3	3	3
Gokul Refoils & Solvent Ltd.	1	1	1	1	1	1	1	1	1	1
Grasim Industries Ltd.	1	1	1	1	1	1	2	1	1	1
Great Eastern Shipping Co. Ltd.	1	1	1	1	1	1	1	1	1	1
Gujarat Alkalies & Chemicals Ltd.	2	2	2	2	2	2	2	2	2	2
Gujarat Ambuja Exports Ltd.	2	2	2	2	2	2	2	2	2	2
Gujarat Fluorochemicals Ltd.	2	2	3	3	3	3	3	3	4	4
Gujarat Gas Ltd.	2	2	2	2	2	2	2	2	2	2
Gujarat Narmada Valley Fertilizers & Chemicals Ltd.	2	1	1	1	1	1	1	1	1	1
Gujarat State Fertilizers & Chemicals Ltd.	1	1	1	1	1	1	1	1	1	1
H C L Technologies Ltd.	3	3	3	3	2	2	1	1	1	1
H F C L Ltd.	3	3	2	2	2	3	2	2	2	2
H S I L Ltd.	3	4	4	4	3	4	4	4	4	4
H T Media Ltd.	2	2	1	2	2	3	3	3	3	3
Hathway Cable & Datacom Ltd.	1	1	1	1	1	1	2	2	2	2
Hatsun Agro Products Ltd.	1	3	3	2	1	3	3	3	3	3
Havells India Ltd.	1	2	2	2	2	2	2	2	4	4
HCL Infosystem	1	1	1	1	1	1	1	1	1	1
Heritage Foods Ltd.	4	4	4	4	4	4	4	4	4	4
Hero Motocorp Ltd.	1	1	1	1	1	2	2	1	1	4
Hexaware Technologies Ltd.	3	4	4	4	4	4	4	4	4	4
Himatsingka Seide Ltd.	2	2	2	2	2	4	4	4	4	4
Hindalco Industries Ltd.	1	1	1	1	1	1	1	3	3	3
Hinduja Global Solutions Ltd.	1	1	1	1	1	1	1	1	1	1
Hindustan Construction Co. Ltd.	1	1	1	1	1	1	1	1	1	1
Hindustan Petroleum Corpn. Ltd.	1	1	1	1	2	2	3	3	3	3
Hindustan Unilever Ltd.	2	2	3	2	2	3	4	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Hindustan Zinc Ltd.	1	1	1	1	1	1	2	4	4	4
Hindusthan National Glass & Industries	1	2	2	2	1	2	2	2	2	2
Honeywell Automation India Ltd.	4	4	3	4	4	4	3	3	3	3
Housing Development Finance Corpn. Ltd.	1	1	1	1	1	1	1	1	1	1
I D F C Ltd.	1	1	1	1	1	1	1	1	1	1
I F C I Ltd.	1	2	2	1	1	2	2	2	2	2
I I F L Finance Ltd.	3	3	3	3	3	3	4	4	4	4
I R B Infrastructure Developers Ltd.	3	3	3	3	3	3	3	3	3	3
I T C Ltd.	1	1	1	1	1	1	1	2	2	2
I T D Cementation India Ltd.	2	2	1	2	2	2	2	2	2	2
IL&FS engineering & Construction	1	1	1	1	1	1	1	1	1	1
IL&FS Transportation Networks	1	1	1	1	1	1	1	1	1	1
India Cements Ltd.	2	2	2	2	2	2	2	2	2	2
India Glycols Ltd.	2	3	2	2	1	3	2	2	2	2
Indiabulls Housing Finance Ltd.	1	1	1	1	1	1	1	1	1	1
Indiabulls Real Estate Ltd.	2	2	2	3	3	3	2	2	2	2
Indian Hotels Co. Ltd.	3	3	4	3	3	3	4	4	4	4
Indian Oil Corpn. Ltd.	2	2	2	2	2	2	2	4	4	4
Indo Count Inds. Ltd.	4	4	4	4	4	3	4	4	4	4
Indraprastha Gas Ltd.	1	2	1	1	1	2	2	2	2	2
Infosys Ltd.	3	3	3	3	3	3	3	3	3	3
Inox Wind Ltd.	1	1	1	1	1	2	2	2	2	2
Ipca Laboratories Ltd.	1	1	1	1	1	1	1	1	1	1
Isgec Heavy Engg. Ltd.	1	1	1	1	1	1	1	1	1	1
IVRCL Ltd	1	1	1	1	1	1	1	1	1	2
J B F Industries Ltd.	1	1	1	1	1	1	1	1	1	1
J K Cement Ltd.	1	1	1	1	1	1	1	1	1	1

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
J K Lakshmi Cement Ltd.	1	1	1	1	1	2	2	2	2	2
J K Paper Ltd.	4	4	4	4	3	4	4	4	4	4
J K Tyre & Inds. Ltd.	3	4	4	3	3	3	4	4	4	4
J M C Projects (India) Ltd.	3	3	2	4	4	3	3	3	3	3
J S W Energy Ltd.	2	2	2	3	3	3	1	4	4	4
J S W Steel Ltd.	3	2	2	2	2	2	4	4	4	4
Jagran Prakashan Ltd.	1	2	2	2	1	2	3	3	3	3
Jain Irrigation Systems Ltd.	1	1	1	1	1	1	1	1	1	1
Jaiprakash Associates Ltd.	2	2	2	2	1	2	1	2	2	2
Jayaswal Neco Inds. Ltd.	1	1	1	1	1	1	1	1	1	1
Jaypee Infratech	1	1	1	1	1	1	1	1	1	1
Jindal Poly Films Ltd.	1	2	2	1	1	2	2	2	2	2
Jindal Saw Ltd.	2	1	1	2	1	1	1	1	1	1
Jindal Stainless (Hisar) Ltd.	2	2	3	3	3	3	3	3	3	3
Jindal Stainless Ltd.	1	3	3	3	3	3	3	3	3	3
Jindal Steel & Power Ltd.	1	1	1	1	2	1	1	1	1	1
Jubilant Foodworks Ltd.	3	3	3	4	4	4	4	4	4	4
Jubilant Pharmova Ltd.	1	2	2	2	1	2	2	2	2	2
Jyoti Structures	1	1	1	1	1	1	1	1	1	1
K E C International Ltd.	3	3	3	3	3	3	3	3	3	4
K P I T Technologies Ltd.	1	1	1	1	1	1	1	1	1	1
K P R Mill Ltd.	1	1	1	1	1	1	1	1	1	1
K R B L Ltd.	3	3	4	4	4	3	4	4	4	4
Kajaria Ceramics Ltd.	1	1	1	1	1	1	1	1	1	1
Kalpataru Power Transmission Ltd.	4	3	3	4	4	4	4	4	4	4
Kama Holdings	1	1	1	1	1	1	1	1	1	1
Kansai Nerolac Paints Ltd.	4	4	4	4	4	4	4	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Kei Industries Ltd.	4	4	4	4	4	4	4	4	4	4
Kirloskar Brothers Ltd.	4	4	4	3	3	4	4	4	4	4
Kirloskar Oil Engines Ltd.	2	2	2	2	2	2	2	2	2	2
Kkalpana iNdustries	1	1	1	1	1	1	2	2	2	2
Kothari Products Ltd.	2	1	1	1	1	1	1	1	1	1
KSK EnergyVentures	1	1	2	1	1	1	2	2	2	2
Kwality	1	1	1	1	1	1	1	1	1	1
L & T Finance Holdings Ltd.	4	3	4	3	3	3	4	4	4	4
L I C Housing Finance Ltd.	1	1	1	1	1	2	1	3	3	3
L T Foods Ltd.	3	4	4	3	3	4	4	4	4	4
Lakshmi Machine Works Ltd.	1	1	1	1	1	1	1	1	1	1
Larsen & Toubro Ltd.	3	3	3	3	3	2	3	4	4	4
Lupin Ltd.	1	1	1	1	1	1	1	1	3	3
M B L Infrastructures Ltd.	1	1	1	1	1	1	1	1	1	1
M E P Infrastructure Developers Ltd.	4	4	4	4	4	4	4	4	4	4
M M T C Ltd.	1	1	1	1	1	1	1	1	1	1
M R F Ltd.	1	1	1	1	1	1	2	2	2	2
Mahanagar Telephone Nigam	1	1	1	1	1	1	1	1	1	1
Mahindra & Mahindra Financial Services Ltd.	3	3	3	3	3	3	3	4	4	4
Mahindra & Mahindra Ltd.	3	3	3	3	3	3	2	4	4	4
Mahindra C I E Automotive Ltd.	2	2	1	1	1	2	2	2	2	2
Manappuram Finance Ltd.	1	2	2	2	1	2	2	2	2	2
Mangalore Chemicals & Fertilizers Ltd.	2	2	2	2	2	2	2	2	2	2
Mangalore Refinery & Petrochemicals Ltd.	2	2	2	1	2	1	2	3	3	3
Marico Ltd.	3	4	4	3	3	4	4	4	4	4
Maruti Suzuki India Ltd.	1	1	1	1	1	1	1	1	1	1
Mcleod Russel India Ltd.	1	1	1	1	1	2	2	2	2	2

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Mcnally Bharat Engg. Co. Ltd.	2	2	2	1	1	2	2	2	2	2
Metalyst Forgings	4	4	4	4	4	4	4	4	4	4
Minda Corporation Ltd.	3	3	3	3	3	3	3	3	3	3
Minda Industries Ltd.	3	4	4	3	2	4	4	4	4	4
Mindtree Ltd.	4	4	4	4	4	4	4	4	4	4
Monnet Ispat & Energy (J S W Ispat Special Products Ltd.)	2	2	2	2	2	2	3	3	3	3
Motherson Sumi Systems Ltd.	1	1	1	2	2	2	2	2	2	2
Mphasis Ltd.	3	3	2	2	2	2	2	2	2	2
Mukand Ltd.	1	1	1	1	1	1	1	1	1	1
Muthoot Finance Ltd.	1	1	1	1	1	1	2	2	2	2
N B C C (India) Ltd.	1	1	1	1	1	1	1	1	1	1
N C C Ltd.	1	1	1	1	1	1	1	1	1	1
N H P C Ltd.	1	2	2	2	2	2	2	2	2	2
N L C India Ltd.	3	3	3	3	3	3	3	3	3	3
N M D C Ltd.	4	4	4	4	2	2	2	4	4	4
N T P C Ltd.	1	1	1	1	1	1	1	1	1	1
Nahar Industrial Enterprises Ltd.	2	3	2	2	2	2	2	2	2	2
Nahar Spinning Mills Ltd.	1	1	1	1	1	1	1	1	1	1
National Aluminium Co. Ltd.	2	2	2	2	2	2	1	2	2	2
National Fertilizers Ltd.	2	2	2	2	2	3	3	3	3	3
Nestle India Ltd.	2	2	2	2	2	3	3	3	3	3
Network18 Media & Invst. Ltd.	3	2	2	2	2	2	2	2	2	2
NIIT (Coforge Ltd.)	1	1	1	1	1	1	1	1	1	1
Nilkamal Ltd.	2	2	2	2	2	2	4	2	2	2
Oil & Natural Gas Corpn. Ltd.	2	2	2	3	2	2	1	1	1	1
Oil India Ltd.	1	1	1	1	1	1	1	3	3	3
Optiemus Infracom Ltd.	1	1	1	1	1	1	1	1	1	1

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Orient Paper & Inds. Ltd.	2	2	3	3	3	3	3	3	3	3
P C B L Ltd.	4	4	4	4	4	4	4	4	4	4
P C Jeweller Ltd.	3	3	4	4	4	4	4	4	4	4
P D S Ltd.	1	1	1	2	2	2	2	2	2	2
P I Industries Ltd.	3	3	3	2	2	3	3	3	3	3
P N C Infratech Ltd.	1	1	1	1	1	1	1	1	1	1
P T C India Ltd.	1	1	1	1	1	1	1	1	1	1
Patel Engineering Ltd.	1	1	1	1	1	1	1	1	1	1
Paul Merchants	1	1	1	1	1	2	2	2	2	2
Persistent Systems Ltd.	1	1	1	1	1	1	2	2	2	2
Petronet L N G Ltd.	1	1	1	1	1	1	1	1	1	1
Pfizer Ltd.	2	3	2	1	1	3	3	3	3	3
Phoenix Mills Ltd.	3	3	4	4	4	4	4	4	4	4
Pidilite Industries Ltd.	2	3	3	3	3	3	3	3	3	3
Piramal Enterprises Ltd.	3	3	4	3	3	3	4	4	4	4
Polyplex Corporation Ltd.	1	1	1	1	1	1	1	1	1	1
Power Finance Corpn. Ltd.	1	1	1	1	1	1	2	3	3	3
Power Grid Corpn. Of India Ltd.	1	1	1	1	1	1	1	3	3	3
Prakash Industries Ltd.	1	1	2	2	2	2	2	2	2	2
Pratibha Industries	1	1	2	2	1	1	1	1	1	1
Prestige Estates Projects Ltd.	1	3	3	3	3	3	4	4	4	4
Prism Johnson Ltd.	2	2	2	2	2	2	2	2	2	2
Procter & Gamble Hygiene & Health Care Ltd.	2	2	3	3	3	3	3	3	3	3
Punj Lloyd	1	1	1	1	1	1	1	1	1	1
R E C Ltd.	1	1	1	2	2	2	1	3	3	4
R S W M Ltd.	1	2	2	2	1	2	2	2	2	2
Rain Industries Ltd.	3	3	2	2	2	2	1	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Rajesh Exports Ltd.	1	1	1	1	1	1	1	1	1	1
Ramco Cements Ltd.	1	1	1	1	1	1	1	1	1	1
Ramky Infrastructure Ltd.	1	1	1	2	2	1	1	1	1	1
Rane Holdings Ltd.	1	1	1	1	1	1	1	1	1	1
Rashtriya Chemicals & Fertilizers Ltd.	1	2	2	1	1	2	2	2	2	2
Ratnamani Metals & Tubes Ltd.	3	3	4	4	4	4	4	4	4	4
Rattanindia Power Ltd.	1	1	1	1	1	1	1	1	1	1
Raymond Ltd.	2	2	2	2	2	3	3	3	3	3
Redington (India) Ltd.	1	1	1	1	1	1	1	1	1	1
Reliance Capital	2	2	2	2	2	2	1	1	1	1
Reliance Industries Ltd.	4	4	4	4	4	4	4	4	4	4
Reliance Infrastructure Ltd.	1	1	1	1	1	1	1	1	1	1
Reliance Power Ltd.	1	1	1	1	1	1	1	1	1	1
Responsive Industries Ltd.	1	2	2	2	2	2	2	2	2	2
Ruchi Soya Inds. Ltd.	2	2	2	2	2	2	2	2	2	2
S J V N Ltd.	1	2	2	1	1	2	3	3	3	3
S K F India Ltd.	4	4	3	4	4	4	4	4	4	4
S P M L Infra Ltd.	1	1	1	1	1	1	1	1	1	1
S R E I Infrastructure Finance Ltd.	1	1	1	1	1	1	1	1	1	1
S R F Ltd.	1	1	1	1	1	1	1	1	1	1
Sadbhav Engineering Ltd.	1	1	1	1	1	1	1	1	1	1
Sanofi India Ltd.	2	2	2	2	2	2	2	2	2	2
Schaeffler India Ltd.	2	4	4	3	3	4	4	4	4	4
SEL Manufacturing Company	1	1	1	1	1	2	2	2	2	2
Shipping Corpn. Of India Ltd.	2	1	1	1	1	1	1	1	1	1
Shirpur Gold refinery	2	2	2	2	2	2	2	2	2	2
Shoppers Stop Ltd.	3	3	4	3	3	3	4	4	4	4

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Shree Cement Ltd.	4	3	3	3	3	3	4	4	4	4
Shree Renuka Sugars Ltd.	1	1	1	1	1	1	1	4	4	4
Shriram City Union Finance Ltd.	1	1	1	1	1	1	1	1	1	1
Shriram Transport Finance Co. Ltd.	1	2	2	2	2	2	1	2	2	2
Siemens Ltd.	1	1	1	1	1	1	3	1	1	1
Simplex Infrastructures Ltd.	1	1	2	2	2	2	2	2	2	2
Sintex Industries Ltd.	1	1	1	1	1	1	1	1	1	1
Siyaram Silk Mills Ltd.	1	1	1	1	1	1	1	1	1	1
Sobha Ltd.	2	2	2	2	2	3	3	3	3	3
Sonata Software Ltd.	1	1	1	1	1	2	2	1	1	1
Southern Petrochemical Inds. Corpn. Ltd.	1	1	1	1	1	1	1	1	1	1
Spice mobility	2	2	2	1	1	2	2	2	2	2
SpiceJet	1	2	2	1	1	2	3	3	3	3
SRS LTd	1	1	1	1	1	1	1	1	1	1
State Trading Corp of India	2	2	2	2	2	2	1	2	2	2
Steel Authority Of India Ltd.	3	3	3	3	3	3	4	2	2	3
Sterlite Technologies Ltd.	4	3	3	4	4	3	3	3	3	4
Sun Pharmaceutical Inds. Ltd.	1	1	1	1	2	3	2	2	2	3
Sun T V Network Ltd.	1	1	1	1	1	1	1	1	1	1
Sundaram Clayton	3	3	3	3	3	3	2	2	2	2
Sundaram Finance Ltd.	1	1	1	1	1	1	1	1	1	1
Sundram Fasteners Ltd.	1	1	1	1	1	1	1	1	1	1
Supreme Industries Ltd.	1	1	1	1	1	1	1	1	1	1
Supreme Petrochem Ltd.	1	1	1	2	2	1	1	1	1	1
Surya Roshni Ltd.	4	4	4	4	4	4	4	4	4	4
Sutlej Textiles & Industries	4	4	4	4	4	4	4	4	4	4
Suzlon	2	2	2	2	1	3	1	1	1	1

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
T V S Motor Co. Ltd.	2	2	1	1	1	1	2	3	3	3
T V S Srichakra Ltd.	3	3	3	3	3	3	3	3	3	3
Tamil Nadu Newsprint & Papers Ltd.	1	2	3	2	2	2	3	3	3	3
Tata Chemicals Ltd.	1	2	2	2	3	4	4	4	4	4
Tata Coffee Ltd.	3	4	4	4	4	3	4	4	4	4
Tata Communications Ltd.	1	1	1	1	1	1	1	3	3	4
Tata Consultancy Services Ltd.	3	1	1	1	1	1	3	4	4	4
Tata Consumer Products Ltd.	4	4	4	4	4	4	4	4	4	4
Tata Motors Ltd.	2	3	3	3	4	4	4	4	4	4
Tata Power Co. Ltd.	3	3	3	4	4	4	4	4	4	4
Tata Steel Ltd.	3	2	4	4	4	4	4	4	4	4
Tata Teleservices	1	1	1	1	1	1	1	1	1	1
Tech Mahindra Ltd.	1	1	1	1	3	4	2	3	3	3
Thermax Ltd.	2	2	3	3	3	3	4	4	4	4
Thomas Cook (India) Ltd.	2	2	2	2	2	2	2	2	4	4
Time Technoplast Ltd.	1	1	1	1	1	1	1	1	1	1
Titan Company Ltd.	3	3	3	3	3	3	4	4	4	4
Torrent Pharmaceuticals Ltd.	2	1	1	1	1	1	1	1	1	1
Torrent Power Ltd.	2	2	2	2	1	1	1	1	1	1
Transport Corporation Of India Ltd.	2	2	2	2	2	2	2	2	2	2
Trent Ltd.	2	2	2	2	2	2	2	2	2	2
Trident Ltd.	3	3	3	2	2	2	2	2	4	4
Triveni Engineering	4	4	3	3	3	4	3	4	4	4
Tube Investments Of India Ltd.	3	3	1	1	1	1	1	1	1	1
U P L Ltd.	3	2	1	2	3	3	2	3	3	4
Uflex Ltd.	1	1	1	1	2	2	2	2	2	2
Ultratech Cement Ltd.	1	1	1	1	1	2	1	3	3	3

COMPANY	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Unitech Ltd.	1	1	1	1	1	1	1	1	1	1
United Breweries Ltd.	2	2	2	3	3	3	3	3	3	3
United Spirits Ltd.	2	2	2	2	3	3	1	3	3	3
Usha Martin Ltd.	1	1	2	2	2	2	2	2	2	2
Uttam Galva Steels	2	2	3	2	1	1	2	2	2	2
Uttam Value Steels	2	2	2	2	2	2	2	2	2	2
V A Tech Wabag Ltd.	2	2	2	2	2	2	2	2	2	2
V L S Finance Ltd.	1	1	1	1	1	1	2	2	2	2
V R L Logistics Ltd.	1	1	1	1	1	1	1	1	1	1
Vakrangee Ltd.	1	4	4	3	1	4	4	4	4	4
Value Industries Ltd.	2	2	2	2	2	2	1	2	2	2
Vardhman Textiles Ltd.	1	1	1	1	1	1	1	1	1	1
Vedanta Ltd.	1	1	1	4	4	4	4	4	4	4
Venky'S (India) Ltd.	2	2	3	3	3	3	3	3	3	3
V-Guard Industries Ltd.	4	4	4	4	4	4	4	4	4	4
Vodafone	1	1	1	1	1	1	1	1	1	1
Voltas Ltd.	2	4	4	3	3	3	3	3	4	4
Welspun Corp Ltd.	2	2	2	3	2	2	2	2	2	2
Welspun India Ltd.	2	2	3	3	3	3	3	3	3	3
West Coast Paper Mills Ltd.	4	4	3	4	4	4	3	3	3	3
Wheels India Ltd.	1	1	1	1	1	1	1	1	1	1
Whirlpool Of India Ltd.	1	1	1	1	1	1	1	1	1	1
Wipro Ltd.	1	2	3	3	3	4	4	4	4	4
Wockhardt Ltd.	1	1	2	2	2	2	2	2	2	2
Zee Entertainment Enterprises Ltd.	1	3	3	3	3	3	4	4	4	4
Zensar Technologies Ltd.	2	2	4	4	4	2	4	4	4	4
Zuari Agro Chemicals Ltd.	1	2	2	1	1	2	1	3	3	3

Companies in the Q1 category are referred to as having low compliance because it has been noted that these companies fail to disclose crucial information on the 14 parameters used for the study. Thus, these companies are categorized as Companies with Low Compliance. Thus, 142 companies, given our sample size of 402, account for companies falling in the low compliance category, across all ten years.

Companies in the Q2 and Q3 category are termed as Companies with Moderate and Progressive Compliance, respectively. Companies in the Q2 category seem to have not consistently provided information on each of the 14 parameters. It was observed that some businesses have been hesitant to inform their stakeholders with regards to information pertaining to the 14 variables. Thus, 119 companies, account for companies falling in the moderate compliance category, across all ten years.

However, doing slightly better than the Q2 companies are the companies falling in the Q3 category wherein they seem to be gradually and steadily disclosing information pertaining to the 14 variables. They, thus, are aiming for higher compliance. Thus, 81 companies, account for companies falling in the progressive compliance category, across all ten years.

Companies in the Q4 category are termed as Companies with High Compliance as these companies, as per our comprehensive index, have been observed to have revealed information about almost all of the 14 parameters. Thus, given our sample size of 402 companies, 60 companies account for companies falling in the high compliance category, across all ten years, which amounts to only 15% of the total sample size.

Year wise, we observe that, in the year 2010-11, there are 199 companies i.e., 49% of the total companies, in Q1 category indicating that these companies that do not disclose most of their financial and non-financial information thus becoming Companies with Low Compliance. It is

also observed that there are around 101 companies in Q2 category indicating that these companies have moderate compliance and 63 companies in Q3 category which makes it Companies with Progressive Compliance. These are the companies that are on their way to becoming High Compliance Companies. And finally, we observe that there are only 39 high compliance companies, i.e., 9% of the total, disclosing most of the required financial and non-financial information in their annual reports. But with each passing year, a positive trend is observed where the number of High Compliance Companies are increasing in number, which is a good sign.

In the year 2015-16, there are 149 companies i.e., 37% of the total in Q1 and are Companies with Low Compliance. It is also observed that there are around 116 companies in Q2 and are Companies with Moderate Compliance and 79 companies in Q3 which makes Companies with Progressive Compliance. And finally, we observe that there are 58 high compliance companies, i.e., 14% of the total, disclosing most of the required financial and non-financial information in their annual reports.

Finally, in the year 2019-20, there are 118 companies i.e., 29% of the total in Q1 and are Companies with Low Compliance. It is also observed that there are around 105 companies in Q2 category which are Companies with Moderate Compliance and 64 companies in Q3 which makes it Companies with Progressive Compliance. Finally, we observed that there were now 115 high compliance companies, i.e., 29% of the total, disclosing most of the required financial and non-financial information in their annual reports.

From the above analysis, we observed that companies like Biocon, Tata Global Beverages, Reliance Industries, Kirloskar Brothers, Piramal Industries, Tata Steel[28], Tata Coffee,

[28] https://www.tatasteel.com/media/newsroom/press-releases/india/2019/tata-steel-conferred-the-best-integrated-report-award-for-2018-by-asian-centre-for-corporate-governance-sustainability/

Vedanta[29], Adani Ports, Titan[30], Wipro, amongst the rest, fall in Q4, thus indicating that these are the companies that have a higher compliance with IR practices. Many among them, have won various Compliance Awards for good Governance and Best Practices followed. These companies disclose most of their financial and non-financial information like Risk, Opportunities, Strategy and Resource allocation, Financial Capital, Human Capital and most importantly information on Intellectual Capital and Natural Capital is also disclosed by them. This category also includes companies that have published an entire Integrated Report as well. The main reason behind this being, that they have given adequate importance to reporting and disclosing both financial and non-financial information on the firm performance.

We also observed companies like Apar Industries, Motherson Sumi, LIC Housing, MMTC, SpiceJet, PowerGrid, NMDC, GAIL, Kama Holdings, etc. falling in Q1, thus indicating that these are the companies that have lower compliance with IR practices. It has been observed, that companies within this category fail to disclose important information on Opportunities, Future Outlook, etc. Some companies like Rajesh Exports failed to mention information on the most commonly disclosed parameters like Social and Relationship Capital, Human Capital, Manufactured Capital and Risks as well. The reason behind this could be that companies and its management might think that information regarding these parameters is not that valuable and important for the stakeholders. Here the companies need to understand that the needs and wants of the stakeholders are changing and the companies need to comply with that.

We also had another interesting observation. There are some companies like Adani Power, Castrol India, Inox Wind, United Breweries, Lupin, Ruchi Soya, TCS[31] etc. that fall in quartiles

[29]https://www.marketscreener.com/quote/stock/VEDANTA-LIMITED-37569657/news/Vedanta-Integrated-Report-and-Annual-Accounts-2021-22-40995045/
[30] https://www.titan-cement.com/newsroom/annualreports/
[31] https://www.unglobalcompact.org/participation/report/cop/create-and-submit/advanced/444027

2 and 3 thus indicating that these are companies having Moderate to Progressive Compliance thereby moving towards higher compliance.

Overall, there are certain companies like Castex Technologies, Coromandel International, Deepak Fertilizers & Petrochemicals Corporation, Fortis Healthcare, amongst the rest that are shifting from Q1 to Q2-Q3 and Q4 over the study period. These are the companies that are wavering in information disclosed. Thus, certain steps should be taken to instill some confidence in companies so that they start disclosing all required financial and non-financial information consistently and progressively.

5.4 FACTORS EMERGING OUT OF THE PARAMETERS DEFINED BY IIRC IN THE CONTEXT OF INTEGRATED REPORTING.

Factor analysis is a technique for taking a large amount of data and condensing it into a more manageable and understandable data set. It is a method for locating hidden patterns, demonstrating how they overlap, and highlighting the traits shared by many patterns. It is also used to create a set of variables for similar items in the set (also called dimensions). When dealing with intricate concepts and large data sets, it can be a very helpful tool.

A group of variables that are observed and exhibit comparable response patterns are referred to as "factors." These variables are connected to a hidden variable, also known as a confounding variable, which is not explicitly assessed. Factors are listed according to factor loadings, or how much variation they can explain.

Large datasets are increasingly common and are often difficult to interpret. Such datasets need to be interpreted, which necessitates approaches that dramatically reduce their dimensionality while yet preserving the majority of the data's information. Principal component analysis (PCA), one of the first and most extensively used approaches for this purpose, has been created. The basic idea behind it is to keep as much "variability" (i.e., statistical data) while reducing

the dimensionality of a dataset. When our purpose is to reduce the correlated predictors into a smaller set of dimensions or components that are independent of each other, we use PCA.

To study this objective, we ran Factor Analysis, with PCA as the method used. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy (hereafter, KMO), is a measure of whether distribution of values is adequate for conducting Factor Analysis. The range of the KMO statistic is 0 to 1. A score of 0 implies that the pattern of correlations has diffused, with the sum of partial correlations being large relative to the sum of correlations (hence, factor analysis is likely to be inappropriate). When the score is close to 1, it means that the patterns of correlations are generally compact, which means that factor analysis should provide distinct and trustworthy factors. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable.

For Public sector companies, we observed a KMO of 0.543 and for Private sector companies, we observed a KMO of 0.634; implying that our results could be termed adequate and acceptable for conducting factor analysis (Kaiser, 1974). The Cumulative Variance Percentage indicates the cumulative percentage of variance accounted for by the current and all preceding principal components.

Using PCA, the number of components extracted will be equivalent to the variables entered. We employed 14 variables in our analysis, hence there are 14 components. Since we utilized the correlation matrix to execute the PCA, the variables are standardized, implying that each variable is having a variance of one, and the overall variance equals the number of variables utilized in the analysis, in this scenario 14. We retained those factors that hold an Eigen value greater than one and have thus ended up with three such factors, suggesting a three-factor solution.

Table 17: *Variables under each Factor for Public Sector Companies*

FOR PUBLIC: VARIABLES UNDER EACH FACTOR		
F1	**F2**	**F3**
Opportunities	Strategy and Resource Allocation	Risk
Future Outlook	Intellectual Capital	
	Manufactured Capital	
	Natural Capital	

Table 18: *Variables under each Factor for Private Sector Companies*

FOR PRIVATE: VARIABLES UNDER EACH FACTOR		
F1	**F2**	**F3**
Strategy and Resource Allocation	Intellectual Capital	Risk
Opportunities	Natural Capital	Future Outlook
Manufactured Capital		

For Public Sector Companies, this resulted in extracting three factors maintaining 59.823% of the total variance inherent in the original data. Two variable loadings form a part of IR_1, both of which are positive, hence moving in the same direction. Four variable loadings form a part of IR_2, all of which are positive, hence moving in the same direction. One variable loading forms a part of IR_3, being positive.

Table 19: *Variance explained for Public Sector Companies*

PUBLIC COMPANIES:			
KMO = .543 **Sig** =.000			
Cumulative variance (%) = 59.823			
Factor Loadings			
Factors	**1**	**2**	**3**
Aspects of IR	**IR_1**	**IR_2**	**IR_3**
1.Natural Capital		.742	
2. Intellectual Capital		.688	
3.Manufactured Capital		.507	
4. Future Outlook	.890		
5.Opportunities	.843		
6.Risks			.889
7.Stategy and Resource Allocation		.428	

For Private Sector Companies, this resulted in extracting three factors maintaining 60.202% of the total variance inherent in the original data. Three variable loadings form a part of IR_1,

two variable loadings form a part of IR_2, hence moving in the same direction and two variable loadings form a part of IR_3, both being positive, hence moving in the same direction.

Table 20: *Variance explained for Private Sector Companies*

PRIVATE COMPANIES:			
KMO = .634 **Sig** =.000			
Cumulative variance (%) = 60.202			
Factor Loadings			
Factors	**1**	**2**	**3**
Aspects of IR	**IR_1**	**IR_2**	**IR_3**
1.Natural Capital		.792	
2. Intellectual Capital		.799	
3.Manufactured Capital	.722		
4. Future Outlook			.544
5.Opportunities	.616		
6.Risks			.777
7.Stategy and Resource Allocation	.752		

NOTE: $IR_{n:\ where}$ IR stands for Integrated Reporting and n stands for the factor number

5.5 ASSOCIATION BETWEEN THE VARIOUS INTEGRATED REPORTING FACTORS AND FIRM PERFORMANCE.

As mentioned in the study by Neely, Gregory & Platts, (1995), the method of determining the efficiency and efficacy of an operation is known as measurement of performance, which is perceived to be more crucial than quantification and accounting, in today's era of business management (Koufopoulos, Zoumbos & Argyropoulou, 2008). According to Bititci, Carrie, and McDevitt (1997), performance management is a mechanism by which a company controls its performance so as to align it with its corporate and functional strategies. Furthermore, the value of a company can be described as the benefits received by its shareholders as a result of owning the company's stock (Rouf, 2011). The financial statement released by the company can be used to assess the company's results. As a result, a high- performing business may encourage management to make quality disclosures (Herly & Sisnuhadi, 2011). Any company's performance must be regularly measured in order for it to be managed effectively

(Demirbag, Tatoglu, Tekinus and Zaim, 2006). It is impossible to progress without first testing the performance. As a result, so as to improve organizational performance, measuring the effect of organizational capital on business performance is essential (Gadenne and Sharma, 2002). A company's success is largely influenced by its results over a period of time span. Some serious work is being put in by researchers so as to identify indicators to define the idea of performance as a critical concept. Finding a measure for a company's performance allows for comparisons across time frames. Nonetheless, no precise measurement capable of measuring all aspects of efficiency has been established to date (Snow & Hrebiniak, 1980).

While there are several different types of performance measurements across various fields, we have attempted to restrict this analysis to IR. We will provide a perspective into the evaluation of firm performance from various viewpoints based on our reading of articles related to connections with IR. A plethora of methods for assessing financial performance have been proposed, including: Return on Equity (ROE), Return on Total Assets (ROA), Net Profit Margin (NPM), Price-Earnings Ratio (PE), Return on Capital Employed (ROCE), Financial Leverage or Debt-to-Equity Ratio (DE), Market-to-book value (PB), among the others.

To substantiate this objective, seven dependent variables were considered to capture firm performance namely:

Table 21: *Dependent Variables selected for the study*

DEPENDENT VARIABLES	ABBREVIATION
1. Market Value to Book Value	PB
2. Price-Earnings Ratio	PE
3. Return On Capital Employed	ROCE
4. Return On Net Worth	RONW
5. Debt-Equity Ratio	DE
6. Net Profit Margin	NPM
7. Return On Assets	ROA

To test the robustness, we use the three factor scores so generated by PCA and keeping the seven ratios as the dependent variables, to capture firm performance, we ran Regression and

tried to examine the impact of the above-mentioned factors on them. Seven models were developed to gauge the impact of independent variables on the firm's performance. They are:

Model I: $\mathbf{PB = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error}$

We found that in case of Public Sector Companies, IR_2 has been found to be significant. Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital and Natural Capital are the variables that have a significant association with PB Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_1 and IR_2 are found to be significant. Variables like Strategy and Resource Allocation, Opportunities, Intellectual Capital, Manufactured Capital and Natural Capital have a significant association.

Table 22: *Parameter estimates for PB Model*

SECTOR		**Beta**	**Sig.**
PUBLIC	(Constant)		
	IR_1	0.057	0.226
	IR_2	-0.155	**0.001**
	IR_3	-0.016	0.729
PRIVATE	(Constant)		
	IR_1	0.059	**0.000**
	IR_2	0.046	**0.006**
	IR_3	0.024	0.152
F Statistic Public: 4.099		**F Statistic Private:** 7.367	
Significance Public: 0.007		**Significance Private:** 0.000	
R Squared Public: 0.0027		**R Squared Private**: 0.006	

Previously, information on these factors were not properly disclosed by companies. But now we observe that these factors do have a significant association with PB Ratio, defined as a connection between the book values specified in the balance sheet and the stock's market price.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.007 for Public and 0.000 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model II: **$PE = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error$**

We found that in case of Public Sector Companies, IR_1 has been found to be significant. Opportunities and Future Outlook are the variables that have a significant association with PE Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_2 is found to be significant. Variables like Intellectual Capital and Natural Capital have a significant association.

Table 23: *Parameter estimates for PE Model*

SECTOR		**Beta**	**Sig.**
PUBLIC	(Constant)		
	IR_1	0.103	**0.030**
	IR_2	-0.073	0.123
	IR_3	0.050	0.294
PRIVATE	(Constant)		
	IR_1	0.022	0.196
	IR_2	-0.034	**0.040**
	IR_3	-0.015	0.362
F Statistic Public: 2.738		**F Statistic Private**: 2.240	
Significance Public: 0.043		**Significance Private:** 0.032	
R Squared Public: 0.018		**R Squared Private**: 0.002	

We observe that, Intellectual Capital, which is a form of capital that was not disclosed much, is seen have a significant association with PE across most firm years, implying that intellectual property like patents, new research and development and use of new technologies and skills possessed by employees does tend to have an association on the earnings of the companies.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.043 for Public and 0.032 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model III: **$NPM = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error$**

In case of Public Sector Companies, IR_1 and IR_2 are found to be significant. Opportunities, Future Outlook, Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital

and Natural Capital are the variables that have a significant association with NPM Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_2 is seen to be significant. Variables like Intellectual Capital and Natural Capital have a significant association.

Table 24: *Parameter estimates for NPM Model*

SECTOR		**Beta**	**Sig.**
PUBLIC	(Constant)		
	IR_1	0.280	**0.000**
	IR_2	0.139	**0.002**
	IR_3	-0.015	0.745
PRIVATE	(Constant)		
	IR_1	0.009	0.586
	IR_2	-0.007	**0.005**
	IR_3	0.021	0.215
F Statistic Public: 15.819		**F Statistic Private**: 162.592	
Significance Public: 0.000		**Significance Private:** 0.000	
R Squared Public: 0.098		**R Squared Private**: 0.001	

The above-mentioned variables have a significant association with NPM across most firm years, implying that information on these variables has an association on the firm's value.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.000 for Public and 0.000 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model IV: $\mathbf{RONW = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error}$

In case of Public Sector Companies, IR_1 and IR_2 are found to be significant. Opportunities, Future Outlook, Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital and Natural Capital are the variables that have a significant association with RONW Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_2 and IR_3 are found to be significant. Variables like Intellectual Capital, Natural Capital, Risk and Future Outlook have a significant association.

Table 25: *Parameter estimates for RONW Model*

SECTOR		**Beta**	**Sig.**
PUBLIC	(Constant)		
	IR_1	0.167	**0.000**
	IR_2	0.253	**0.000**
	IR_3	-0.028	0.535
PRIVATE	(Constant)		
	IR_1	0.014	0.405
	IR_2	0.070	**0.000**
	IR_3	-0.060	**0.000**
F Statistic Public: 14.874		**F Statistic Private**: 10.527	
Significance Public: 0.000		**Significance Private:** 0.000	
R Squared Public: 0.093		**R Squared Private**: 0.009	

RONW shows how much profit a company generates with the invested money of equity shareholders. We observe that, the above variables are seen to have a significant association with RONW across most firm years, implying that these variables are associated with the decisions made by the stakeholders of the companies.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.000 for Public and 0.000 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model V: $\mathbf{ROA = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error}$

We found that in case of Public Sector Companies, IR_1 and IR_2 are found to be significant. Opportunities, Future Outlook, Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital and Natural Capital are the variables that have a significant association with ROA Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_1, IR_2 and IR_3 are found to be significant. Variables like Strategy and Resource Allocation, Opportunities, Manufactured Capital, Intellectual Capital, Natural Capital, Risk and Future Outlook have a significant association.

Table 26: *Parameter estimates for ROA Model*

SECTOR		**Beta**	**Sig.**
PUBLIC	(Constant)		
	IR_1	0.164	**0.000**
	IR_2	0.140	**0.003**
	IR_3	-0.005	0.912
PRIVATE	(Constant)		
	IR_1	0.128	**0.000**
	IR_2	0.064	**0.000**
	IR_3	-0.037	**0.025**
F Statistic Public: 7.091		**F Statistic Private**: 26.722	
Significance Public: 0.000		**Significance Private:** 0.000	
R Squared Public: 0.047		**R Squared Private**: 0.022	

Thus, we observe that variables like Opportunities, Future Outlook, Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital, Risk and Natural Capital have an association with ROA that tests how well a company uses its assets to generate profits over a given time span.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.000 for Public and 0.000 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model VI: $\mathbf{ROCE = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error}$

We found that in case of Public Sector Companies, IR_1 and IR_2 are found to be significant. Opportunities, Future Outlook, Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital and Natural Capital are the variables that have a significant association with ROCE Ratio across our sample period, given our sample firms.

In case of Private Sector Companies, IR_1 and IR_2 are found to be significant. Variables like Strategy and Resource Allocation, Opportunities, Intellectual Capital, Manufactured Capital and Natural Capital have a significant association.

Table 27: *Parameter estimates for ROCE Model*

SECTOR		Beta	Sig.
PUBLIC	(Constant)		
	IR_1	0.109	**0.021**
	IR_2	0.140	**0.003**
	IR_3	-0.005	0.919
PRIVATE	(Constant)		
	IR_1	0.112	**0.000**
	IR_2	0.054	**0.001**
	IR_3	-0.016	0.327
F Statistic Public: 4.735		**F Statistic Private**: 19.092	
Significance Public: 0.003		**Significance Private:** 0.000	
R Squared Public: 0.032		**R Squared Private**: 0.016	

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.003 for Public and 0.000 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

Model VII: $\mathbf{DE = \alpha + \beta_1 IR_1 + \beta_2 IR_2 + \beta_3 IR_3 + error}$

We found that in case of Public Sector Companies, IR_2 is found to be significant. Strategy and Resource Allocation, Intellectual Capital, Manufactured Capital and Natural Capital are the variables that have a significant association with DE Ratio across our sample period.

In case of Private Sector Companies, IR_1 is found to be significant. Variables like Strategy and Resource Allocation, Opportunities and Manufactured Capital have a significant association.

Table 28: *Parameter estimates for DE Model*

DE MODEL			
SECTOR		Beta	Sig.
PUBLIC	(Constant)		
	IR_1	0.031	0.517
	IR_2	-0.117	**0.014**
	IR_3	0.034	0.479
PRIVATE	(Constant)		
	IR_1	-0.031	**0.042**
	IR_2	0.007	0.674
	IR_3	-0.011	0.497
F Statistic Public: 2.338		**F Statistic Private**: 2.919	
Significance Public: 0.043		**Significance Private:** 0.034	
R Squared Public: 0.016		**R Squared Private**: 0.001	

Strategy and Resource Allocation, Intellectual Capital, Opportunities, Manufactured Capital and Natural Capital were found to have significant association with DE, implying that decisions regarding these variables help in determining the firm's capital structure.

Further, the F-Statistic is a diagnostic test of the R-square, is highly significant having a sig. value of 0.043 for Public and 0.034 for Private Sector Companies. This confirms the statistical significance of all the co-efficient hence making the model significant.

In pursuance of the regression analysis conducted for all the seven dependent variables as against the factor scores so generated, we observed the R-squared values to be consistently low. However, we know that social science is a very vast and all-encompassing domain, making it all the more diverse. Thus, getting a large R-square might not always be possible, or better still, desirable. In social science, to examine the effectiveness of a factor the size of R squared does not matter. Also, R-square is merely used as an explanatory tool for associations and not as a predictor. It also is not an indicator of the quality of a regression model. R-square is a measure of explanatory power, not fit. We don't expect models, particularly in the social or behavioral sciences, to include all the necessary predictors to explain an outcome variable, therefore a lot of data could be created using a low R-square. Neither does R-squared measure predictive error, nor does it measure how one variable explains another. Thus, we have analyzed the R-Square along with other variables so as to derive affirmative conclusions about the regression model. Moksony (1999) in his study found that the coefficient of determination comprises a mixture of three factors, namely, the impact of the explanatory variable, the degree of its variation, and the size of the spread around the regression line. Moksony, goes on to validate his finding by reinstating that, because it is affected by so many factors, R-square is unable to reflect any of them accurately.[32]

[32]https://www.researchgate.net/publication/242329609_Small_Is_Beautiful_The_Use_and_Interpretation_of_R2_in_Social_Research

We observed that variables like Strategy and Resource allocation, Future Outlook, Intellectual Capital, Manufactured Capital and Natural Capital have a positive p value consistently over the ten years and is shown to have an impact on all the seven profitability ratios taken for our study namely PB Ratio, PE Ratio, Return on Net Worth, Return on Capital Employed, Return on Asset, Net Profit Margin and Debt Equity Ratio.

Previously, many would assume that the profitability of a company is mainly dependant on its Financial Capital i.e., how much money or financial resources a company can make and collect. But with time, we see that this notion is slowly proving to be wrong. The profitability of a company is dependent on various factors or variables. With changing times, it has been observed that, the needs of the stakeholders have changed as well. Earlier, importance was given to financial capital only, but, we see that the interest of the stakeholders has now shifted from Financial Capital to Intellectual Capital, Manufactured Capital and Natural Capital.

Intellectual Capital is a variable that is seen to have an impact on the financial performance of the companies. It is basically associated with the company's potential to be intellectually strong by coming up with new technologies, software and hardware to work with, using employee knowledge to the fullest and also includes intellectual property rights. The sum total of all this gives the company a competitive edge over others. It is mostly the value of intangible assets or objects that was not explicitly listed in the company's balance sheet. But with time, it is now seen to be a very powerful tool. With a close connection and dependence between investments in R&D, innovation, human resources, and external relationships, which can define the organization's competitive edge, intellectual capital is now a crucial component of an organization's future earning potential. The stakeholders have understood this and that is why, over time, through our study we see that, in the last ten years, Intellectual Capital is having a great impact on the financial performance of the companies.

The next IR Variable that proved to be significant over ten years here is Manufactured Capital. Any type of material goods, any type of infrastructure that is owned by the company, any machinery that is owned by the company or leased by the company that helps in the manufacturing and production process of the company is included in Manufacturing Capital. Manufactured capital is critical for an organization's long-term success in two ways. For starters, making optimal use of manufactured capital allows a company to be more flexible, responsive to market or social needs, inventive, and faster to market with its products and services. Second, manufactured capital and technology can help to cut resource consumption and put greater emphasis on human innovation, improving both efficiency and development.

The next variable that has an impact on the decisions of the investors is the Natural Capital. It is all renewable and non-renewable natural resources and processes that offer commodities or services that contribute to an organization's past, current, or future success. Air, water, land, minerals, and forests, as well as biodiversity and eco-system health, are all included in Natural Capital. For a business to run effectively and efficiently, it needs support from various factors. The environment is one such factor that helps the company to grow by providing it the various resources required to earn profits. Companies nowadays are dependent on the environment up to a certain extent. Inputs for the production process to electricity required to run the factories and offices all of this is obtained from the natural environment. With time, companies have understood the importance of having a sustainable environment and are taking steps to give some back to the environment. This act is being recognised by the stakeholders and with time they are also understanding Natural Capital's importance in affecting the profitability of the business. Our analysis also supports this statement, and we see that Natural Capital is a significant Factor that affects the profitability of the business.

Content Elements like Opportunities too is a significant factor to the profitability ratios. Revealing information about the content element of opportunities in the Annual Reports of the

companies, has an impact on the profitability of the company and the decisions taken by the investors and stakeholders. By letting the stakeholders know about the effect that the organisation has on the availability, quality and affordability of relevant capitals in the short, medium and long term and about the various opportunities that the company is having ahead of them is seen to impact the profitability.

Other content elements like Strategy and Resource Allocation along with Future Outlook are significant factors as well. By letting our stakeholders know about the various strategies that the company would apply in future and take up, to help in improving the business and its profits is appreciated by the stakeholders and prospective investors. As what the business would do in future is a deciding factor as to what happens to its profits today. So, the way in which the company would allocate resources, the strategies to be applied either to tackle competition or to stay ahead in the race are significant in deciding the profitability of the business and this what our analysis has shown as well.

Thus, the above results highlight the various parameters having an effect on firm performance of the companies. Parameters like Strategy and Resource Allocation, Future Outlook, Intellectual Capital, Opportunities, Manufactured Capital and Natural Capital have a significant association on the performance of both public and private sector companies. But quite interestingly, a parameter like Risk is seen to be having a significant association on Private Sector Companies and not on Public Sector Companies. To lessen the likelihood that unforeseen events may compromise the organization's goals, risk management is nevertheless essential. Risk management is a key element of corporate governance in both public and private sector organizations, in terms of their structures, processes, corporate values, culture and behavior. We thus observe that, Risk as a parameter, significantly affects Private Sector Companies but our results do not suggest the same about Public Sector Companies.

CHAPTER 6: CONCLUSION

6.1 CONCLUSION

An integrated report assists readers in better understanding the value creation process, allowing them to make more educated decisions. Internally, IR aids firms in understanding the value creation process, and externally, it presents the company's reports in such a way that it clearly demonstrates its worth to its stakeholders. For this purpose, our study gives us an overview about IR in India presently.

The sample of our study was based on the top 500 companies published by ET500. All banks and financial institutions had been excluded from the sample, since their nature of accounting practices and policies adopted are different. Our final dataset consisted of 403 companies to substantiate the first two objectives and 402 companies to substantiate the final three objectives. The dataset was constructed for ten years, namely 2010-11 to 2019-20. Given our objectives and our dataset, we first constructed an IRI comprising of 14 parameters to capture the level of disclosure for financial and non-financial information among the 402 companies. We then devised an alternative measure for evaluating the impact of the parameters on firm performance by using PCA. Thereafter, Pearson's Correlation Analysis, followed by Multiple Regression Analysis was employed to substantiate our objectives.

To substantiate our first objective, we carefully studied the annual of all the 403 companies to find out whether the companies, in the said ten-year period, have disclosed information on the various content elements and capitals. Our study on the top 403 companies of India for the years 2010-11 to 2019-20 shows that none of the companies have included integrated reports in their annual reports in the year 2010-11 but slowly we see that it keeps increasing to 1% in 2015-16, to 1% in 2016-17 to 6% in the year 2017-18, to 8% in the year 2018-19 and 14% in the year 2019-20. We further observed that all the 403 companies have disclosed information

on the various content elements like business overview, performance and their governance model. At the same time, it can also be noted that the content element of business model is presented by none of the companies in the years 2010-11 to 2014-15 but slowly we see that it keeps increasing to 1% in 2015-16, to 6% in the year 2017-18, to 9% in the year 2018-19 and 18% in the year 2019-20. While studying the disclosure rate of the various capitals, it was observed that almost all the companies had disclosed and spoken about the Financial, Human and Social and Relationship Capital. Intellectual Capital and Manufactured Capital are least disclosed. Intellectual Capital is disclosed by 88% companies in 2010-11 to 90% in 2015-16 to 93% in 2019-20. Manufactured Capital is disclosed by only 38% in 2011-12 to 40% in 2015-16 to 48% in 2019-20.

To substantiate our second objective, we segregated our total dataset into two categories i.e. Public Sector Companies and Private Sector Companies. We identified that our total dataset of 403 companies consisted of 44 public sector companies and 359 private sector companies. Our study on the top 44 public sector companies of India for the years 2010-11 to 2019-20 shows that none of the companies have included integrated reports in their annual reports in all the ten years. While finding out the disclosure of content elements by the companies, we observed that all the 44 companies have disclosed information regarding their business overview, performance and their governance model. At the same time, it can also be noted that business model is presented by none of the companies in all years. Strategy and Resource Allocation is a content element that is another least disclosed variable by the public sector companies. In 2010-11 only 16% companies have disclosed information on this element which slowly increases to 20% in 2016-17 to 27% in 2017-18 to 25% in 2018-19 and to 25% in 2019-20. It was further observed that almost all the companies had disclosed and spoken about the Financial, Human and Social and Relationship Capital. Intellectual Capital and Manufactured Capital are least disclosed. Intellectual Capital is disclosed by 80% companies in 2010-11 to

82% in 2015-16 to 91% in 2019-20. Manufactured Capital id disclosed by only 14% in 2011-12 to 11% in 2015-16 to 32% in 2019-20.

Our study on the top 359 private sector companies of India for the years 2010-11 to 2019-20 indicates that none of the companies have included integrated reports in their annual reports in the year 2010-11 but slowly we see that it keeps increasing to two companies in 2015-16, to 23 companies in the year 2017-18, to 34 companies in the year 2018-19 and 58 companies in the year 2019-20. We see that all the 359 companies have disclosed information regarding their business overview, performance and their governance model. At the same time, it can also be noted that business model is presented by none of the companies in the years 2010-11 to 2014-15 but slowly we see that it keeps increasing to 1% in 2015-16, to 6% in the year 2017-18, to 9% in the year 2018-19 and 20% in the year 2019-20. It was also observed that almost all the companies had disclosed and spoken about the Financial, Human and Social and Relationship Capital. Intellectual Capital and Manufactured Capital are least disclosed. Intellectual Capital is disclosed by 89% companies in 2010-11 to 91% in 2015-16 to 94% in 2019-20. Manufactured Capital is disclosed by only 42% in 2010-11 which increases to 43% in 2015-16 to 44% in 2016-17 to 48% in the year 2017-18 to 49% in 2018-19 and up to 50% in 2019-20.

The uniqueness of this study lies in the fact that we attempted to develop an index using a large firm-level database, including facets of IR mechanisms that have not been studied in depth and analysed. This sort of comparative analysis, across such vast number of companies, hasn't been bought up and studied previously. Thus, to substantiate our third objective, the IRI helped us to identify four categories of companies that exist at present i.e., Companies with Low Compliance, Companies with Moderate Compliance, Companies with Progressive Compliance and Companies with High Compliance. We observed that each passing year, indicated a positive trend wherein the number of High Compliance Companies are increasing, which is a

good sign. In the 2010-11, we had 39 High Compliance Companies, which increased to 56 companies in 2012-13, to 100 companies in 2017-18, and to 115 High Compliance Companies in 2019-20.

Identifying clusters of associated variables is the objective of PCA. Instead of a conceptual premise or previous empirical substantiation, the factors are compiled depending on their statistical features. The fundamental factors of PCA are obtained through the Eigen Value breakdown, the precision of which determines the authenticity of these components, which determines the credibility of results. For Public sector companies, we observed a KMO of 0.543 and for Private sector companies, we observed a KMO of 0.634. Thus, the KMO values in our study, indicated that the results were acceptable for conducting factor analysis, yielding distinct and reliable factors, as across all ten years the KMO value obtained, for both sectors, was greater than 0.5 (Kaiser, 1974).

Further, as we used PCA, the number of components extracted was equivalent to the variables entered. We employed 14 variables in our analysis, hence there were 14 components. We had retained those factors that hold an Eigen value greater than one and have thus ended up with three such factors, suggesting a three-factor solution. These three factors, for all ten years characterize the dimensionality of our 14 individual indicators. We also observed that factor loadings across all ten years, as discussed earlier, were positive, indicating movement in the same direction.

An investigation into the relationship between IR variables used in the study and firm performance, revealed that of the factors generated from PCA, most of them had a significant association with firm performance indicating that the sampled companies are attempting to move towards a degree of higher compliance. The regression analysis conducted helped us identify the various variables that have a significant association on IR. Variables like

Intellectual Capital, Manufactured Capital, Natural Capital, Opportunities, Strategy and Resource Allocation, etc, have a significant association on IR. Intellectual Capital is now seen to be a very powerful tool. The stakeholders have understood this and that is why, over time, through our study we see that, in the last 10 years, Intellectual Capital is having a great impact on the performance of the firms.

Manufactured capital is critical for an organization's long-term success in two ways. For starters, making optimal use of manufactured capital allows a company to be more flexible, responsive to market or social needs, inventive, and faster to market with its products and services. Second, manufactured capital and technology can help to cut resource consumption and put greater emphasis on human innovation, improving both efficiency and long-term development. By letting our stakeholders know about the various strategies that the company would apply in future and take up, to help in improving the business and its profits is appreciated by the stakeholders and prospective investors. As what the business would do in future is a deciding factor as to what happens to its profits today. So, the way in which the company would allocate resources, the strategies to be applied either to tackle competition or to stay ahead in the race are significant in deciding the profitability of the business and this what our analysis has shown as well.

6.2 LIMITATIONS OF THE STUDY

While our study has highlighted quite a few many points which will help us to understand IR in a much better way, but we did suffer from certain limitations. Firstly, our study is based on the existing IR Framework which is susceptible to changes in future. Thus, in case of any major changes there is a possibility that our findings may not hold good. Secondly, since there is no final IR Framework, not many companies have adopted IR as a way of reporting financial and non-financial information. So, finding the exact picture of IR in India was another limitation.

Thirdly, the size of our dataset is a limitation as well. Banks and financial institutions have been omitted because they are governed by a separate set of directives and standards than other businesses (Abed et al., 2011). From the top 500 companies, we came down to 403 companies where banks and financial institutions were excluded from the dataset.

Thus, in conclusion, companies should be encouraged to adopt IR and steps must be taken to encourage them to move towards Higher Compliance. This would not be a simple task to achieve as it would require everyone, i.e., from all persons to companies, in India to understand the benefits of IR and encourage the reporting of financial as well as non- financial information. However, we also observed that the tendency to report non-financial information among the various sample companies is growing and is likely to continue.

6.3 FUTURE SCOPE OF RESEARCH

This research contributes significantly to the understanding of IR practises and their impact on the top listed company performance. In order to further the study, we could take a cue from Basu (2022), who through their study observed the need for convergence of the diversified practices in Sustainability Reporting. They stated that firms involved in the practice of sustainability reporting are getting confused and are trying to leverage some of the standards that have been developed by groups like Sustainability Accounting Standards Boards, The Global Reporting Initiative, The IIRC, The Climate Disclosure Standard Board and The Carbon Disclosure Project. Considering all the present practices of sustainability reports from all over they concluded that a unified and globally accepted sustainability reporting practices needs to be adopted, which is the need of the hour and thus will help in communicating every domain of performance of the reported company.

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