A STUDY OF THE IMPACT OF SUSTAINABILITY REPORTING ON SOFTWARE INDUSTRIES IN INDIA AND HOW THE BUSINESS HAS CHANGED

by

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Dedication

This research work is dedicated to all my fellow sustainability professionals. Their relentless and dedicated efforts have managed to strike a balance between People, Planet, and Profit.

It would be incomplete to say that sustainability professionals are only those experts who have dealt with strategy and policy-level interventions, but the complete circle can only be achieved when we account for each hand that leads to a sustainable future.

Lastly, I would quote the words of Sir David Attenborough “No one will protect what they don’t care about, and no one will care about what they have never experienced.,” which resonates with the integral system of sustainability.

Acknowledgments

This DBA research has been an insightful journey for me. It could not have been possible without the direct and indirect support of many people I met on this journey. It would be wrong on my end to not recognize the unseen but prevalent support of God, which lead me to this transforming journey of my academic and professional career.

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ABSTRACT

A STUDY OF THE IMPACT OF SUSTAINABILITY REPORTING ON SOFTWARE INDUSTRIES IN INDIA AND HOW THE BUSINESS HAS CHANGED

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Abstract

This research critically reviews the evolution, implementation, and impact of Sustainability encompassing Environmental, Social, and Governance abbreviated as ESG reporting within the Indian Software Industry (referred as Software Industry or IT industry/companies in this research). Sustainability reporting in India was a voluntary practice, which has now become an integral requirement due to rising stakeholder demands and international stakeholder pressures. IT companies in India have positively adopted advanced ESG practices based on global frameworks such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) now merged under International Financial Reporting Standards (IFRS), Task Force on Climate-related Financial Disclosures (TCFD), and the United Nations Sustainable Development Goals (UN SDGs) and now the current regulatory requirements such as Business Responsibility & Sustainability Reporting in India and ESRS in EU and similarly in other parts of the globe based on their global operations requirement.

This study uses a mixed-method research methodology, combining quantitative data from ESG reports of selected Indian companies and surveys, qualitative insights derived from questionnaire surveys from industry professionals within India and outside India, and a literature review on ESG reporting in the Indian context and peers across the globe. The

hypothesis of this research is that comprehensive ESG reporting significantly improves sustainability-related gains and gives a competitive advantage, positively influencing stakeholders and investment increase.

The study reveals persistent challenges, primarily concerning inconsistent data quality and accuracy, significant costs involved in ESG implementation and the absence of standardized reporting frameworks, and the potential risk of greenwashing.

The analysis shows ESG maturity varies within the sector, and companies have taken differing approaches in reporting formats (integrated versus standalone) and validation methods (Self-declaration vs third party) however, preference for third-party validation shows enhanced credibility. Results support the hypothesis, confirming that robust ESG practices yield substantial strategic and operational benefits.

Recommendations derived from this research emphasize the necessity for increased third-party ESG assurance and the availability of standard reporting frameworks which will improve transparency, comparability, and accountability. The thesis concludes that integrated ESG reporting is essential, not only for regulatory compliance but as a critical driver of long-term business sustainability and competitive advantage in the global marketplace.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

ESG or Sustainability reporting has helped organizations to enable various dimensions of Environment, Social, and Governance and ensured, to measure, manage, and publicly disclose their economic, environmental, and social performance (Giridhari et al, 2018). The primary reason for the companies to report their ESG performance in the public domain is the demand from its stakeholders such as employees, customers, suppliers, loan providers, government, and other regulatory authorities, etc. In some countries, reporting sustainability information is mandatory by regulation, while in others it remains voluntary. (N, Dr. Abhishek et. al, 2019), however, the picture is now changing with more countries adopting regulatory frameworks as mandate and guidance to plan and report on their ESG Strategies, Risks and Opportunities, Targets, Achievements and Way ahead. As per the KPMG survey of sustainability reporting 2020 of the 80% companies worldwide who report on sustainability, 90% are from North America, 100% from Japan and Mexico and an increasing trend has been seen in France, Japan, India, and Malaysia since 2017.

Companies in India started reporting on ESG parameters a little later as compared to the other countries of the world. Until Sept 2011 only 43 corporates in India had published sustainability reports out of which only 3 were software companies (Shailesh Telang, Sept 2011). Recent research on ESG (Environmental, Social, and Governance) reporting in India's IT industry highlights considerable progress and ongoing challenges. A study titled "The Current State of BRSR at Corporate India," published in October 2024 (CFA Institute Research, Oct 2024), analyzed the Business Responsibility and Sustainability Reporting (BRSR) disclosures of 300 companies, representing approximately 70% of India's total market capitalization. This comprehensive analysis aimed to assess the quality of ESG disclosures across various sectors, including IT companies. However, the research did not focus on the IT companies. The literature review conducted during this research has provided insights that studies have been conducted on sustainability reporting at a global level and from various companies, but very little study has been conducted in the context of Indian companies and specifically about ESG Reporting, Standards, frameworks, regulations, and its implications on business of IT industries.

1.2 Research Problem

Sustainability/ ESG reporting has become the latest need of the hour and has shown its significance over time (Muigua et. al, 2022). ESG reporting has increased due to an increase in demand by investors. In a study in the US, it was seen that the quality of reporting is not directly proportional to the quantity of reporting, hence the need for more in-depth review was felt. The nonavailability of comparable standards also creates questions about the uniformity and thereby ranking of the ESG reports (Barker, Richard et al 2018), There has been an increase in the amount of data being reported which has in turn increased the assurance needed, and efforts needed, but it is also observed that the quality in the ESG reports is declining, (Arvidsson S & Dumay, 2022).

Lack Of common regulatory frameworks in Europe and Asia is also affecting transparency, reporting quality, comparability, and investment and trade objectives as seen in the research (Schumacher Kim, et, al. 2022). It is also seen that companies are trying to highlight only the good outcomes, which sidelines other important material elements causing misleading results. Favoring short-term goals has also been a mode of disclosure, prevalent due to the uncertainty in long-term goals, however, this approach is also not evaluated to the extent needed (Jilde Garstl, et al, 2022). The need for transparency and accountability, user-friendliness of the legislation has been stressed in recent studies (Novaes, Anthony, 2023 and Markarian, Garen, 2023).

Sustainability reporting in India has also evolved over a period (Saxena, Dr. Nitin Kishore, 2022). Studies in the Indian context focus more on fiscal impact due to ESG reporting as

investors are looking at harmonization of the standards for better comparability. (Savio, R et, al, 2020). The literature shows the focus of research on reporting by various sectors like Cement, Mining, Manufacturing, Telecommunications, etc., and other research on global company's club IT Companies along with other similar companies, hence the study and impact of ESG reporting for the independent software industry is not clear. The literature available on the Indian Software industries is very few or not available. The WBCSD report also says that there is room for improvement in sustainability reporting for companies in India (WBCSD-2018). There is a potential to research and find how the Indian Software industries have responded in the above context since less or no work has been done specifying the IT industry sector.

1.3 Purpose of Research

The goal of the proposed research is to study how ESG reporting has evolved in India and the Indian IT industries and its impact on business. The key objective of the research is to know more on,

- What is the ESG reporting status of IT companies in India and what is the impact on their business?
- Understand how Indian IT companies have evolved and responded to the changing landscape of standards and how their actions match their goals.

- What does the industry think and recommend on standardization or framework/single framework adaptation and increasing transparency and accountability?
- Supplying recommendations for industries trying to adopt and develop their ESG reporting.

To enrich the research, a qualitative component will be incorporated through survey responses (no interviews were conducted) with key industry stakeholders selected from Indian context. These survey responses aim to capture managerial perceptions, interpretation of regulatory shifts, and the practical challenges encountered during ESG implementation. These insights are often not reflected in secondary data hence survey responses will give a better perception. These experiences and strategic thought processes of ESG leaders will give a deeper understanding of ground-level realities, thus complementing the document-based analysis and enhancing the overall relevance of the study.

This research has the potential to add value to the limited existing literature that focuses specifically on the IT industry in India. Additionally, it aims to guide software and IT services companies in benchmarking their ESG journeys against peer practices, helping them align with global sustainability expectations, improve stakeholder trust, and strengthen their long-term business resilience.

1.4 Significance of the Study

As known and mentioned previously only a less significant number of companies have reported their sustainability reports in earlier years (Shailesh Telang, Sept 2011). In the recent past the higher rate of sustainability information increased in the annual reports of Indian companies due to the regulatory requirement for the top 1000 listed companies in India to provide as per the Business Responsibility Report (BRR). The report was to be provided to the stock exchange as a part of their annual report. Another similar regulatory requirement that works on the fringe is the Companies Act, which requires companies to disclose corporate social responsibility (CSR) plans, where companies are required to spend 2% of their profits on CSR leading to consideration of it as a voluntary requirement as the regulatory requirement is limited to the top 1000 listed companies and reiterates the less participation by the software industries as evident in the studies conducted (Sahoo, Giridhari & Swain, Rabindra, 2018).

The current trends and research in sustainability reporting for India show that as a country, India has the potential to increase the number of companies reporting their sustainability performance and the government can play a major role along with other stakeholders, the public, NGOs, Government Organizations, Peers and internal stakeholders like employees, who plays a major role in companies performance and development (Mitra, Pradip, 2018 & Wan Adibag Wab Ismail, Jan 2022).

If the sectoral breakdown of companies in the report is considered, it is observed that only 10% of N100 and 14% of G250 contribute to the Technology, Media, and Telecommunications sectors. This shows there is an opportunity for this sector to

participate. As per the study conducted by Savio, R et. al, only 4.7% studies of the sample of 85 were conducted in India. (Savio, R et, al, 2020). A recent study by KPMG shows a subsequent increase in these numbers but this is at a global level (the-move-to-mandatory-reporting-web, KPMG 2024).

Despite these advancements, challenges remain in ensuring consistent and high-quality ESG reporting. Issues such as data quality and standardization continue to hinder the comparability and reliability of ESG disclosures. Addressing these challenges is crucial for data transparency and attracting sustainable investments in India's IT sector. Companies are reporting on climate impacts, but the Social and Governance part of sustainability reporting is given weightage as per the framework adopted. Indian companies have also followed this trend but there is a strong need for relevance, quality, and depth. (Richard Threlfall et. al 2020, KPMG Report).

The study has been skewed to developed countries and fewer studies being done in developing countries, specifically in India. The literature review also points to the need to have a focused study on the IT sectors specifically in India considering it has not been studied less at present. This highlights the growing regulatory push and emerging stakeholder interest in sustainability reporting in India, especially within the underrepresented IT sector. It highlights the need for targeted, high-quality ESG research on Indian IT companies, where gaps in coverage and data quality remain.

1.5 Research Purpose and Questions

It is also observed that the contribution of Indian IT Industries towards global requirements and standards has increased along with the strong push by the various stakeholders which include Shareholders, Supply Chain, Clients, Governments, NGO and public (Mitra Pradip, 2018). The sustainability report has moved from good to must-have as a tool for building a brand and getting shareholders and potential clients to invest in the companies and secure their support. The government also views these reports as vital information for ensuring compliance with the norms laid down like BRSR (Mitra Pradip, 2018 and KPMG Report 2020).

ESG reporting has increased due to an increase in demand by investors. This is leading to an increase in the quantity of assurance, but it is also observed that the quality is declining. (Arvidsson, S., & Dumay, J. 2022). The lack of common regulatory frameworks in Europe and Asia is also impacting transparency, reporting quality, comparability, and investment and trade objectives as seen in the research (Schumacher Kim, et, al. 2022). A study on global trends in sustainability reporting also questions the various standards, demands by investors, the changing landscape of reporting from year to year, overloading and creating confusion at times in companies, leading to an increase in quantum and more of a checklist item for company rather than on ground actions. (Van der Lugt et. al 2020). The need for transparency and accountability in the reporting was also highlighted (Markarian, Garen, 2023) and user-friendliness of the legislation in the Field of ESG (Novaes, Anthony, 2023) was also asked. Although the BRSR framework draws some inspiration from the GRI

framework at the global level, there is no clarity that Indian companies are complying with GRI on a uniform basis. Indian regulations as compared to international frameworks are not exhaustive and comparable leading to non-comparability by stakeholders (Varottil, Umakanth, 2023). Srinivasan, Padmini et. al 2020, also found that companies do not disclose more than 37% of the total risk categories identified. Only financial risks are discussed in detail.

The outcome of this study can help to devise some standard step-by-step protocols that a software industry can follow based on their peer efforts to achieve higher global standards in Sustainability and become market-ready in upcoming years. Therefore, there is a need to address the following questions in the context of Indian IT industries.

- Has the ESG reporting in the Indian IT industry evolved?
- How are the Indian companies reacting to the Indian and global changing frameworks of ESG reporting and needs and what is the impact?
- How the unavailability of a Standardized framework is leading to difficulty in comparison or reporting and decision-making,
- Is the quality of data in ESG reporting decreasing with reduced transparency and accountability?

Chapter I introduces the growing importance of ESG reporting globally and in India, highlighting its shift from voluntary disclosure to a strategic necessity driven by regulatory and stakeholder pressures. It identifies a significant research gap in ESG reporting specific to the Indian IT industry, which has shown limited participation and faces challenges like lack of standard frameworks, declining data quality, and low transparency. The next

chapter presents a detailed literature review, outlining theoretical frameworks, global standards, and sector-specific insights that inform the current study.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

This literature review combines existing research and explores recent developments in ESG (Environmental, Social, Governance) reporting, focusing specifically on the Indian IT/software sector. It examines evolving ESG frameworks and standards, theoretical approaches in ESG research, regulatory landscapes in India, sector-specific ESG practices, and persistent challenges related to assurance and data credibility in the ESG field.

ESG encompasses a company's Environmental, Social, and Governance performance and impacts. The Environmental (E) dimension evaluates corporate operations' effects on climate change, greenhouse gas emissions, resource depletion, waste and pollution, deforestation, biodiversity, and related issues. The Social (S) dimension assesses impacts on labor conditions (e.g., child labor prevention), community relations (especially in sensitive regions), health and safety, employee diversity and welfare, product responsibility, and data protection/privacy. The Governance (G) dimension addresses corporate governance practices including executive compensation, anti-corruption measures, board diversity, shareholder rights, lobbying, tax strategy, and transparency in data security breaches. Collectively, ESG disclosures offer a comprehensive perspective on an organization's non-financial performance.

2.2 Review of literature

2.2.1 Evolution of ESG in Indian IT sector

ESG (Environmental, Social, and Governance) reporting has evolved significantly since its origins in the 1970s as part of early social and environmental disclosures. Over the past decade, it has become a crucial mechanism for organizations to measure and report non-financial performance (Giridhari et al., 2018). Initially, voluntary, and values-driven, ESG reporting is now increasingly embedded in regulatory frameworks and investment criteria. Global regulatory bodies are mandating ESG disclosures, recognizing their role in improving reputation, managing risk, and creating long-term value (Deckelbaum et al., 2020). The transition from "good to have" to "must-have" reporting is driven by stakeholder expectations for greater accountability and transparency. According to KPMG (2022), 96% of the world's top 250 companies and 80% of major global firms publish sustainability reports. Empirical insights from our survey affirm this is the trend within India's IT sector. Over 80% of respondents rated ESG as "Very Important" or "Important," citing client requirements, brand value, and talent acquisition. Survey responses consistently reflected that ESG strategies are increasingly seen as a fundamental requirement in business development. Several participants indicated that, particularly when engaging with global clients, the absence of a structured ESG approach could hinder or even disqualify a company from consideration.

Survey participants also linked high ESG performance with improved business outcomes, including employee morale, investor confidence, and competitive differentiation.

However, 70% voiced concerns about data reliability and greenwashing, stressing the need for transparency and third-party assurance.

The Indian IT industry, traditionally less environmentally intensive than sectors like manufacturing, initially lagged in ESG reporting. Globally, technology firms also prioritized governance data privacy, ethics over environmental issues. This perception, along with fewer direct environmental impacts, led to limited regulatory and stakeholder pressure. As a result, by 2011, only 43 Indian companies had published sustainability reports, just three of which were from the software/IT sector (Telang, 2011). Also, many IT firms focused on CSR or energy-saving measures rather than comprehensive ESG strategies. Mitra (2018) observed that Indian service-sector firms often followed a compliance-driven approach, meeting only the minimum regulatory requirements unless influenced by external forces.

This landscape is changing. With SEBI's BRSR mandate and global pressures, Indian IT firms are adopting ESG frameworks more proactively. Now top listed companies publish detailed ESG or integrated reports, often aligning with international best practices. SEBI's Business Responsibility and Sustainability Report (BRSR), mandatory for the top 1000 listed companies from 2023, represents a major regulatory milestone (Sphera, 2023). It has helped standardize reporting and encouraged companies to adopt quantifiable sustainability goals. One ESG consultant voiced in the survey response: "BRSR reporting has made to re-evaluate what is measured and why. Earlier, it was just CSR numbers. Now tracking emissions, training hours, and diversity ratios are a mandate." Survey data also reveals this uneven progress. While over 80% of IT professionals rate ESG as important,

practices vary significantly. “Bidding for global contracts without showing ESG credentials is not possible, clients expect to meet not just quality but sustainability standards too,” was also interpreted from one of the analyst survey responses. This suggest that the evolution of ESG in India’s IT sector has shifted from minimal, compliance-driven disclosures to a more strategic and standardized approach, driven by regulatory mandates like BRSR and growing global client expectations. Survey insights reveal that while awareness and perceived importance of ESG have risen sharply, challenges around data reliability and consistent implementation remain.

2.2.2 Challenges in ESG reporting

Nonetheless, challenges remain. Sahoo & Swain (2018) found that Indian firms often highlight successes but omit critical issues, reducing transparency. Srinivasan & Bolar (2020) reported that less than 40% of essential ESG risks are disclosed, especially on environmental aspects.

Survey responses confirmed these gaps:

- 73% cited difficulties in data consistency and reliability.
- 68% raised concerns about greenwashing.

Survey response from an IT professional interprets, “ Companies have good intentions, but systems are not ready to provide assured data. Most of ESG numbers are still manually compiled.” Leading to manual errors, time constraints and sometimes cutting corners.

Another challenge is selecting relevant metrics. Unlike industries that measure tangible outputs like emissions or waste, IT companies must report on indicators such as, workforce

diversity, and Health and Safety compliance. Many respondents described difficulties benchmarking such indicators. As interpreted from the survey responses “There’s no single playbook for ESG in IT. Use 3 to 4 different frameworks and manually tailor everything is the current option.”

Materiality assessment remains underdeveloped. While issues like talent management and digital inclusion are often more relevant for IT firms than emissions, global ESG frameworks tend to emphasize environmental metrics equally across industries. This mismatch contributes to reporting fatigue. Despite these obstacles, internal commitment is increasing. Survey participants noted growing board-level involvement. “CFO and CHRO govern sustainability meetings”

In summary, the Indian IT sector is steadily shifting from minimal ESG engagement to more structured, strategic reporting. This transformation is driven by regulatory mandates, global market expectations, and a growing recognition of ESG’s impact on competitiveness. Nonetheless, challenges related to data quality, framework alignment, and materiality persist, indicating that while progress is evident, the journey is still ongoing.

2.2.3 Reporting Frameworks

ESG reporting relies on various international frameworks, standards, and guidelines that help organizations understand what to report and how to report it. A framework offers guiding principles and structure, while a standard provides specific metrics and disclosure requirements. Over time, these mechanisms have become more harmonized globally, and

India has localized several to suit national priorities, particularly for emerging sectors like IT.

Global Reporting Initiative (GRI): The Global Reporting Initiative (GRI) is the most widely adopted framework for sustainability reporting. These universal standards apply across sectors and address key topics such as emissions, labor, governance, and diversity. According to KPMG's Survey of Sustainability Reporting (2024), 77% of the world's 250 largest companies and 71% of the top 100 companies in each country use GRI standards. Despite their global recognition, the comprehensive nature of GRI disclosures presents challenges. In the survey, several IT professionals noted that the volume and granularity of data required by GRI can overwhelm resource-constrained teams.

SASB (now under ISSB): The Sustainability Accounting Standards Board (SASB), now integrated into the International Sustainability Standards Board (ISSB), offers sector-specific guidance emphasizing materiality to investors. These standards are particularly relevant for companies aiming to align ESG metrics with financial performance. Respondents from IT firms expressed mixed familiarity with SASB. Those who had exposure to global investor queries recognized its utility, while others indicated the lack of sector-relevant metrics. As interpreted from the survey response of a project manager in ESG strategy: "SASB's sector templates often don't reflect the operational nuances of software firms especially in emerging markets like India."

Task Force on Climate-related Financial Disclosures (TCFD): The TCFD, launched in 2017, focuses specifically on climate-related risks and opportunities. It requires companies to disclose their governance, strategy, risk management, and climate-related metrics. Some IT participants saw TCFD's relevance, especially those operating large data centers or pursuing green IT initiatives. Yet only a minority of survey participants said their organizations had adopted TCFD fully.

United Nations Sustainable Development Goals (UN SDGs) & Global Compact: Although not formal reporting frameworks, many organizations align their ESG goals with the 17 UN SDGs and UN Global Compact principles. These frameworks offer a values-based lens, enabling companies to demonstrate their contribution to global challenges. Survey respondents frequently referenced their company's commitment to Climate Action (SDG 13) and Gender Equality (SDG 5). Some IT professionals also noted that client RFPs increasingly require mapping ESG initiatives to specific SDGs.

Integrated Reporting (IR): The Integrated Reporting framework emphasizes the connection between financial and non-financial value creation. While not focused solely on ESG, it has prompted companies to consider how sustainability influences long-term profitability. In practice, few IT firms in the survey had formally adopted IR, but many showed interest in combining ESG data with business strategy reporting. Survey response of one ESG lead interpreted: "IR as the future, but right now companies are still trying to get basic ESG metrics standardized and assured."

ISSB & IFRS Sustainability Disclosure Standards: The formation of the ISSB and its inaugural IFRS S1 and S2 standards (2023) represent a major step toward establishing a global ESG baseline. These standards aim to align ESG reporting with financial disclosures, improving global comparability. Several IT professionals in the survey welcomed ISSB's clarity and international consistency but expressed concern over duplication with local standards like BRSR.

Indian Framework: Business Responsibility and Sustainability Report (BRSR): India's Business Responsibility and Sustainability Report (BRSR), introduced by SEBI, represents a milestone in integrating ESG with regulatory mandates. Built upon the earlier BRR and National Guidelines on Responsible Business Conduct (NGRBC), BRSR organizes disclosures into three sections: General, Management, and Principle-wise performance. For IT companies, BRSR offers an opportunity to systematize disclosures and supply chain inclusion. However, survey respondents highlighted challenges, as interpreted from survey response of a manager from a top-tier IT firm: "BRSR has improved ESG accountability but need better templates for the IT sector it's not one-size-fits-all." BRSR Core is a new milestone, introduced in 2023, raises the bar by mandating assurance for a subset of key ESG indicators. It also extends disclosure obligations to the value chain, pushing companies to consider upstream and downstream impacts. However, as interpreted from the survey responses some flagged vendor compliance as a key challenge, given the reliance on service partners, tracking ESG performance in the supply chain.

To summarize ESG reporting in India's IT sector draws on multiple global frameworks like GRI, SASB, TCFD, and the UN SDGs, with growing interest in integrated and aligned

disclosures. While SEBI's BRSR has advanced standardization, survey insights reveal sector-specific challenges in adapting these frameworks to the operational realities of Indian IT firms.

2.2.4 Emerging Frameworks and Participation Gaps

Standards like ISO 14064, ISO 50001, ISO 14001, ISO 45001 have been gaining popularity in IT industries. Some IT firms also reported using LEED or Energy Star certifications for green data centers. Yet, a clear participation gap exists: While listed companies comply due to SEBI mandates, mid-sized and unlisted IT firms remain behind. Academic reviews (Savio et al., 2023) and survey results confirm that the Indian service sector is underrepresented in ESG research and often under-regulated. As interpreted from the survey response of a mid-sized IT executive: "Unless there's a client demand or a board directive, ESG in many firms is still compliance, not culture." In summary Global ESG frameworks offer powerful tools for transparent sustainability disclosures. However, their relevance and adoption vary significantly in India's IT sector. The empirical insights from the survey underline the sector's growing awareness, yet also the challenges of applicability, data accuracy, and regulatory overload. There is a need for harmonized, sector-specific, and scalable frameworks which are critical to ensuring meaningful ESG reporting across the IT industries.

2.3 Theoretical frameworks in ESG research

Any academic research on ESG reporting has dependent on various theoretical frameworks to explain why companies engage in sustainability disclosure and what effects it has. Two closely related theories are particularly prominent Stakeholder Theory and Stewardship Theory. Each provides a lens to interpret ESG behaviour, and recent work has further refined their relevance.

Stakeholder Theory: Stakeholder Theory posits that a company operates within an ecosystem of diverse stakeholders' shareholders, employees, customers, suppliers, regulators, and communities and must address the interests of all, not just those of capital providers. It provides a compelling rationale for ESG reporting, which serves as a mechanism for communicating accountability, building trust, and managing relationships across this stakeholder spectrum. Firms that demonstrate high ESG performance are more likely to benefit from positive stakeholder responses, including enhanced brand loyalty, talent retention, investor confidence, and operational resilience. For example, Zheng et al. (2022) found that strong sustainability performance is often met with favorable media and analyst attention, boosting both reputation and market value. Conversely, companies that disregard stakeholder interests risk reputational damage, legal exposure, and investor backlash. These dynamics are reflected in survey responses from Indian IT professionals: 76% of participants cited stakeholder expectations particularly from clients and regulators as a key motivator for improving ESG practices. As interpreted from one survey respondent: "Investors now ask for ESG risk disclosures alongside financials. ESG is no

longer peripheral it is part of core reporting." Others pointed to client-side ESG audits becoming routine during vendor selection, demonstrating real-time stakeholder pressure on IT firms.

Stewardship Theory: Stewardship Theory views managers as responsible agents or stewards who prioritize long-term organizational well-being over short-term gains. This theory emphasizes trust, accountability, and ethical leadership, all of which align closely with the goals of ESG. Kolawole et al. (2025) emphasized how ESG integration strengthens stewardship by embedding sustainability into decision-making processes. Effective stewards proactively pursue ESG objectives as part of their fiduciary responsibilities to both shareholders and society. Survey data from Indian IT professionals support this interpretation. Several participants highlighted a shift in leadership attitudes: One ESG lead survey response interpreted: "Sustainability has become part of leadership KPIs. The compliance team no longer only manages it." Another senior manager's response interpreted: "CEO's and CSO's drives ESG with a long-term view." These responses illustrate how Stewardship and Stakeholder Theories intersect in practice. Stakeholder pressure pushes companies to act, while stewardship leadership sustains those actions through vision and accountability. In Indian IT firms, both forces are shaping ESG agendas external expectations are matched by growing internal commitment.

2.3.1 Theoretical Application in the Current Research

While no single theory fully explains ESG behavior, the integration of multiple frameworks allows for a more nuanced understanding. For the current research, Stakeholder Theory

and Stewardship Theory offer complementary perspectives that are universally applicable to the Indian IT context. Given the diversity of perspectives and the evolving nature of ESG in India's IT sector, this study adopts a mixed-method approach, drawing on both qualitative insights and quantitative analysis of disclosure practices.

2.4 Discussion

Sustainability reporting has become the latest need of the hour and has shown its significance over the sometime (Muigua et al., 2022). Most countries have started formulating regulations to make increased companies participate in Sustainability Reporting and highlighting the actions taken on the ground. India is not so far behind, but the literature review shows that it has the capacity and capability to increase its depth and breadth in making a mandate for more companies to abide by (Arvind Sharma, KPMG report). It is also observed that the contribution of Indian Industries towards global requirements and standards has increased along with the strong push by the various stakeholders which include Shareholders, Supply Chain, Clients, Governments, NGOs, and the public (Mitra Pradip, 2018), Sustainability report has moved from good to have to must have as a tool for building brand and getting shareholders and potential clients to invest in the companies and secure their support. The government also looks at these reports as vital information for ensuring compliance with the norms laid down like BRSR (Mitra Pradip, 2018 and KPMG Report). Materiality or the scope of impact or applicability is an important aspect of Sustainability reporting. However, it is seen that companies are trying to highlight only the good outcomes, which keeps sidelines other important material. This causes

misleading results Favouring short-term goals has also been a favourable mode due to the uncertainty in long-term goals. And this approach is not evaluated to, and extent required (Jilde Garst1, et al., 2022).

The lack of common regulatory frameworks in Europe and Asia is also impacting transparency, reporting quality, comparability, and investment and trade objectives as seen in the research (Schumacher Kim, et, al. 2022), ESG reporting has increased due to an increase in demand by investors. This is leading to an increase in quantum, assurance but it is also observed that the quality is declining. (Arvidsson, S., & Dumay, J. 2022). A study on global trends in sustainability reporting also questions the numerous standards, demands by the investors, the changing landscape of reporting from year to year, overloading and creating confusion at times in companies, leading to an increase in quantum and more of a checklist item for the company rather than on ground actions. (Van der Lugt et. al 2020). In a study in the US, it was observed that the quality of reporting is not directly proportional to the quantity of reporting, hence the need for more in-depth review. Non availability of comparable standards also questions the uniformity and thereby ranking. (Barker, Richard, et al. 2018). Though some of the regulatory and voluntary bodies have tried bridging the gaps between Financial and Non-Financial gaps, different interpretations of Materiality definitions, scope defining liberty, and incomparable standards/frameworks lead to inconsistent decision-making. This has created an opportunity for further standardization requirements. (Jebe, Ruth. 2019). An increase in ESG data demands has been seen in the recent past, however, investors are finding it difficult to match the data due to disparity in multiple factors and materiality definitions. (Eccles, Robert Getal 2018) and (Foltin, Craig

et, al. 2022), Gaps in Comparability, Reliability, Quantifiability, and timeliness are some of the key issues in the use of ESG by investors (Amel-Zadeh et al. 2017), Chen, Helen Shanyin, et al. 2020, in their research has found a strong need for universal and standardized metrics. A need for further literature review for examining the role of corporate governance in ESG outcomes in financial firms and North American and Asian countries was stated in the research (Buchetti, Bruno, et al. 2022). The need for transparency and accountability in the reporting was also highlighted (Markarian, Garen, 2023) and user-friendliness of the legislation in the Field of ESG (Novaes, Anthony, 2023) was also urged. It was also seen that the use of multiple standards by the same company is leading to a decrease in the legitimacy of the standard itself. (Stolowy, Hervé et. al, 2023) and (Foltin, Craig et, al 2022). Although the BRSR framework draws some inspiration from the GRI framework at the global level, there is no clarity that Indian companies are complying with GRI on a uniform basis. Indian regulations as compared to international frameworks are not exhaustive and comparable leading to non-comparability by stakeholders (Varottil, Umakanth, 2023). Srinivasan, Padmini et. al 2020, also found that companies do not disclose more than 37% of the total risk categories identified. Only financial risks are discussed in detail. Environment Sustainability risk disclosure is poor, and the quality of disclosure is also low. Climate change has a high focus on sustainability reporting, as compared to the S and G factor (Meggin Thwing Eastman, 2023). If sustainability reporting is driven by institutions, then the data availability is high, but the quality is low, hence the governance of regulations is seen to be in crucial factor (Krueger, Philipp et al. 2020). However, even the ESG Rating agencies are also under scrutiny for

the way the rating is done. The need for the data from the companies also varies from the rating agencies and their rating process also differs, This shows that there is a need for more harmonization and standardization in this context.

Sustainability reporting in India has also evolved over a period. Studies in the Indian context focus more on fiscal impact due to ESG reporting. Investors are looking at harmonization of the standards for better comparability. (Savio, R. et, al., 2023). However, when the sectoral review is considered. It is observed that there is a skew toward industries that have more dependency on natural resources or have a higher impact on society and governance perspective. The research is also more inclined toward the industries and less toward other sectors. The WBCSD report also states that there is room for improvement in sustainability reporting for companies in India (WBCSD-2018).

2.5 Conclusion

The study of the literature reveals that considerable work has been done in researching sustainability reporting, its implication at the global and national level, need and compliance, challenges, and benefits. The study also covers the triple bottom line of people, planet, and profit as an integral part of sustainability reporting by various companies. The literature also reviews reporting by various sectors like Cement, Mining, Manufacturing, Telecommunications, etc., however in the current literature review and another web review very few research were found highlighting a detailed study of sustainability reports for Indian IT Industries. The review of global companies also clubs' software industries along with other similar companies; hence the study of the independent software industry is not

evident. Neither is the literature available on the Indian Software industries the one mentioned. It is also seen that Indian firms are not disclosing all sustainability efforts and are more driven by regulations and less by stakeholders hence stakeholder theory can be used and evaluated in the Indian context. The sustainability report and its impact on core business strategies can also be studied. (Nayak, Priyanka et. al 2022). It is also seen that studies on integrated reporting, reporting in different frameworks or as per regulations have not been done as the market is evolving in the Indian context and for IT industries. (Dr Abhishek N, et al., 2020).

Chapter II synthesized key global and Indian ESG literature, identified relevant frameworks, and highlighted critical research gaps. Chapter III outlines the research methodology adopted to address these gaps and explore ESG reporting practices in the Indian IT sector.

CHAPTER III:
METHODOLOGY

3.1 Overview of the Research Problem

ESG (Environmental, Social, and Governance) reporting has become a critical tool for organizations to demonstrate accountability, manage non-financial risks, and respond to evolving stakeholder expectations. While ESG disclosure has been widely adopted and studied in global markets, particularly among large multinational firms, the Indian context—especially within the IT services sector—remains relatively underexplored.

Despite regulatory progress through initiatives such as SEBI's Business Responsibility and Sustainability Report (BRSR), the depth, consistency, and sectoral adaptation of ESG disclosures vary significantly. This is particularly relevant in the IT industry, which, despite its size and global integration, has traditionally faced less environmental scrutiny compared to heavy industries. Literature indicates that while data volumes in ESG reports are increasing, questions around comparability, assurance, and relevance persist (Barker et al., 2018; Schumacher et al., 2022). Moreover, the absence of harmonized standards and the tendency of firms to focus on selectively positive outcomes can undermine the credibility of disclosures (Garstl et al., 2022).

In this context, there is a need for focused empirical inquiry into how Indian IT companies are adapting to ESG expectations, what frameworks they align with, and how these disclosures impact stakeholder perceptions and business outcomes. This study addresses this gap by examining ESG reporting practices within the Indian IT sector, offering insights into sector-specific challenges, strategic alignment, and regulatory readiness.

3.2 Operationalization of Theoretical Constructs

In exploring the evolving landscape of ESG (Environmental, Social, and Governance) reporting, this research will use key theoretical constructs to guide the analysis and interpretation of the data. These theoretical frameworks have been extensively utilized in ESG research to evaluate the trends, impacts, and stakeholder responses to sustainability reports. The primary theories identified in the literature review include Stakeholder theory (Zheng et al. 2022), Stewardship theory (Kolawole et al. 2025) and Legitimacy Theory (Vives et al., 2022; Savio et al., 2020).

The proposed research will utilize a mixed methods approach to explore ESG (Environmental, Social, and Governance) reporting in the Indian IT sector. This research methodology combines both qualitative and quantitative research techniques to provide a comprehensive understanding of ESG reporting practices, their evolution, and their impact on business outcomes. By integrating both quantitative data (from ESG reports) and qualitative insights (from surveys), the research will ensure a robust and multi-faceted understanding of the research problem, as emphasized in previous research that combines

multiple data sources to provide a comprehensive analysis (Savio et al., 2020; Vives et al., 2022).

3.3 Research Purpose and Questions

The purpose of this study is to explore and address key questions regarding the evolution and impact of ESG (Environmental, Social, and Governance) reporting within the Indian IT industry. Specifically, this research aims to answer the following questions:

- **Has ESG reporting in the Indian IT industry evolved?** This question seeks to assess the progression of ESG reporting practices in the Indian IT sector, from its initial adoption to its current state. The focus will be on how companies in the IT industry have integrated ESG factors into their reporting and how these practices have changed over time.

- **How are Indian companies responding to the changing frameworks and global needs for ESG reporting, and what impact has this had on their operations?** This question aims to examine how Indian IT companies are adapting to both Indian and global ESG reporting frameworks, standards, and regulations. It will also explore the impact of these changes on business strategy, operations, and corporate decision-making.

- **How is the lack of a standardized framework affecting the comparability, reporting, and decision-making in ESG reporting?**
  This question will address the challenges posed by the absence of a universal ESG reporting framework in India and globally. It will investigate how the lack of standardization complicates comparison between companies and impacts the quality and reliability of ESG data used for decision-making.

- **Is the quality of data in ESG reporting declining, with reduced transparency and accountability?**
  This question explores whether there is a decline in the quality of data reported in ESG disclosures, focusing on aspects such as transparency, accountability, and accuracy. It will examine whether these issues undermine the reliability of ESG reports and their ability to meet stakeholder expectations.

This study recognizes the significant gap in research focused on the Indian software industry in the context of ESG reporting. While much has been studied about sustainability in other sectors, limited attention has been given to the IT sector. Therefore, this research aims to fill this gap by investigating how Indian IT companies have responded to these challenges and how their practices can be improved.

3.4 Research Design

The research will adopt a mixed-methods approach, combining quantitative and qualitative methodologies to provide a comprehensive understanding of ESG (Environmental, Social, and Governance) reporting practices within the Indian IT sector. This approach will enable the to analyse both objective data and subjective insights, offering a well-rounded perspective on the topic (Savio et al., 2020). The quantitative component of the research will involve analysing secondary data collected from ESG reports, sustainability disclosures, and other publicly available data from leading Indian IT companies. This analysis will focus on identifying trends, patterns, and correlations between ESG reporting practices and various business performance metrics such as financial outcomes and stakeholder engagement (Vives et al., 2022). The goal is to identify the key aspects of ESG reporting, assessing the extent and quality of the disclosures, and exploring how companies address environmental, social, and governance factors. ESG reports and sustainability disclosures from the past five years will be collected from the top IT companies in India, with a focus on large, publicly listed firms on NSE, providing a representative sample of the Indian IT sector. The analysis will aim to uncover how the quality and quantity of ESG reporting correlate with company performance and how companies' ESG practices influence stakeholder perceptions and trust (Barker et al., 2023).

The qualitative aspect of the research will focus on primary data collected through surveys from key sustainability professionals, department heads, peers, working professionals and industry experts in the IT sector. This component will provide in-depth insights into the

motivations, challenges, and strategic objectives behind ESG reporting in Indian IT companies (Tewari et al., 2012). Anonymized surveys will be distributed to sustainability professionals, managers, and experts from various Indian IT companies, featuring both quantifiable questions on ESG reporting practices and open-ended questions to capture qualitative insights on the challenges and drivers of reporting. If semi-structured interviews are not possible, similar insights will be gathered through interview-style survey questions for experts of sustainability departments, senior management, industry professionals, which figures to understand the strategic goals behind ESG disclosures (Savio et al., 2020). A systematic literature review will be conducted to examine the existing body of research on ESG reporting, particularly focusing on the IT sector in India. This review will provide an overview of the current state of ESG practices, including key challenges and trends in the industry, and identify research gaps where the Indian IT industry has not been sufficiently studied (Vives et al., 2022). By employing this mixed-methods design, the study will provide a holistic view of ESG reporting practices within the Indian IT sector.

3.5 Population and Sample

For this research, a three-level approach will be utilized to gather information from different contexts: global IT companies, Indian IT companies, and specific data from selected Indian IT companies' sustainability reports.

Global Survey: A minimum of 150 responses will be targeted from global IT companies to understand the broader trends and practices in ESG reporting.

Indian Survey: In the Indian context, a minimum of 30 survey responses will be conducted (no interviews conducted due to no response) with sustainability professionals, department heads, or experts from IT companies.

Company Selection: The companies for the study will be selected from the National Stock Exchange (NSE) list, with specific criteria based on their investment size, the availability of public sustainability reports, and the company's commitment to ESG practices. The sustainability reports from these companies will be evaluated over the past five years based on availability (2019-2024) to analyse the trends, quality, and depth of their ESG disclosures.

3.6 Participant Selection

Participants will be selected through a voluntary response process targeting individuals fitting the criteria. The selection combines elements like intentionally reaching out to professionals involved or interested in ESG and convenience sampling through online channels. Initially, the survey links will be distributed through professional networks, sustainability and IT groups, and internal contacts within IT firms. Additional support will be sought to reach participants through known research survey platforms if required. The population targeted by this research is the pool of professionals working in India's IT sector who are knowledgeable about or involved in their organization's sustainability or ESG initiatives. This includes sustainability managers, IT project managers, analysts, and other

related roles across large IT companies, mid-sized firms, and tech startups. Given the broad relevance of ESG, the population spans various job levels and functions from dedicated ESG specialists to general management aware of corporate sustainability efforts (Vives et al., 2022; Savio et al., 2020). One limitation of the selection process is self-selection bias, those with strong opinions or involvement in ESG may have been more likely to participate, whereas those indifferent to ESG may have ignored the survey request. This might lean response slightly towards ESG-conscious professionals. However, many respondents still may express critical views. Participants will be selected in a practical way to gather expertise and candid opinions from within the Indian IT industry, leveraging professional networks and online platforms to gather a meaningful group for the research (Savio et al., 2020; Tewari et al., 2012).

3.7 Instrumentation

The primary instrument for data collection in this study is a structured questionnaire designed to capture both quantitative metrics and qualitative insights aligned with the theoretical constructs of the research. The questionnaire is meticulously developed to address key ESG (Environmental, Social, and Governance) concepts identified in the literature and the industry context. To ensure content validity, the questionnaire will undergo a validation process, ensuring that each section is directly tied to the research questions and encompasses critical ESG areas such as governance practices, reporting frameworks, sustainability perceptions, and organizational challenges.

The questionnaire includes multiple sections: demographics, current ESG practices, perceptions of sustainability importance, use of standards, awareness of ESG frameworks, and challenges faced by organizations. These sections are designed to capture both organizational context and individual perceptions, with varied question formats to facilitate a comprehensive analysis.

The survey is structured using a combination of question types to collect both quantitative and qualitative data. Demographic questions will provide contextual information about participants, such as their role, company, and experience. Multiple-choice questions will assess specific ESG practices, such as whether ESG reporting is integrated into annual reports or managed separately, and whether third-party assurance is used for validation. Likert-scale questions (ranging from 1 to 5) will measure the perceived importance of various ESG factors, such as the effectiveness of management systems or the benefits of ESG reporting (e.g., improved investor relations). Multiple-selection and ranking questions will enable participants to indicate which ESG frameworks (e.g., GRI, TCFD) are most relevant to their industry. Open-ended questions will be included to capture deeper insights into the challenges and improvements needed in ESG reporting.

The questionnaire will be administered online, in English, to ensure accessibility and consistency across all respondents. A consistent order of questions will be maintained to minimize order bias. To ensure the reliability and clarity of the instrument, a pilot test will be conducted with a small subset of the target population to gather feedback on question clarity and instrument usability.

Considerations will be respected in accordance with established research guidelines. Participants will be informed about the purpose of the study, the voluntary nature of participation, and how their data will be used and protected. Confidentiality and data security measures will be implemented throughout the study to protect participants' privacy and ensure the integrity of the data. Finally, the collected data will be analysed using both quantitative and qualitative methods. Quantitative data will be analysed using appropriate statistical techniques, while qualitative data will be coded thematically to identify key patterns and insights, linking the results to the study's theoretical framework to ensure validity.

3.7.1 Cronbach's Alpha Reliability Analysis Instrumentation Methodology

To assess the internal consistency of a survey instrument developed to measure perceptions related to Environmental, Social, and Governance (ESG) impacts, a reliability analysis using Jamovi (version 2.6), an open-source statistical software will be conducted. The instrument consists of 13 items designed to evaluate both benefits and challenges associated with ESG practices in business. Cronbach's Alpha (α) is used as the statistical indicator to determine how closely related the items are as a group.

3.8 Data Collection Procedures

Data collection will be conducted through online surveys over a defined period. Once the questionnaire is finalized, a web-based survey link will be created and distributed to

participants via email and professional networks. The online format offers the advantage of reaching respondents across different cities, reflecting the pan-India scope of the IT industry, and allows participants to complete the survey at their convenience. Each participant will receive an introduction outlining the purpose of the study, which is to understand ESG reporting practices and perspectives in the Indian IT industry, along with assurances of confidentiality. Participants will be informed that their participation is voluntary and that their responses will be used solely for research purposes, as part of doctoral study documentation. Consent will be implicitly obtained when respondents proceed with the questionnaire, and personally identifiable sensitive information will not be used in the study and analysis. Instead, usernames or unique IDs will be used for any necessary tracking, ensuring anonymity and encouraging honest, uninhibited responses.

The surveys will remain open for several weeks to allow sufficient time for responses. Periodic reminders will be sent through the same channels to encourage higher response rates. However, most respondents will participate voluntarily, driven by professional interest or courtesy. Throughout the data collection period, incoming responses will be monitored, with the final dataset expected to include both multiple-choice and textual answers. After closing the survey, the data will be securely downloaded and cleaned, removing duplicate or incomplete responses and resolving any formatting issues. The cleaned dataset will be prepared for analysis, ensuring data integrity and minimizing errors using electronic collection methods. The procedure will adhere to common survey research standards, including online self-administration, clear instructions, and careful handling of the data.

In addition to the survey data, secondary data will be collected through a review of sustainability reports from selected Indian IT companies. These reports, spanning the past five years, will provide valuable insights into the evolution of ESG practices within the industry. The companies will be selected from the National Stock Exchange (NSE) list, focusing on those that have publicly available sustainability reports. The collected reports will be analysed to identify trends in ESG reporting, specifically examining how companies address key environmental, social, and governance factors. The goal is to evaluate the depth, consistency, and quality of the disclosures, and to track any changes in reporting practices over time. This analysis will also consider the use of global and local ESG frameworks, the role of third-party assurance, and the company's commitment to sustainability initiatives. The data from these reports will complement the survey data by providing a historical perspective on ESG reporting, helping to contextualize the survey findings, and offering a more comprehensive view of the Indian IT industry's ESG practices.

This dual approach to data collection is consistent with the methodology used by (Vives et al. 2022), who highlighted the importance of combining survey data with secondary document analysis in the context of sustainability reporting, to provide both a snapshot of current practices and a historical overview of organizational evolution in response to regulatory and market changes.

3.9 Data Analysis

The data collected from both the online surveys and sustainability reports will be analyzed using a combination of quantitative and qualitative methods to provide a comprehensive understanding of ESG reporting practices within the Indian IT sector. The quantitative analysis will focus on survey responses, which will first be organized and cleaned to ensure data integrity. This will involve checking for duplicate entries, incomplete responses, and any formatting inconsistencies. After the data is cleaned, it will be analyzed, particularly the multiple-choice and Likert scale questions, to provide an overview of key ESG practices within the Indian IT industry. Further analysis will determine the relationships between ESG reporting practices (e.g., the use of standards and governance structures) and business performance metrics (e.g., financial performance, stakeholder trust). The objective is to quantify how the extent and quality of ESG disclosures correlate with company performance and stakeholder perceptions.

The analysis Procedure for Cronbach Alpha contains, importing the survey dataset into Jamovi in .omv format. Selecting the 13 variables for reliability analysis using the Reliability module. Calculating the overall Cronbach's Alpha and evaluating "Alpha if item deleted" for each item. The survey was administered using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The Reliability Analysis module is used to calculate Cronbach's Alpha for the overall scale and for each item if it were removed.

Interpretation Criteria:

- $\alpha \geq 0.9$ = Excellent
- $0.8 \leq \alpha < 0.9$ = Good
- $0.7 \leq \alpha < 0.8$ = Acceptable

This stepwise approach ensures that the analysis adhered to best practices in psychometrics and scale development.

The survey included the following 13 items, categorized into two conceptual domains:

- Perceived Benefits of ESG
- Improved Investor Relations and Access to Capital
- Enhanced Brand Reputation and Trust
- Operational Efficiencies and Cost Savings
- Risk Management
- Competitive Advantage
- Employee Attraction and Retention
- Perceived Challenges of ESG
- Cost and Resource Intensity
- Complexity and Lack of Standardization
- Risk of Greenwashing
- Data Accuracy and Reliability Concerns
- Regulatory and Litigation Risks
- Short-term Focus
- Quality of Data Reported in ESG Reports

These measures were adapted from widely cited literature and frameworks including:

- Eccles et al. (2014) on ESG and capital markets
- Kotsantonis & Serafeim (2019) on ESG reporting challenges.
- Global Reporting Initiative (GRI) guidelines

The qualitative data will be triangulated with the quantitative findings to provide a richer understanding of the factors influencing ESG reporting. This mixed-method approach will help identify areas where companies may be lacking in their ESG disclosures and where improvements can be made.

The sustainability reports of selected Indian IT companies will be analyzed using a structured content analysis approach, focusing on key ESG dimensions such as environmental impact, social responsibility initiatives, and governance structures. This analysis will span a five-year reporting period, emphasizing how these companies have evolved their ESG practices in line with global frameworks and national regulatory mandates such as GRI, SASB, TCFD, and SEBI's BRSR.

To ensure comparability and rigor, ESG disclosures will be assessed across 24 core parameters, including: Materiality, Transparency, Accuracy, Completeness, Independence, Climate Change, Resource Management, Waste Management, Biodiversity, Pollution, Human Rights, Community Engagement, Diversity and Inclusion, Ethical Sourcing, Philanthropy, Corporate Governance, Ethics and Compliance, Stakeholder Engagement, Risk Management, Transparency and Disclosure, Reporting Framework, Assurance, Alignment with Industry Standards, and ESG Rating by Third Party.

Each parameter will be evaluated using a standardized scoring model:

High (3 points) indicates detailed, benchmarked, and often third-party verified disclosures aligned with global standards.

Medium (2 points) reflects moderately comprehensive reporting with partial alignment and qualitative depth.

Low (1 point) captures limited or minimal disclosures.

Nothing Available (0 points) will be used where data or disclosures were absent or insufficient.

These scores Will be then aggregated to determine parameter-wise and company-wise average ESG performance. The assessment enables both qualitative interpretation and quantitative comparison across companies and time periods, identifying strengths, gaps, and areas for strategic improvement in ESG reporting and implementation within the Indian IT sector. The findings from the sustainability reports will be integrated with survey data to provide a holistic view of ESG reporting practices within the Indian IT sector.

This multi-source analysis will allow for a comprehensive evaluation of how these companies are responding to the increasing demand for transparency and accountability in ESG reporting. This approach aligns with recent findings by Barker et al. (2023), who discussed the importance of combining quantitative data with qualitative insights to better capture the evolving nature of ESG reporting and its implications for business decision-making.

3.10 Research Design Limitations

While the research design offers a comprehensive approach to analyzing ESG reporting practices within the Indian IT sector, several limitations should be considered. One significant limitation is the reliance on self-reported data from surveys, which may introduce biases such as social desirability bias, where participants may overstate positive ESG practices or downplay challenges their organizations face. This is particularly relevant when participants are asked about sensitive topics like greenwashing or internal ESG failures. Additionally, secondary data from sustainability reports may present challenges due to inconsistent reporting standards across companies. The lack of universal frameworks for ESG disclosures can make it difficult to compare data effectively, and discrepancies in the depth, scope, and focus of disclosures across companies could result in data inconsistencies. Although the study will primarily focus on the top IT companies listed on the NSE, this limits the representativeness of the sample to larger, publicly traded firms and may not reflect the practices of smaller, non-listed firms, which are also significant players in India's IT ecosystem. It is possible that, some of the companies may not have similar sustainability report or may not have sustainability report or required information in their annual report for a certain time period considering their system maturity.

Moreover, the cross-sectional data approach gathering reports and surveys at a single point in time fails to capture the evolution of ESG practices over time, particularly in response to changing regulatory requirements or global ESG trends. As highlighted in recent studies, such as Savio et al. (2023), the fast-evolving nature of ESG standards means that a snapshot of data may not fully capture how companies adapt their strategies or reporting mechanisms

in response to new legislation, stakeholder demands, or market forces. Additionally, despite the survey's broad geographical reach, it might miss contextual factors that influence ESG reporting in certain regions, especially given the diversity of the Indian market. Furthermore, a reliance on survey methodology can limit the richness of insights, as it may fail to capture the nuances behind decision-making processes or the practical challenges companies face in aligning with ESG standards. Given these limitations, this research aims to provide valuable insights into the current state of ESG reporting in India's IT sector but acknowledges the challenges inherent in the complexity and diversity of ESG reporting practices.

Note: Although interviews were initially proposed, the study was limited to surveys due to no response to the interview requests. This may limit the depth of qualitative nuance; however, open-ended survey responses provided valuable contextual insights.

3.11 Conclusion

This research aims to provide an in-depth exploration of the evolving landscape of ESG (Environmental, Social, and Governance) reporting practices within the Indian IT sector, focusing on their evolution, challenges, and impact on business operations and performance. By adopting a mixed-methods approach, combining both quantitative and qualitative techniques, the study will offer a comprehensive understanding of how Indian IT companies are integrating ESG factors into their business practices. The research will focus on analyzing ESG reports and sustainability disclosures from the past five years, highlighting key trends, patterns, and correlations between ESG practices and business

outcomes such as financial performance and stakeholder trust. This approach ensures a multi-dimensional understanding of the subject, as it will also draw insights from surveys from sustainability professionals, providing a deeper understanding of the motivations, challenges, and strategic goals behind ESG reporting.

The findings from this study will contribute valuable insights to both academic research and industry practices. Given the rapidly evolving nature of ESG standards and practices, particularly in emerging markets like India, the research aims to identify gaps in the current reporting frameworks and offer recommendations for improving ESG practices within the Indian IT sector. While this research has limitations, such as the reliance on self-reported data and potential biases in the sample, it will provide a significant contribution to the understanding of ESG reporting in India, filling a critical gap in the existing literature, especially with respect to the IT sector's response to evolving ESG demands.

Chapter III described the mixed-method research design, data sources, and tools used for analyzing ESG practices in the Indian IT industry. The next chapter presents the empirical results derived from survey responses and sustainability report analysis.

Table No. 1: List of Survey Respondents from Indian context

Unique Identification No.	Type of Company	Role in the Current Organization	Nos of Years of experience
Resp. 01	Large Indian IT Firm	Sustainability Analyst	2.5
Resp. 02	Manufacturing	Director	11
Resp. 03	Freelancer	Freelancer	2
Resp. 04	Freelancer	Freelancer	12
Resp. 05	Large Indian IT Firm	Software Engineer	6
Resp. 06	IT Company	CRM	2
Resp. 07	Anonymous	Software Engineer	4
Resp. 08	Large Indian IT Firm	Lead	12

Resp. 09	Electrical and Electronics	Human Resource	8
Resp. 10	Freelancer	Software Engineer	20
Resp. 11	Brand Management	Manager	4
Resp. 12	Freelancer	Manager – QA	6
Resp. 13	Building Materials	Project manager	4
Resp. 14	Paint Manufacturing	Senior manager	3
Resp. 15	Academic	Sr. Asst. Prof	21
Resp. 16	Manufacturing	Sales Manager	3
Resp. 17	B2B Market place	Software Engineer	2
Resp. 18	IT Company	Software Engineer	1
Resp. 19	IT Company	Digital marketing executive	3
Resp. 20	IT Company	Group Head	20
Resp. 21	IT Company	Software Engineer	13
Resp. 22	Freelancer	Software Engineer	8
Resp. 23	Communications	Accounts	6
Resp. 24	Freelancer	Project manager	15
Resp. 25	Assurance and Audits	Manager -Digital transformation	17
Resp. 26	IT Company	Software Engineer	6
Resp. 27	IT Company	Business Analyst	5
Resp. 28	Freelancer	Manager	15
Resp. 29	B2B Market place	Executive	3
Resp. 30	IT Company	Software Engineer	6
Resp. 31	IT Company	Software Engineer	3
Resp. 32	B2B Market place	Deputy Director	1
Resp. 33	B2B Market place	Senior Manager	11
Resp. 34	IT Company	Software Engineer	2
Resp. 35	Freelancer	Associate Engineer	1
Resp. 36	Freelancer	Manager	9
Resp. 37	IT Company	Software Engineer	2
Resp. 38	Academic	Associate Professor	15
Resp. 39	Freelancer	Software Engineer	1
Resp. 40	B2B Market place	Analyst	6
Resp. 41	Freelancer	Team Lead	6
Resp. 42	Freelancer	Marketing	3.6

Table No. 2 Companies and assessment rating

Category	TCS	Tech Mahindra	Tata Technologies	Infosys	Wipro	L&T	LTI Mind tree	Mphasis	Persistent	Sonata	Tata Elxsi	KPIT	Coforge	Cyient	Average Score	Average Rating
Materiality	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Transparency	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Accuracy	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Completeness	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Independence	3	3	3	3	2	2	2	3	2	2	3	2	2	2	2.4	Medium
Climate Change	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2.7	High
Resource Management	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Waste Management	3	3	3	3	3	3	2	3	3	3	2	2	2	2	2.6	High
Biodiversity	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1.9	Medium
Pollution	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	Medium
Human Rights	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Community Engagement	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Diversity and Inclusion	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Ethical Sourcing	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2.2	Medium
Philanthropy	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Corporate Governance	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Ethics and Compliance	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2.9	High
Stakeholder Engagement	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	High
Risk Management	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Transparency and Disclosure	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2.9	High

Reporting Framework	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2.8	High
Assurance	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2.3	Medium
Alignment with Industry Standards	3	3	3	3		3	3	3	3	3	3	2	2	2	2.8	High
ESG Rating by Third Party	3	3	3	3		2	2	2	2	2	2	2	2	1	2.2	Medium

CHAPTER IV:

RESULTS

The research questions, as outlined in the methodology chapter, are closely aligned with the findings from the literature review. The results obtained offer meaningful insights that contribute significantly to addressing these questions and enhancing the overall understanding of the research problem. The results discussed contains information from graphs, table and their inference from the Survey Conducted for Global participants, Indian Participants, and the review of Sustainability reports of 14 Indian NSE listed companies ranging from FY 2019- 20 to FY 2023-24. In this chapter the research questions and the outcome are discussed.

Survey on understanding Global and India specific ESG processes, Impacts and Insights.

The survey aimed to understand global and India-specific ESG processes, impacts, and insights. The analysis comprises information derived from graphical representations, tabulated data, and their respective interpretations based on the survey responses from global and Indian participants. Additionally, the review encompasses sustainability reports from 14 Indian companies listed on the NSE, spanning fiscal years 2019-20 to 2023-24.

The detailed initial survey was strategically structured to capture comprehensive insights across various critical dimensions of ESG reporting. The sections included in the questionnaire facilitated a holistic understanding of essential ESG-related information

from both global and Indian IT industries, as well as insights from peer industries. The key areas covered were:

- ESG Reporting and Processes
- ESG Roles and Responsibilities
- Management Systems, Certifications, and Licenses
- Environmental Impact
- Social Impact
- Governance Impact
- Economic Impact
- Stakeholder Engagement
- Supply Chain Sustainability Management
- ESG Reporting Awareness

The survey was shared to potential respondents through established communication channels, including email and professional platforms. However, given its voluntary nature and the absence of direct incentives or tangible benefits for participation, initial responses primarily reflected individual interest. To ensure the attainment of a minimum viable response rate of 150 participants, the survey was also hosted on the Prolific Panel platform. Preferences for respondent characteristics were specified as per the platform's capabilities, and this paid approach enabled the achievement of the desired response level. A total of 219 survey responses underwent a thorough review process, including quality screening, duplication checks, and information validation, prior to their inclusion in the final analysis.

Respondents were drawn from a variety of organization types, including IT firms, ESG audit and consulting services, market research firms, and anonymous organizations. This diversity enhances the generalizability of the results across different sectors that engage with ESG practices.

The distribution of professional experience indicates a well-rounded sample:

- 11–20 years (73 respondents) formed the largest group, followed by
- 6–10 years (55) and
- 3–5 years (43).
- Even early-career professionals (0–2 years) and senior experts (20+ years) were represented.

This wide range in experience suggests that the perceptions captured in the survey are multi-perspective, accounting for both emerging trends and seasoned insights in ESG strategy and implementation. The balanced distribution of roles and experience levels supports the credibility and richness of the data. High participation from experienced professionals (11+ years) strengthens the validity of the ESG perception scale, as it reflects deep industry insights. Representation across different sectors implies that the findings are not confined to a single domain, enhancing the external validity of the study. These demographic insights reinforce the reliability of the scale (Cronbach's Alpha = 0.924) and lend dedicated support to the overall research conclusions on ESG benefits and challenges. The empirical voices interpreted through these surveys are quoted in results sections as Resp. Large 1, 2, 3 etc. and details are provided in the Appendix D.

Survey from Indian Context and ESG Experienced Professional.

In addition, survey with ESG professional for Indian context was conducted to enhance the depth of the study. Initially, ESG professionals were approached through established professional channels for interviews; however, due to limited positive responses for the interviews, the intended target of 20 was not achieved. Therefore, the Prolific Panel was employed to supplement these efforts through an adequate survey. The questionnaire initially utilized for the global survey was refined into condensed format, subsequently uploaded to Google Forms. The link to this revised questionnaire was specifically targeted at the Indian audience, with participants filtered according to their expertise and industry through the available Prolific Panel filters. A total of 42 survey responses were obtained, which underwent rigorous review, quality assessment, duplication checks, and information verification prior to inclusion in the final analysis. A Cronbach's alpha analysis was conducted to assess the internal consistency of a set of Likert-scale items designed to measure perceptions regarding the impact of ESG (Environmental, Social, and Governance) reporting in the Indian IT industry through these surveys. The overall Cronbach's Alpha = 0.924, indicating excellent internal consistency. The table below shows the Alpha values if each item were deleted. As seen, none of the items improve reliability if removed, supporting the inclusion of all 13 items.

Table No. 3 Cronbach's Alpha if Item Deleted

Item	**Cronbach's Alpha if Item Deleted**
Improved Investor Relations and Access to Capital	0.917
Enhanced Brand Reputation and Trust	0.918

Operational Efficiencies and Cost Savings	0.919
Risk Management	0.916
Competitive Advantage	0.917
Employee Attraction and Retention	0.92
Cost and Resource Intensity	0.917
Complexity and Lack of Standardization	0.919
Risk of Greenwashing	0.923
Data Accuracy and Reliability Concerns	0.916
Regulatory and Litigation Risks	0.918
Short-term Focus	0.923
Quality of Data Reported in ESG Reports	0.915

The analysis confirms that the ESG perception scale exhibits excellent internal reliability, with a Cronbach's Alpha of 0.924. Since no item removal increases alpha meaningfully, all 13 items are valid contributors to the underlying construct and can be retained for further research or ESG-related assessments. The empirical voices interpreted through these surveys are quoted in results sections as Resp. 1, 2, 3 etc. and details are provided in Table No. 1.

Sustainability Reports Analysis

The identification process for selecting the final list of Indian IT companies for this research began with companies listed on both the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). This selection was strategically aligned with the recent

regulatory requirement mandating BRSR-listed companies to report their sustainability practices and processes in a specified format. The initial compilation from NSE (used for market capitalization reference) and BSE (https://www.nseindia.com/regulations/listing-compliance/nse-market-capitalisation-all-companies) was further refined based on market capitalization data as of December 31, 2023. Companies classified as large cap, defined as having a market capitalization of Rs 20,000 crore or more according to NSE criteria, were specifically shortlisted. Additional filtering was applied to identify companies operating exclusively within the Information Technology sector that had publicly accessible sustainability reports covering the period from 2019 to 2023. Finally, 14 companies met the criteria and were selected for an in-depth analysis that focused on information availability and overall trend assessment across several critical ESG dimensions, including:

- Materiality
- Transparency & Accuracy
- Completeness
- Independence & Governance
- Environmental Performance
- Social Performance
- Governance Performance
- Framework & Standards Alignment
- ESG Ratings by Third Parties

The outcomes and insights derived from this analysis are detailed in the current chapter. The complete list of selected companies is provided in Appendix A and the analysis in Table No. 2.

To further evaluate ESG reporting practices within the Indian IT sector, content analysis was conducted on the sustainability, integrated, and business responsibility reports of leading companies over a five-year period (FY 2019–20 to FY 2023–24). The analysis focused on 24 critical ESG parameters, covering environmental, social, and governance domains, including Materiality, Transparency, Climate Change, Risk Management, and Stakeholder Engagement, among others. Each parameter was assessed using a standardized scoring model where companies were rated as High (3 points), Medium (2 points), Low (1 point), or Not Available (0 points), based on the depth, alignment, and consistency of their disclosures. Both qualitative interpretations and quantitative ratings were used to assess maturity levels across companies and years. The scores were averaged across companies for each parameter to understand industry-wide strengths and gaps and then converted back to qualitative categories. These ratings were compiled into a consolidated ESG scorecard and visualized through a heatmap given in the results section below, highlighting comparative performance. This approach of combining both survey data and secondary data from sustainability reports aligns with recent studies on sustainability reporting in the IT sector, such as the work by *Vives et al. (2022)*, which underscores the value of integrating multiple data sources to gain a deeper understanding of corporate sustainability practices. Their research highlights the importance of using both primary data (e.g.,

surveys) and secondary data (e.g., sustainability reports) to capture a more holistic view of corporate ESG strategies, making the findings more robust and reliable.

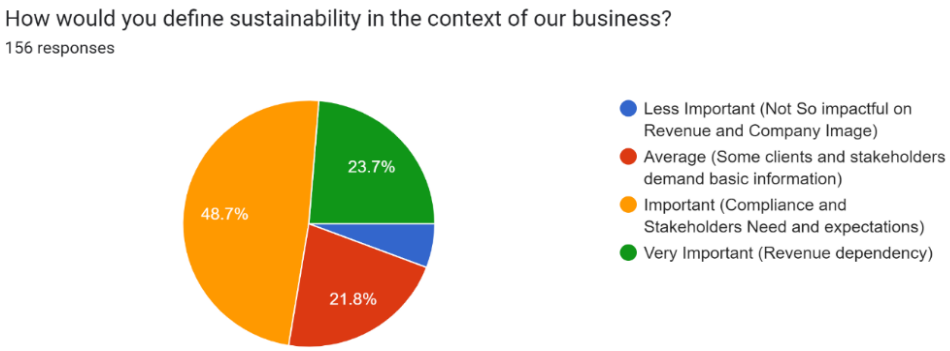
4.1 Research Question One

Has ESG reporting in the Indian IT industry evolved?

This question seeks to assess the progression of ESG reporting practices in the Indian IT sector, from its initial adoption to its current state. The focus will be on how companies in the IT industry have integrated ESG factors into their reporting and how these practices have changed over time. The analysis provides insightful revelations regarding the evolving landscape of ESG (Environmental, Social, and Governance) reporting within the Indian IT industry. The perception of sustainability within organizations clearly indicates a shift from mere compliance to strategic integration within business practices. A notable majority of respondents (70.5%) have acknowledged sustainability as important or especially important, emphasizing stakeholder needs and compliance requirements. One respondent response inferred that sustainability is "Very Important (Revenue dependency)" (Resp. Large 1, ESHS Process Specialist, IT Firm, India), indicating its direct linkage with business continuity and long-term planning.

Yet, a smaller but sizable portion (21.8%) aligns sustainability directly with revenue generation, indicating an emerging recognition of its strategic business value. This perspective was echoed by another participant whose response interprets sustainability is

"Very Important (Revenue dependency)" (Resp. Large 2, Analyst, ESG Audit and Services Firm).



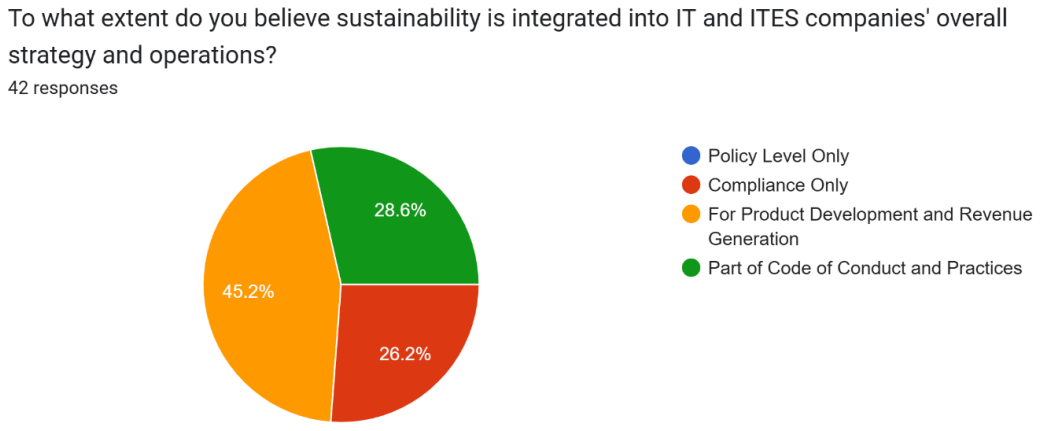
Graph 1: Reflection of sustainability in business

The integration of sustainability within business operations is observed to vary significantly across the Indian IT industry. The majority (48.7%) view sustainability as "Important (Compliance and Stakeholders Need and Expectations)," indicating that ESG is increasingly seen as a response to stakeholder pressure and regulatory frameworks.

A smaller, yet strategically significant group (23.7%) defines sustainability as "Very Important (Revenue dependency)", suggesting a growing understanding of ESG as a direct contributor to business growth. This viewpoint is strongly articulated by respondents such as: "Very Important (Revenue dependency)" (Resp. Large 1, ESHS Process Specialist, IT Firm), highlighting how sustainability is perceived as fundamental to financial and operational performance. A similar response came from (Resp. Large 2, Analyst, ESG Audit and Services Firm), indicating this alignment between ESG and business value is not isolated. Conversely, 21.8% consider sustainability as merely "Average (Some clients and

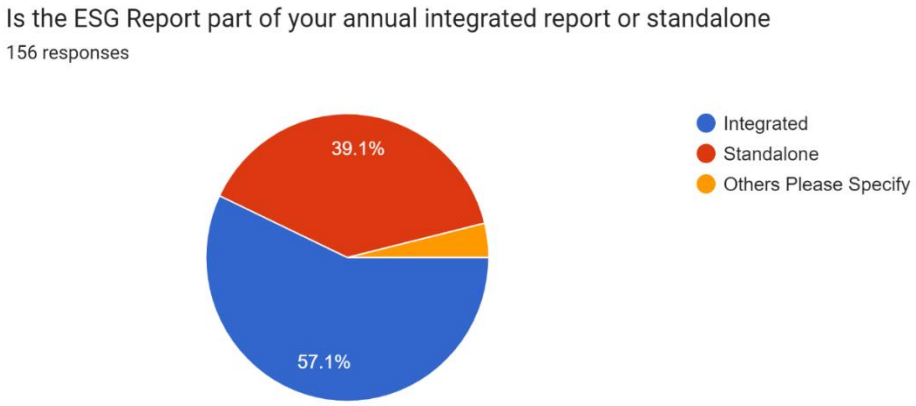
stakeholders demand basic information)", indicating a passive stance focused on satisfying minimum external expectations. This was echoed by (Resp. Large 4, Anonymous), who stated, "Average (Some clients and stakeholders demand it),” suggesting that sustainability for some organizations remains reactive rather than proactive. Only a small fraction (6%, based on visible chart data) rated it as "Less Important (Not so impactful on revenue and company image),” which may reflect either a lack of awareness or minimal stakeholder pressure in those specific contexts.

Overall, the chart demonstrates a positive shift in mindset from limited awareness toward greater strategic and stakeholder-driven understanding of sustainability in the IT sector. The presence of quotes reflecting both compliance-oriented and commercially driven perspectives illustrates the transitional stage of ESG maturity across the industry as interpreted from the response “Sustainability is now tied to how companies win and retain clients it's a revenue enabler, not just a compliance task” (Resp. Large 2, Analyst, ESG Audit and Services Firm).



Graph 2 – Integration level of Sustainability in Strategy and Operations

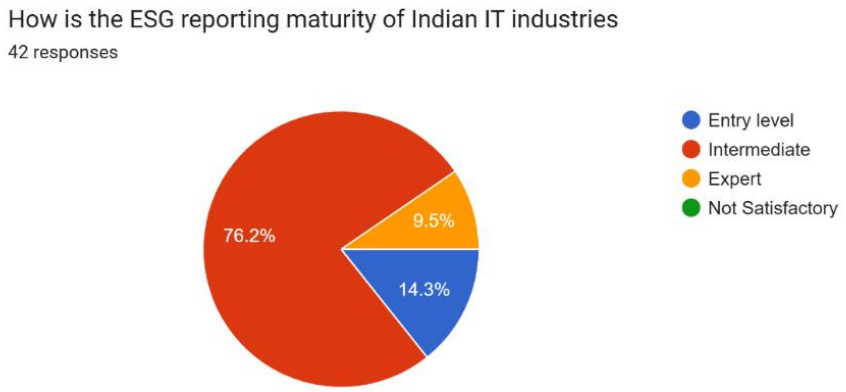
The graph reveals that a considerable proportion (45.2%) believes sustainability in IT and ITES companies is primarily integrated for product development and revenue generation, indicating a commercial motive behind sustainability efforts. This perspective is supported by responses such as "For Product Development and Revenue Generation" (Resp. Large 4, Anonymous), indicating that some companies are embedding ESG into revenue models. Another participant, reflecting a similar view, "For Product Development and Revenue Generation" (Resp. Large 5, Research Analyst ESG, Market Analysis Company), reinforcing the commercial rationale behind ESG integration. Additionally, 28.6% see sustainability embedded as part of the companies' code of conduct and practices, suggesting deeper organizational commitment beyond financial drivers. The remaining 26.2% view sustainability primarily as a compliance-driven activity, reflecting mandatory adherence rather than strategic integration. Notably, no respondents perceive sustainability as limited merely to policy-level statements, underscoring its practical relevance across the sector. Interpretation from survey respondent remarked that sustainability is "Part of Code of Conduct and Practices" (Resp. Large 1, ESHS Process Specialist, IT Firm), suggesting a more internalized and ethics-based incorporation of ESG principles. This was echoed by others from similar roles and backgrounds (Resp. Large 2 & 3, Analyst, ESG Audit Firm and ESHS Specialist, IT Firm respectively).



Graph 3 – ESG report standalone or integrated.

ESG reporting practices among companies show a clear preference for standalone ESG reports (57.1%), emphasizing a dedicated approach to sustainability communication. One participant mentioned, "Standalone" (Resp. Large 2, Analyst, ESG Audit and Services Firm), which may reflect a consultancy-driven approach to detailed ESG disclosure. Another echoed this preference: "Standalone" (Resp. Large 5, Research Analyst ESG, Market Analysis Company), indicating a deliberate strategy to communicate sustainability outcomes independently of financial reporting. However, integrated reporting remains a considerable practice (39.1%), reflecting an acknowledgment that sustainability is fundamentally linked to overall business operations. Those using integrated reporting often signal that sustainability is inseparable from overall business performance and governance. For example, a respondent from an established IT company stated that ESG reporting is "Integrated" (Resp. Large 1, ESHS Process Specialist, IT Firm), suggesting that ESG is viewed as a core component of business operations. A similar response was

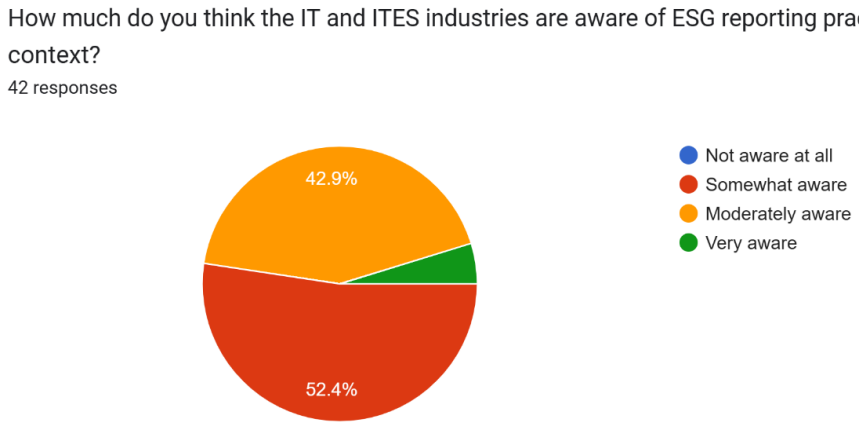
received from (Resp. Large 3, ESHS Specialist, IT Firm), reinforcing the notion that mature organizations see ESG as part of holistic corporate reporting also interpreted from survey respondent “Companies prefer standalone ESG reports to give focused visibility, but the message is clear ESG now deserves a platform of its own” (Resp. Large 5, Research Analyst ESG, Market Analysis Company).



Graph 4 – ESG reporting maturing in Indian IT industry.

The data shows that the majority (76.2%) of respondents perceive the ESG reporting maturity of Indian IT industries to be at an "Intermediate" level. This indicates that while considerable progress has been made, companies are still in the process of refining and advancing their ESG reporting practices. This sentiment is echoed across multiple roles and organizations. One respondent described the maturity level as "Intermediate" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), reflecting a view that the industry is actively engaging with ESG practices, but is yet to reach a stage of full-scale institutionalization. A similar perspective was shared by (Resp. 05, Software Engineer,

Large Indian IT Firm), reinforcing the notion that even well-established IT firms are in a phase of transition. A smaller group of respondents (14.3%) believe the industry is still at an "Entry level," suggesting that some companies have yet to develop robust ESG reporting structures. A small proportion (9.5%) consider the industry's ESG maturity to be "Expert," reflecting a limited number of companies that have reached a highly advanced stage in their ESG reporting. Other participants from non-IT sectors or freelance roles also agreed with this characterization, suggesting a shared perception across industries. For instance, "Intermediate" was also selected by (Resp. 02, Director, Manufacturing), and (Respn. No. Resp. 03 & 04, Freelancers), indicating broader market recognition that ESG maturity is progressing but not yet at an advanced or expert level. The absence of significant representation in the "Expert" category, and limited mentions of "Entry Level," signals a clustering in the mid-range of maturity. This suggests that companies are actively building ESG frameworks but are still refining data systems, governance structures, and stakeholder engagement processes.



Graph 5 – ESG reporting awareness in Indian IT industries.

The pie chart reveals that the majority of IT and ITES industries are aware or moderately aware of ESG reporting practices in the Indian context. Specifically, 52.4% of respondents believe the industries are "somewhat aware," while 42.9% consider them "moderately aware." A small minority (4.8%) reported that the industries are "very aware," and no respondents indicated that they are "not aware at all." This suggests that while there is a general awareness of ESG practices, there is still room for deeper understanding and implementation within the sector. This is supported by multiple participant responses. One respondent rated awareness as "Moderately aware" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), implying that ESG practices are understood at a functional level but may not yet be fully embedded across departments. Another respondent from the same industry category noted "Moderately aware" as well (Resp. 05, Software Engineer, Large Indian IT Firm), further reinforcing this view from within operational roles.

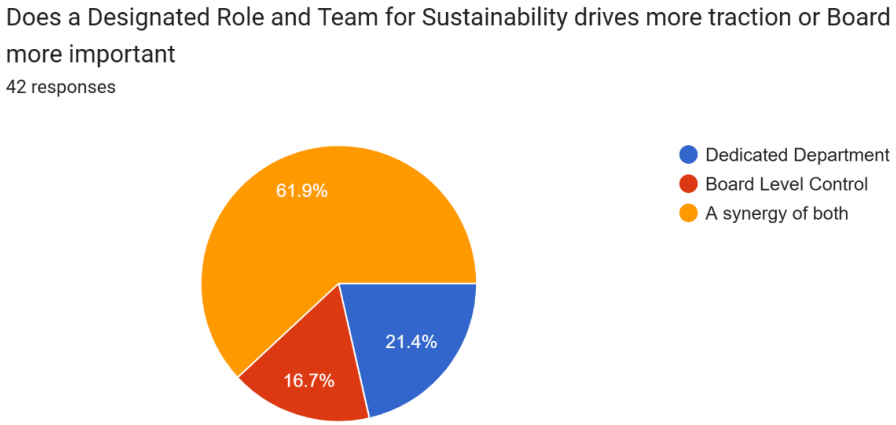
Some participants took a more cautious stance. Describing the sector as "Somewhat aware", (Resp. 03, Freelancer) and (Resp. 04, Freelancer, Freelancer) reflected that ESG awareness may be present only in select functions or leadership levels, with limited trickle-down to all layers of the organization.

Notably, no respondents selected “Not aware at all,” which indicates that ESG as a concept is known sector wide. However, the overall picture suggests a transitional phase where awareness exists, but deeper internalization, training, and engagement are needed for full-scale implementation, echoed by interpreted survey response “Companies know what ESG

is and why it matters, but it's still siloed each team interprets it differently" (Resp. 01, Sustainability Analyst, Large Indian IT Firm).

4.2 Research Question Two

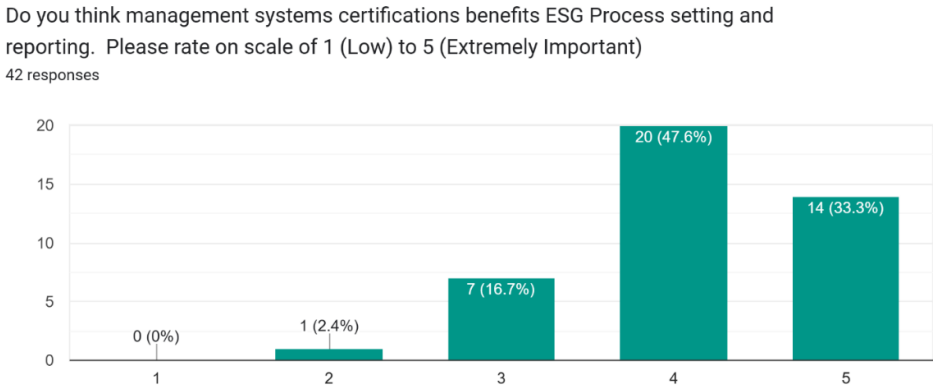
How are Indian companies responding to the changing frameworks and global needs for ESG reporting, and what impact has this had on their operations? This question aims to examine how Indian IT companies are adapting to both Indian and global ESG reporting frameworks, standards, and regulations. It will also explore the impact of these changes on business strategy, operations, and corporate decision-making.



Graph 6 – Sustainability team role – Level and Importance

The graph indicates that a majority (61.9%) believe a combined approach, a constructive collaboration between having a dedicated department and board-level control is most effective for driving sustainability within organizations.

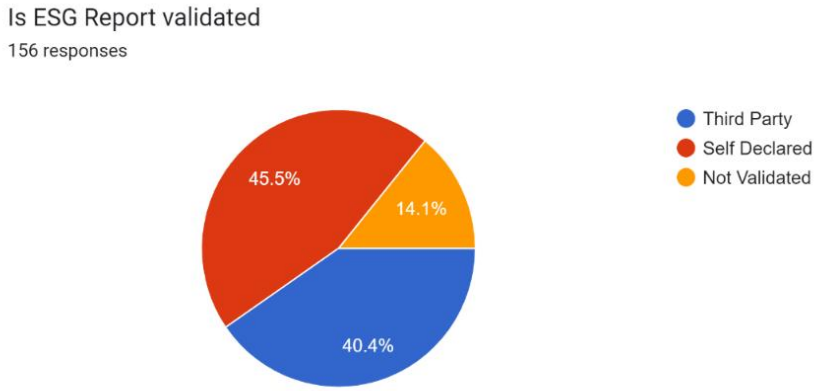
This preference is clearly articulated by several participants. For instance, one respondent noted the importance of "A synergy of both" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), suggesting that while sustainability initiatives require specialized focus, they also benefit from executive-level backing. A similar view was shared by (Resp. 02, Director, Manufacturing), reinforcing the idea that cross-functional integration is essential, even outside the IT domain. Echoing this, another participant remarked "A synergy of both" (Resp. 03, Freelancer), indicating that this view is not restricted to organizational insiders alone. Only 21.4% of respondents favor a solely dedicated department, and even fewer (16.7%) prefer exclusive board-level oversight. This perspective was expressed by (Resp. 04, Freelancer and Resp. 05, Software Engineer, Large Indian IT Firm), This highlights a prevailing opinion that integrating both specialized sustainability teams and top-level governance yields the most significant impact, emphasizing the importance of collaborative structures for successful sustainability management in IT and ITES companies.



Graph 7 – Role of management systems certification in ESG process setting.

The graph highlights dedicated support for the role of management systems certifications in establishing effective ESG frameworks and enhancing reporting credibility. A combined 80.9% of respondents rated their importance highly 47.6% gave a rating of 4, while 33.3% marked it as 5 (Extremely Important) underscoring broad consensus that these certifications facilitate structured implementation and data transparency. One participant gave it the highest possible rating of 5, reflecting strong endorsement: “5” (Resp 01, Sustainability Analyst, Large Indian IT Firm) suggested that formal certifications significantly strengthen ESG-related processes and stakeholder trust. This sentiment was echoed by another respondent with the same rating: “5” (Resp 02, Director, Manufacturing), implying that such standards provide the necessary procedural rigor even outside IT-specific contexts. Several others rated it a strong “4”, pointing to a high, though slightly tempered, level of confidence in certifications. For instance, “4” (Resp 03, Freelancer) and “4” (Resp 04, Software Engineer, Large Indian IT Firm) emphasized their operational value in ensuring consistency and compliance in ESG workflows. Notably, none of the respondents rated it as “1,” and only a small minority gave it a “2,” indicating a rare skepticism. The absence of low ratings further emphasizes a strong industry-wide belief in the utility of management systems certifications such as ISO or similar standards in driving ESG readiness and institutional discipline.

These responses suggest that while companies may vary in ESG maturity, the value of formal certification is widely acknowledged as a cornerstone of credible sustainability reporting and governance.

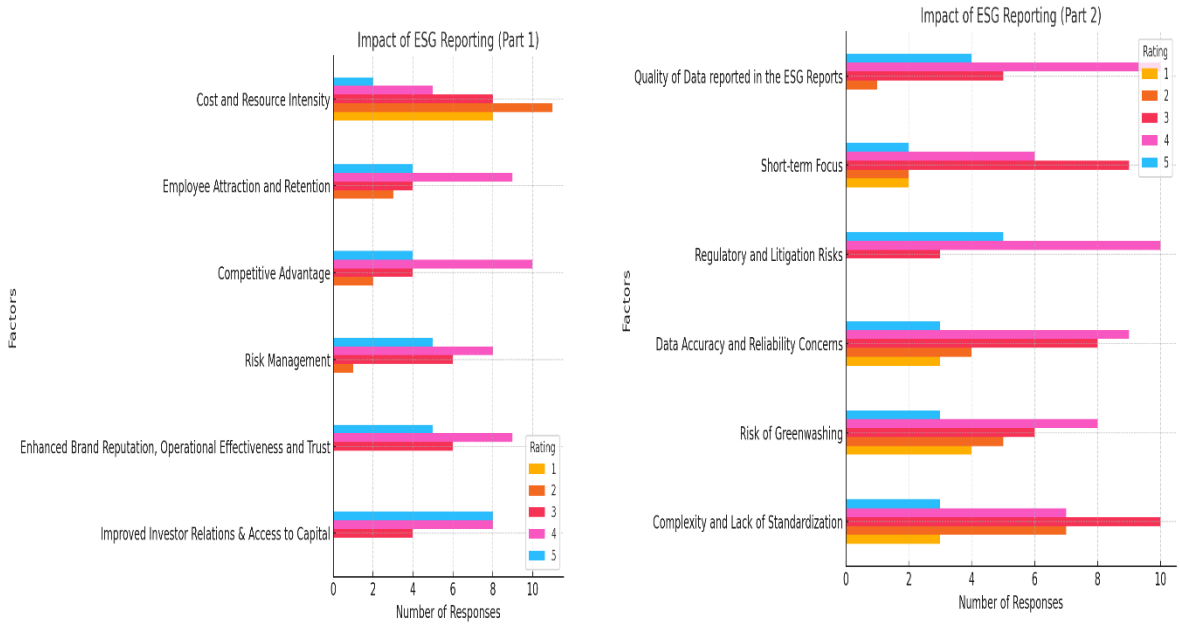


Graph 8 – Status of ESG report validation

The pie chart illustrates the distribution of validation methods used for ESG reporting among companies. The most widely adopted approach is third-party validation, representing 45.5% of all responses. This is followed by self-declared validation at 40.4%, while 14.1% of respondents reported no validation of ESG disclosures. This trend is also evident in the Indian IT industry, where regulatory requirements and stakeholder expectations are increasingly driving companies to opt for third-party assurance. One respondent confirmed their organization's use of "Third Party" validation (Resp Large 1, ESHS Process Specialist, IT Firm), emphasizing the value of impartial assessment. Another echoed this preference, stating "Third Party" (Resp Large 3, ESHS Specialist, IT Firm), highlighting that larger, more mature companies often rely on external evaluators to enhance transparency and credibility. Self-declared validation remains a common alternative. One participant shared that their company follows "Self-Declared" validation (Resp Large 2, Analyst, ESG Audit and Services Firm), which may suggest either resource limitations or early-stage adoption of ESG practices where internal controls are still

developing. Further reinforcing the prominence of third-party assurance, another respondent noted their organization's use of "Third Party" validation (Resp Large 5, Research Analyst ESG, Market Analysis Company), reflecting a belief in the added value of independent verification not only for compliance but also for reputation and investor confidence. The small proportion of companies opting for no validation may be indicative of firms that are still in the nascent stages of ESG implementation, or those where ESG reporting is carried out informally and lacks structured governance.

In summary, the data reveals a growing preference for third-party validation in the Indian IT sector, as companies increasingly view independent verification to enhance the credibility, transparency, and stakeholder trust in their ESG disclosures.



Graph 9 – Impact of ESG reporting in IT industry

The graph presents a comprehensive view of how respondents perceive the impact of ESG (Environmental, Social, Governance) reporting across various business dimensions. Improved Investor Relations and Access to Capital emerged as the highest-rated benefit, with most responses in the 4–5 range. One participant rated this factor "4" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), aligning with the belief that ESG transparency positively influences market confidence. Another rated it "5" (Resp. 05, Software Engineer, Large Indian IT Firm), reinforcing ESG's value in investor engagement. Similarly, Enhanced Brand Reputation and Trust was rated highly, including "5" (Resp. 02, Director, Manufacturing) and "4" (Resp. 04, Freelancer, Freelancer), indicating stakeholder trust as a key advantage. Though Operational Efficiencies and Cost Savings showed mid-range concentration, it still received consistent "4" scores (e.g., Resp. 03, Freelancer, Freelancer), pointing to moderate perceived impact. Risk Management was seen as beneficial, with ratings around 3–5. Competitive Advantage was positively acknowledged with many "4" or "5" ratings (e.g., Resp. 02, Director, Manufacturing), showing that ESG reporting is increasingly viewed as a differentiator. Employee Attraction and Retention followed a similar pattern, with one participant rating it "5" (Resp. 05, Software Engineer, Large Indian IT Firm), reflecting growing expectations from a socially conscious workforce. Importantly, empirical voices reinforce these insights. One respondent commented that ESG "increases client trust, improves employee retention and reputation" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), aligning with both quantitative and qualitative data. Despite these benefits, notable challenges persist. Cost and Resource Intensity received lower ratings, a concern echoed in survey like "Costly,

short-term focus, greenwashing" (Resp. 02, Director, Manufacturing). Complexity and Lack of Standardization was frequently rated 4 or 5 and is supported by interpreted feedback such as "Evolving regulations, lack of standardization, and data complexity create implementation gaps" (Resp. 07, Software Engineer, Anonymous). Risk of Greenwashing was another concern, rated around "4" by several, reflecting worries that unchecked ESG claims may mislead stakeholders. As one respondent put it, "data collection and standardization are difficult across operations and vendors" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), underlining practical reporting limitations. Other barriers include Lack of Awareness (Resp. 05, Software Engineer, Large Indian IT Firm), pointing to the need for broader capacity building. Meanwhile, Quality of ESG Data was viewed positively, with many respondents giving high scores signaling that data credibility, while not perfect, is improving. Overall, while ESG reporting is seen as a powerful tool for business performance and stakeholder engagement, the challenges call for improved frameworks, standardization, and long-term investments in internal ESG capabilities.

Graph 10 – Incorporation of stakeholder's expectations in the decision making.

The graph shows how organizations rate the extent to which stakeholder perspectives are considered in ESG-related decision-making, on a scale of 1 (very low) to 5 (very high). Most respondents rated this moderately to highly: 39.1% selected 4, and 26.9% selected 3, suggesting that most organizations are taking steps to integrate stakeholder voices, though the process may not yet be fully institutionalized. For instance, a respondent commented that "we engage stakeholders regularly, especially clients and internal teams, while drafting our ESG disclosures" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), highlighting the practical integration of stakeholder input into reporting processes. Another participant described ESG as being "important due to stakeholder need and compliance" (Resp Large 5, Research Analyst ESG, Market Analysis Company), indicating that external expectations are a key motivator in shaping ESG strategy.

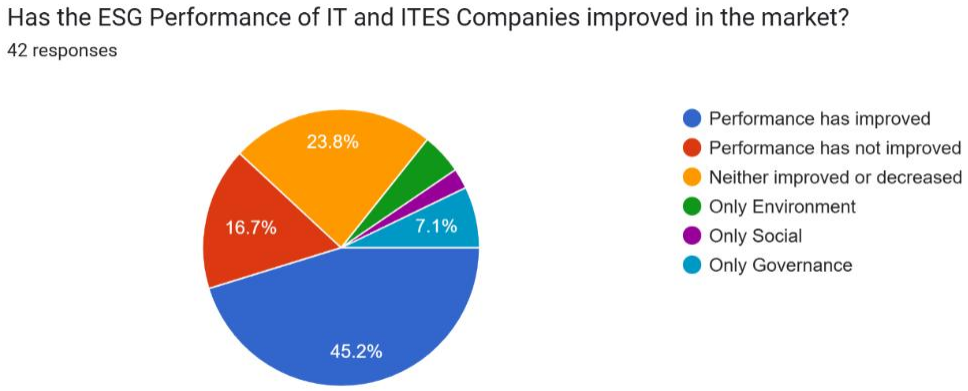
A smaller share of respondents rated stakeholder incorporation as very high (23.1%) or low (7.1% for rating 2), with only 3.8% rating it as very low (1). These outliers reflect some variance in organizational maturity and approach. One participant mentioned a "lack of awareness" in their firm (Resp. 05, Software Engineer, Large Indian IT Firm), pointing to a gap in stakeholder education and engagement across departments. Others highlighted challenges related to internal coordination, with one stating: "data collection and standardization is difficult across stakeholders and vendors" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), showing that even when stakeholder expectations are acknowledged, operational execution can remain complex. These insights underscore that

while stakeholder engagement is valued, consistent frameworks and cross-functional alignment are necessary to deepen its role in decision-making.

4.3 Research Question Three

How is the lack of a standardized framework affecting the comparability, reporting, and decision-making in ESG reporting?

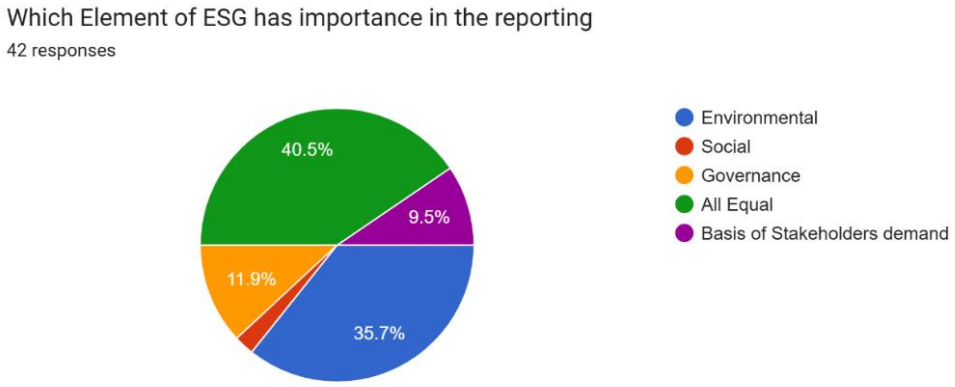
This question will address the challenges posed by the absence of a universal ESG reporting framework in India and globally. It will investigate how the lack of standardization complicates comparison between companies and impacts the quality and reliability of ESG data used for decision-making.



Graph 11 – ESG Performance of IT companies from the perspective of ESG reporting.

The graph presents a varied perspective on whether ESG performance has improved among IT and ITES companies, based on respondents' experiences and observations. A moderately positive outlook emerges, with 45.2% of respondents stating that performance

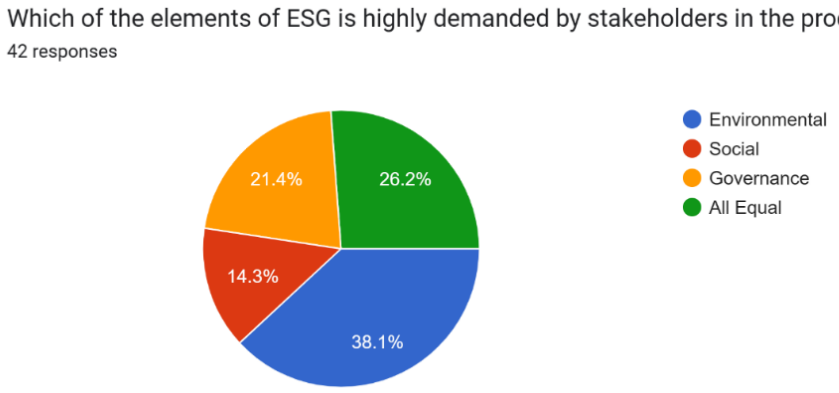
has improved, while 23.8% perceive no clear change, and 16.7% believe ESG performance has not improved. For example, one respondent's response interpreted "Performance has improved" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), reflecting optimism rooted in structured ESG implementation and growing transparency in large firms. Another participant echoed this sentiment: "Performance has improved" (Resp. 03, Freelancer, Freelancer), reflecting improvement in awareness and practices across client projects or sectors. However, a sizable portion of respondents observed stagnation. One participant noted "Neither improved nor decreased" (Resp. 02, Director, Manufacturing), indicating that while efforts may exist, measurable outcomes remain unclear. This sentiment was shared by another who marked the same response (Resp. 04, Freelancer, Freelancer), highlighting limitations in reporting transparency or consistency across the industry. These responses suggest that while ESG is increasingly acknowledged, its performance impact may not yet be uniformly visible or measured. Adding further nuance, 16.7% of participants stated ESG performance has not improved, including (Resp. 05, Software Engineer, Large Indian IT Firm), who had previously cited "lack of awareness" as a challenge underscoring the link between limited internal engagement and stagnant ESG outcomes. The chart also included marginal yet notable references to improvements in isolated areas such as Environmental (7.1%), Social (2.4%), and Governance (4.8%), indicating that while comprehensive transformation may be lagging, some companies are progressing selectively. This fragmented advancement reflects the complexity of ESG implementation, where strong practices in one domain may not translate into consistent maturity across all three pillars.



Graph 12 – ESG Performance elements

The pie chart presents how respondents prioritize the elements of ESG Environmental, Social, and Governance in their reporting practices. A substantial portion, 40.5%, indicated that all elements are equally important, reflecting a comprehensive approach to sustainability reporting. For example, one respondent response interpreted "All Equal" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), suggesting a mature perspective where no single dimension is seen as dominant. This was reaffirmed by another participant who selected the same option: "All Equal" (Resp. 03, Freelancer), showing that this view is shared even among independent professionals working on ESG mandates across industries. Despite this balanced outlook, the Environmental element emerged as the most frequently selected individual priority, with 35.7% of respondents placing it above others. One respondent marked "Environmental" as the key reporting focus (Resp. 02, Director, Manufacturing), highlighting the growing emphasis on carbon footprints, emissions, and resource use. This sentiment was echoed by others, including "Environmental" (Resp. 04,

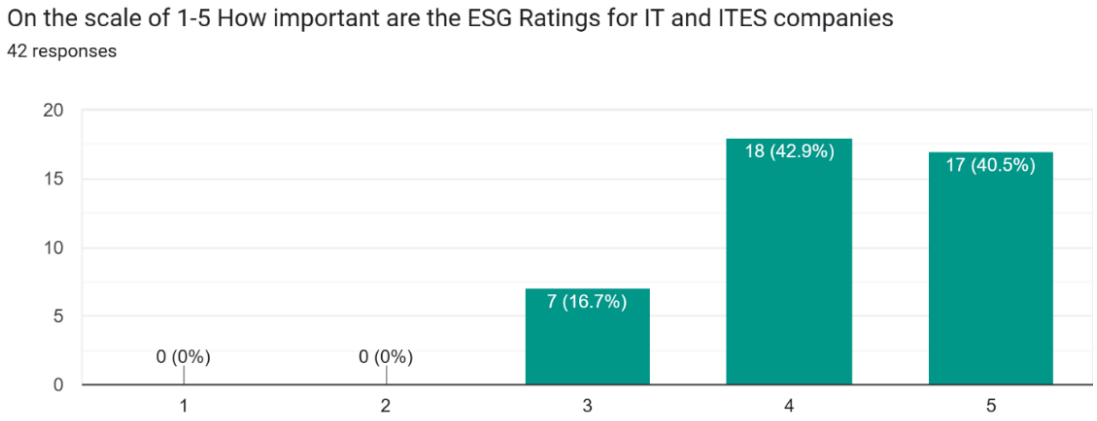
Freelancer) and (Resp. 05, Software Engineer, Large Indian IT Firm), suggesting that climate responsibility continues to dominate ESG agendas in both enterprise and freelance contexts. In contrast, only a small percentage of respondents selected “Social” (11.9%) or “Governance” (9.5%) as the most critical reporting element. Interestingly, no respondents chose “Basis of stakeholder demand” a notable absence that may indicate either a lack of clarity around stakeholder-specific expectations or a preference for aligning with broader ESG frameworks over stakeholder-driven prioritization. These findings highlight dual information, while many acknowledge the equal importance of all three ESG pillars, environmental factors are perceived as more urgent, driven by global climate discourse, client requirements, and regulatory pressure. For IT and ITES companies, this implies a need to deepen their attention to environmental metrics while not losing sight of social equity and governance strength in a well-rounded ESG strategy.



Graph 13 – ESG element highly demanded.

The pie chart reflects respondents’ views on which ESG element is most demanded by stakeholders during the reporting process. The environmental element emerged as the top

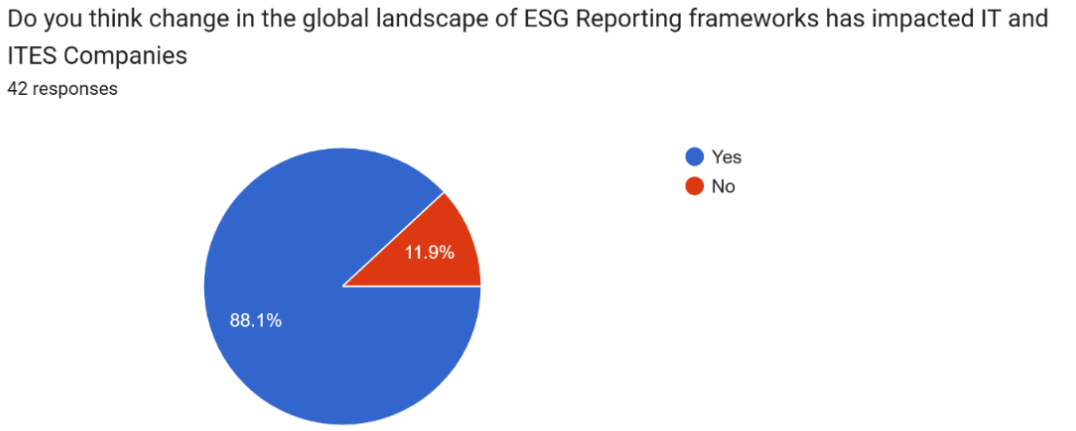
priority for stakeholders, selected by 38.1% of participants. For instance, one respondent emphasized “Environmental” as most demanded (Resp. 02, Director, Manufacturing), suggesting that investors and regulatory bodies are increasingly focusing on emissions, resource consumption, and environmental compliance. Another participant shared the same view, marking “Environmental” (Resp. 04, Freelancer, Freelancer), highlighting how climate-conscious stakeholders are ensuring reporting priorities. Meanwhile, 26.2% of respondents felt that all ESG elements are equally demanded, indicating a balanced expectation from stakeholder groups. A participant from a large IT company selected “All Equal” (Resp. 01, Sustainability Analyst, Large Indian IT Firm), highlighting a perception that environmental, social, and governance disclosures are interlinked in stakeholder evaluations. This was supported by others, such as (Resp. 03, Freelancer, Freelancer) and (Resp. 05, Software Engineer, Large Indian IT Firm), showing this belief exceeds both corporate and independent perspectives. The remaining distribution reflects a secondary but still notable emphasis on social (21.4%) and governance (14.3%) elements. Although less prioritized than environmental aspects, these areas remain significant. The responses suggest that stakeholder expectations are evolving, with environmental factors currently dominating, but asks for a more comprehensive, balanced ESG narrative to remain present. For companies in the IT and ITES sectors, this implies the need to not only lead with environmental disclosures but also strengthen communication around social programs (e.g., DEI, well-being) and governance structures (e.g., board diversity, ethics compliance). As ESG reporting matures in India, meeting the multi-dimensional demands of stakeholders will be key to building trust and long-term value.



Graph 14 – ESG rating importance in context of IT companies

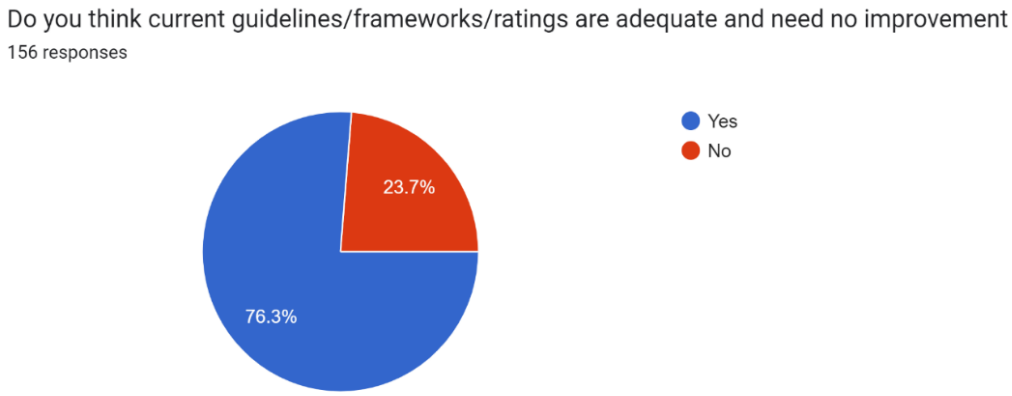
The bar chart reflects how respondents perceive the importance of ESG ratings for IT and ITES companies, measured on a scale of 1 (not important) to 5 (extremely important). Most participants rated ESG ratings as either "4" (42.9%) or "5" (40.5%), indicating widespread agreement on their strategic significance. One participant, for instance, gave a top rating of "5" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), highlighting ESG scores as essential for transparency and credibility in the eyes of stakeholders and investors. Similarly, "5" was chosen by another respondent (Resp. 02, Director, Manufacturing), suggesting that the weight of ESG ratings extends beyond the IT sector into broader corporate strategy. Several respondents also rated ESG rating importance at "4", such as (Resp. 03, Freelancer), reflecting a strong, though slightly more measured, acknowledgment of ESG metrics as integral to business evaluation. Meanwhile, only 16.7% rated them at "3", like (Resp. 04, Freelancer), suggesting moderate importance in contexts where ESG practices are still maturing or less frequently benchmarked against

ratings. Importantly, no participants rated ESG ratings as unimportant (1 or 2), which indicates a consensus across the sample that ESG ratings are now seen as baseline expectations in corporate disclosures and sustainability performance. The responses affirm that ESG ratings have gained substantial recognition in the IT and ITES sectors. They are viewed as vital tools not only for internal benchmarking and regulatory compliance but also for securing investor trust, competitive positioning, and enhanced stakeholder communication. As one respondent who gave a "5" rating (Resp. 05, Software Engineer, Large Indian IT Firm) also emphasized in other responses, ESG is becoming embedded in organizational thinking. The lack of low ratings further validates the perception that ESG considerations have become non-negotiable components of corporate performance assessments in the digital economy. Organizations seeking to remain competitive and credible must increasingly align with these evolving stakeholders' expectations, using ESG ratings as a transparent reflection of their sustainability journey.



Graph 15 – ESG global landscape and impact in context of IT companies

The pie chart reveals that an overwhelming 88.1% of respondents believe that changes in the global ESG reporting framework have significantly impacted IT and ITES companies, while only 11.9% do not share this view. This response shows how shifts in international ESG standards and regulatory expectations are influencing Indian firms' strategies and disclosures. For instance, one respondent asserted “Yes” (Resp. 01, Sustainability Analyst, Large Indian IT Firm), reflecting awareness of global ESG mandates and their cascading effects on reporting obligations and operational alignment. Similarly, another professional remarked “Yes” (Resp. 02, Director, Manufacturing), affirming that global ESG trends now shape local compliance and strategic direction. Independent consultants also echoed this sentiment, such as (Resp. 03, Freelancer), confirming the visibility of these global dynamics across industries and work structures. On the other hand, a minority opinion was expressed as “No” (Resp. 05, Software Engineer, Large Indian IT Firm), indicating that not all organizations feel the immediate impact potentially due to limited external exposure or nascent ESG maturity. Nonetheless, the strong majority reflects a sector-wide recognition that alignment with global frameworks is no longer optional but essential to meet investor demands, regulatory changes, and competitive expectations in the ESG space.



Graph 16 – Adequacy of current guidelines and frameworks for ESG reporting

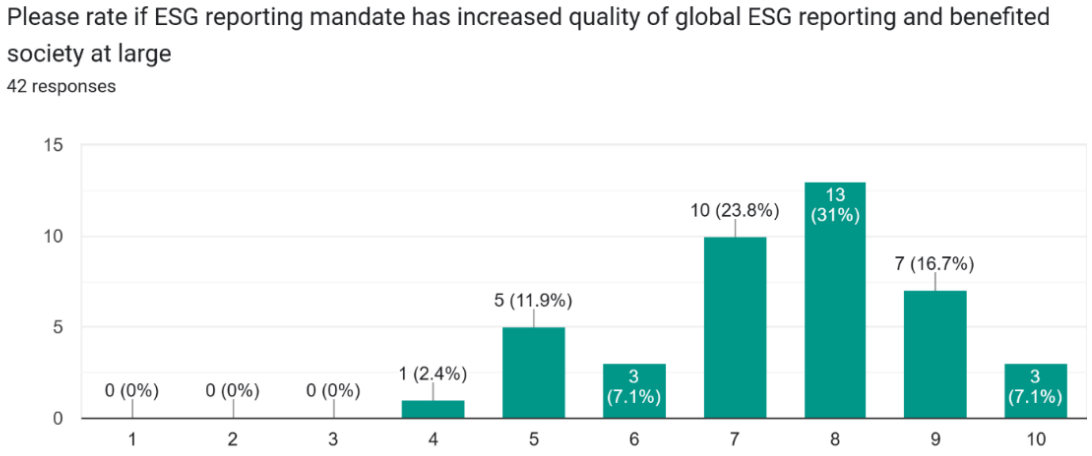
The pie chart reveals that a strong majority of respondents, 76.3% believe that current ESG guidelines, frameworks, and rating mechanisms are not adequate and require improvement, while only 23.7% consider them sufficient as is. This dominant view points to a widespread demand for more robust, clear, and standardized tools in ESG reporting. One participant explicitly responded "No" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), signaling dissatisfaction with existing systems due to operational ambiguity or lack of sector-specific guidance. Echoing this concern, others also answered "No" (Resp. 03 and 04, *Freelancer*), indicating that even external consultants face challenges in navigating fragmented ESG expectations. Another added nuance by referencing "lack of standardization and evolving regulations" in earlier comments (Resp. 07, Software Engineer, Anonymous), reinforcing the operational burden of staying ESG-compliant. On the other hand, a minority perspective came from "Yes" (Resp. 02, Director, Manufacturing), suggesting that some find current frameworks manageable reflecting sector-specific alignment or internal capacity to adapt. Nevertheless, the clear majority

points to an urgent industry call for improved ESG regulations, standardized metrics, and streamlined guidance to support consistent and credible reporting across the IT and ITES landscape.

4.4 Research Question Four

Is the quality of data in ESG reporting declining, with reduced transparency and accountability?

This question explores whether there is a decline in the quality of data reported in ESG disclosures, focusing on aspects such as transparency, accountability, and accuracy. It will examine whether these issues undermine the reliability of ESG reports and their ability to meet stakeholder expectations.



Graph 17 – ESG reporting mandate and relevance to quality of reports.

The bar chart illustrates strong agreement among respondents that ESG reporting mandates have improved the quality of global ESG disclosures and contributed positively to society. A significant portion rated the impact at the upper end of the scale, including "8" (Resp. 03, Freelancer, Freelancer) and "9" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), suggesting that these mandates have driven meaningful enhancements in the clarity, consistency, and accountability of ESG practices. Another respondent went further, giving the highest score of "10" (Resp. 05, Software Engineer, Large Indian IT Firm), signaling full confidence in the transformative role of such mandates. Meanwhile, ratings of 7 like from (Resp. 04, Freelancer, Freelancer) reflect cautious optimism acknowledging progress while hinting at room for further improvement. Interestingly, one participant gave a middling score of "5" (Resp. 02, Director, Manufacturing), which may reflect sectoral differences in experience with ESG implementation. Collectively, the data suggests that most stakeholders view mandatory ESG reporting as an essential step toward standardizing sustainability metrics and ensuring greater societal benefit, though the variation in ratings indicates ongoing discussions about how to further optimize the global ESG framework.

Analysis of the sustainability reports provides insights on the research question which highlights improvement in the overall ESG progress, demonstrating strong alignment with the global sustainability framework.

Materiality Assessments: All companies have significantly advanced their ESG materiality assessments by consistently integrating extensive stakeholder inputs, aligning with

industry standards, and adopting international sustainability frameworks like GRI, SASB, TCFD, and UN SDGs. Companies such as Tech Mahindra, Infosys, and Wipro exhibit particularly mature materiality processes driven by stakeholder engagement and benchmarking. One participant response interpreted : *"*Companies engage stakeholders regularly, especially clients and internal teams, while drafting their ESG disclosures" (Resp. 01, Sustainability Analyst, Large Indian IT Firm), reflecting internal practices that echo industry benchmarks.

Transparency and Reporting: Transparency remains robust across most companies. Tech Mahindra, Wipro, and Infosys demonstrate exceptional clarity and comprehensiveness in ESG reporting, verified externally by firms like KPMG and Deloitte, thus boosting credibility. In contrast, Coforge and Tata Technologies have room for enhancement by formalizing external assurance. As interpreted from the survey respondent, "Current frameworks and guidelines are evolving but lack standardisation; this affects comparability" (Resp. 07, Software Engineer, Anonymous), underlining the need for improved alignment and transparency in ESG disclosures.

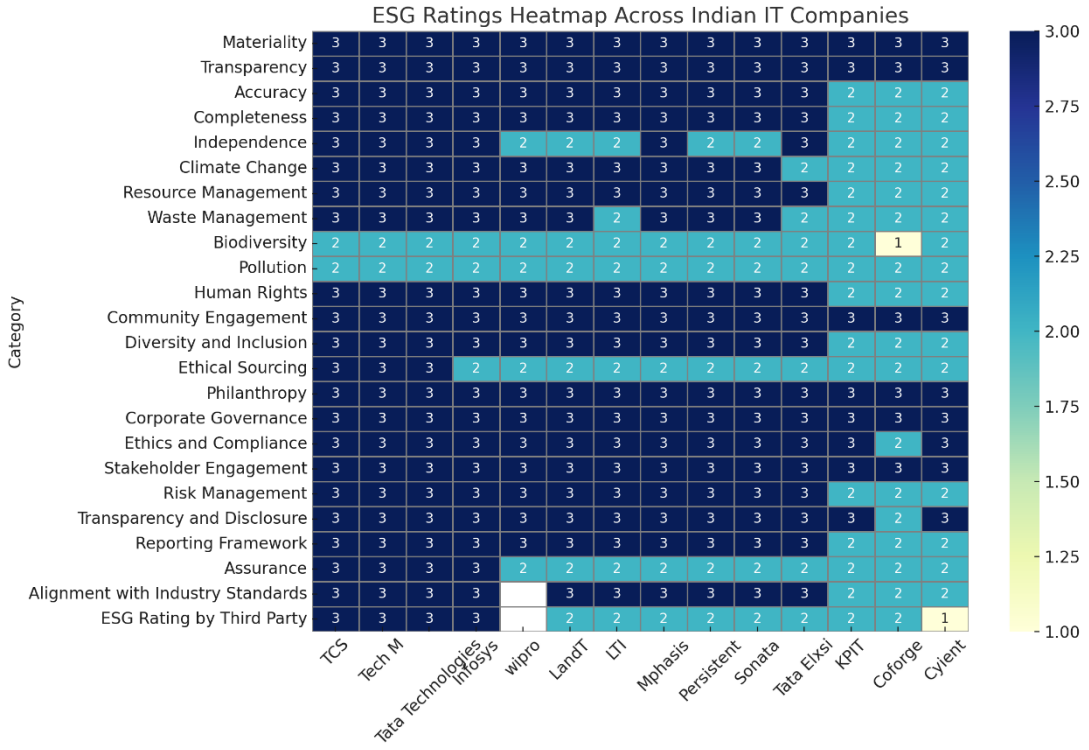
Accuracy and Assurance: Accuracy in ESG reporting has improved notably, particularly through third-party assurance. Tata Elxsi, LTIMindtree, and LTTS have made progress through external validation, enhancing trust in ESG metrics. A respondent emphasized, "Third-party validation boosts credibility and investor confidence" (Resp. 05, Software Engineer, Large Indian IT Firm). However, companies like Tata Technologies and Coforge could benefit by expanding assurance scope to cover broader ESG indicators and thus enhance report reliability.

Environmental Performance: Companies show strong commitments to environmental targets. Infosys leads with consistent carbon neutrality, 67.5% renewable energy use, and reductions in Scope 1 & 2 emissions. Wipro follows closely with 75% renewable energy use and significant emissions cuts. Participants affirmed the relevance of such environmental efforts, with one noting: *"*Environmental reporting is most valued by stakeholders today" (Resp. 02, Director, Manufacturing). Companies like Tata Elxsi and LTIMindtree are rapidly improving renewable energy integration, showcasing aggressive emissions-reduction pathways.

Social Initiatives: Social responsibility initiatives have gained momentum, especially in diversity and community outreach. Infosys and Tata Elxsi lead with over 36% women employees, while Tata Technologies' "Reignite" program highlights reintegration of experienced professionals. Respondents supported this trend: "Employee attraction and retention are key ESG benefits" (Resp. 05, Software Engineer, Large Indian IT Firm). Meanwhile, Mphasis and KPIT are notable for CSR programs focused on education and healthcare, indicating widespread investment in community well-being.

Governance Frameworks: Governance structures across companies reflect maturity, with oversight by independent directors and ESG committees. Infosys, Mphasis, and LTIMindtree demonstrate exemplary practices, including zero-tolerance compliance cultures. However, voices in the data indicated ongoing challenges: "There's a need to expand external audits to improve ESG governance standards" (Resp. 03, Freelancer). KPIT and LTTS effectively embed governance within ESG strategy, but broader auditing could enhance oversight.

Alignment with Global ESG Frameworks: All companies show a clear alignment with global ESG frameworks. Infosys, Wipro, and Tech Mahindra are particularly advanced in implementing GRI, SASB, TCFD, ISO, and SDGs, while Coforge and Tata Technologies are encouraged to expand toward CDP and MSCI ratings. As one respondent's survey response interprets, "Change in the global ESG framework has definitely impacted how companies approach reporting" (Resp. 01, Sustainability Analyst, Large Indian IT Firm). This alignment reflects India's IT sector's growing ESG maturity and positions these firms to meet global sustainability demands with increased credibility and strategic foresight.



Graph 18 – Heat Map for Sustainability Report Analysis

The heatmap presents a comparative assessment of ESG disclosure quality across major Indian IT companies, based on 24 evaluation parameters. Categories such as *Transparency*, *Materiality*, *Reporting Framework*, *Stakeholder Engagement*, and *Corporate Governance* consistently received "High" ratings across most companies, indicating that the baseline transparency in reporting remains strong. This suggests that Indian IT firms have aligned well with core regulatory and stakeholder expectations, particularly in areas where compliance is mandated by frameworks like BRSR. However, subtle declines in certain parameters—such as *Accuracy*, *Independence*, and *Assurance*—highlight that while companies are disclosing more data, the verifiability, third-party assurance, and depth of the data remain uneven. This partially affirms that the volume of data does not necessarily translate into higher reporting quality. Despite broad compliance on disclosure quantity,

qualitative performance varied across companies and ESG categories. Notably, parameters such as *Biodiversity*, *Pollution*, *Ethical Sourcing*, and *Assurance* showed inconsistent or moderate ratings across firms, with several companies scoring only "Medium" or "Low." This pattern underscores a gap in accountability—particularly in less regulated or sector-specific ESG dimensions. These findings support the proposition in Research Question 4 that transparency may be superficial in certain areas, with firms selectively emphasizing positive indicators while underreporting complex or difficult-to-measure aspects. Moreover, the lower scores in *Independence* and *Third-Party ESG Rating* further suggest a cautious approach toward external validation, reinforcing the need for standardized, assured, and stakeholder-aligned ESG reporting frameworks in the Indian IT sector.

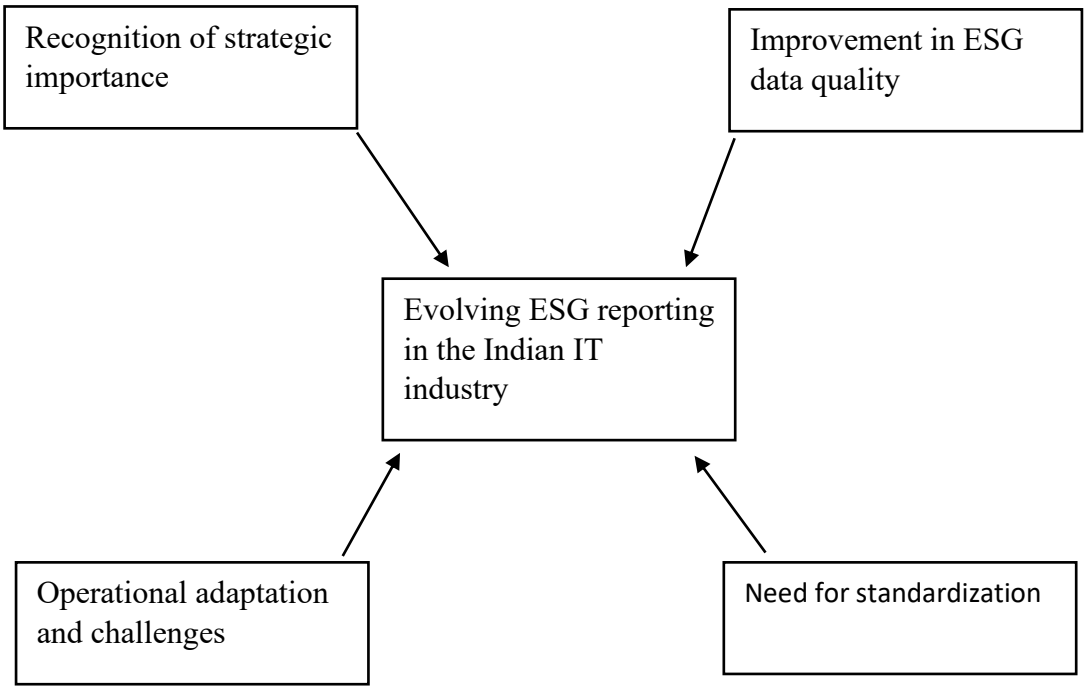


Figure1 – Thematic Map of interconnected themes

This thematic map illustrates the interconnected themes that have emerged from the analysis of ESG reporting within India's IT industry. At the core lies the evolution of ESG practices, supported by strategic integration, stakeholder engagement, data quality and assurance, and the pressing need for standardization. Each theme reflects how companies are aligning with global frameworks, navigating operational challenges, and responding to investors and regulatory expectations in their journey towards sustainable transformation.

4.5 Summary of Findings

Research Question One: Has ESG reporting in the Indian IT industry evolved? ESG reporting within the Indian IT industry has notably evolved from a compliance-focused activity to a strategically integrated practice. Most companies (70.5%) recognize sustainability as highly important, primarily for meeting stakeholder expectations and regulatory requirements. One respondent noted, "Important (Compliance and Stakeholders Need and Revenue)" (Resp Large 5, Research Analyst ESG, Market Analysis Company), reinforcing the dual compliance-business relevance. A considerable number (21.8%) directly associate sustainability with revenue generation, as emphasized by another respondent who stated, "Very Important (Revenue dependency)" (Resp Large 1, ESHS Process Specialist, IT Firm), suggesting a growing perception of ESG as a driver of competitive advantage.

Integration practices differ across firms 45.2% view sustainability as commercially driven, while 28.6% consider it deeply embedded in their company's values and conduct. As captured by a participant, "Part of code of conduct and practices" (Resp Large 2, Analyst,

ESG Audit and Services Firm), this points to a cultural embedding of sustainability in operations. Reporting formats also vary: 57.1% prefer standalone ESG reports, while 39.1% adopt integrated reporting, reflecting a broad acknowledgment of ESG's strategic role. With 76.2% identifying current ESG maturity as intermediate, the industry appears in transition moving beyond foundational practices. Awareness levels, however, still require attention: 52.4% are aware and 42.9% are moderately aware, suggesting scope for deeper engagement across all organizational levels.

Research Question Two: How are Indian companies responding to changing ESG frameworks and global needs, and its operational impacts?

Indian IT companies increasingly favor combined governance structures (61.9%), involving both dedicated ESG teams and board-level oversight. One respondent emphasized the importance of integration: "A synergy of both" (Resp 01, Sustainability Analyst, Large Indian IT Firm), reinforcing the belief that shared governance drives more impactful ESG outcomes. ESG management systems certifications are rated highly important by 80.9%, with respondents noting their value in boosting credibility: "Third-party validation boosts investor confidence" (Resp 05, Software Engineer, Large Indian IT Firm). Regarding validation practices, 45.5% of companies rely on third-party verification, motivated by regulatory demands and stakeholder scrutiny. ESG reporting is perceived to drive meaningful business impacts: improved investor relations, enhanced reputation, employee engagement, and competitive positioning. However, key challenges persist such as high resource intensity, greenwashing risk ("Costly, short-term focus, greenwashing" –

Resp 02, Director, Manufacturing), and lack of standardization. A large majority (88.1%) acknowledge that global ESG framework changes are impacting domestic practices. One respondent confirmed, “Change in the global ESG framework has definitely impacted how companies approach reporting” (Resp 01, Sustainability Analyst, Large Indian IT Firm), indicating strong responsiveness to international standards.

Research Question Three: How does the lack of standardized frameworks impact ESG reporting comparability and decision-making?

The absence of a uniform ESG framework has notably impacted reporting comparability and decision-making quality. While 45.2% perceive moderate ESG performance improvement, 23.8% observe no meaningful change, and 16.7% report no improvement at all. One respondent pointed out the limitation: “Lack of standardizations and evolving regulations” (Resp 07, Software Engineer, Anonymous), underlining the reporting inconsistencies that hinder benchmarking and clarity. Stakeholders place higher demand on environmental elements (38.1%), though 40.5% support equal importance across ESG pillars. Reflecting this, a respondent commented, “Environmental reporting is most valued by stakeholders today” (Resp 02, Director, Manufacturing). Additionally, 83.4% of participants regard ESG ratings as important in corporate strategy evaluation, and 76.3% recommend improving current ESG guidelines. This underscores an industry-wide push for better-structured, globally aligned ESG frameworks to enhance reporting integrity and decision-making efficacy.

Research Question Four: Is ESG data quality declining, affecting transparency and accountability?

Different from the concerns about ESG data credibility, the findings indicate that ESG data quality is, in fact, improving, supported by evolving regulatory mandates. Survey ratings on the impact of these mandates mostly range from 7 to 9, reflecting strong optimism about their influence on ESG reporting standards. One respondent remarked, "Rating 9—mandates have improved reporting quality and societal value" (Resp. 01, Sustainability Analyst, Large Indian IT Firm). The Indian IT sector increasingly aligns with global ESG frameworks such as GRI, SASB, TCFD, and the UN SDGs, with companies like Infosys, Wipro, and Tech Mahindra demonstrating exceptional transparency and robust third-party assurance processes, as validated by independent auditors like KPMG and Deloitte. Insights from the ESG ratings heatmap further reinforce these observations, highlighting consistently high performance in key parameters such as Materiality, Transparency, Stakeholder Engagement, and Corporate Governance. However, variations in Assurance, Independence, Biodiversity, and Pollution ratings point to an uneven landscape, where not all disclosures are externally verified or comprehensive across the environmental spectrum. While Infosys and Wipro lead environmental reporting through carbon neutrality and over 67%–75% renewable energy use, companies like Tata Elxsi and LTIMindtree are rapidly catching up by integrating renewable strategies and emissions reduction. On the social front, workforce diversity is prominent in firms like Infosys and Tata Elxsi, which report over 36% women representation, and Mphasis and KPIT distinguish themselves through targeted CSR initiatives. Governance maturity is evident in companies such as Infosys and

LTIMindtree, where ESG committees are overseen by independent directors, reinforcing a culture of compliance and ethical oversight. Despite this progress, firms like Coforge and Tata Technologies would benefit from expanding the scope of assurance and aligning with additional global frameworks such as CDP and MSCI. These steps would further enhance data transparency and stakeholder confidence, ensuring that ESG performance is not only declared but demonstrably verified.

Overall, the Indian IT sector shows significant ESG evolution from compliance to strategic integration demonstrating credible alignment with global standards. Overall insights reinforce industry recognition of ESG as a driver of trust, value, and long-term resilience, while also highlighting areas needing continued attention such as standardization, data assurance, and stakeholder communication.

4.6 Conclusion

The Indian IT industry's ESG reporting has significantly evolved, moving beyond compliance obligations to become a strategic element of business operations. While sustainability remains motivated by stakeholder expectations and regulatory compliance, many companies now recognize its role in revenue generation and competitive positioning. This shift is evident in responses such as “Very Important (Revenue dependency)” (Resp Large 1, ESHS Process Specialist, IT Firm), reflecting a growing link between sustainability and business outcomes. The rise of dedicated sustainability teams and board-level governance endorsed by 61.9% of respondents illustrates this shift. As one respondent

shared, “A synergy of both [board and ESG team] is essential” (Resp 01, Sustainability Analyst, Large Indian IT Firm), pointing to the growing institutionalization of ESG within corporate structures.

Despite the industry’s intermediate ESG maturity (76.2%), companies are actively responding to global ESG developments, which 88.1% of respondents acknowledge as impactful. This adaptation has improved operational credibility, transparency, and investor engagement. Still, key challenges remain, most notably, the absence of standard ESG frameworks, which many argue affect comparability and informed decision-making. As noted by one participant, “Lack of standardizations and evolving regulations create implementation gaps” (Resp 07, Software Engineer, Anonymous). A strong 76.3% support enhanced ESG frameworks to aid accurate benchmarking. Furthermore, while ESG data quality has improved particularly through independent assurance and alignment with GRI, SASB, TCFD, and SDGs concerns around “greenwashing” (Resp 02, Director, Manufacturing) and data inconsistencies persist, highlighting the need for broader external validation and coverage of all ESG metrics. Overall, the Indian IT sector has demonstrated substantial progress in ESG practices. Companies are making meaningful strides in governance, environmental goals, and social responsibility. Backed by strong empirical support and stakeholder feedback, the industry reflects a clear commitment to continuous ESG enhancement and is well-positioned to meet evolving sustainability expectations on both domestic and global fronts.

Chapter IV summarized the survey findings and sustainability report insights related to ESG awareness, implementation, and challenges in Indian IT companies. The next chapter discusses these results in relation to literature and theoretical frameworks.

CHAPTER V:
DISCUSSION

5.1 Discussion of Results

The findings from the survey and analysis of sustainability reports clearly illustrate significant progress in ESG reporting within the Indian IT industry. ESG practices have evolved, transitioning from mere compliance activities toward strategic integration within corporate business strategies. The study indicates that sustainability has moved from being a peripheral concern to a central strategic focus for many companies, reflecting broader global trends. These findings align with global patterns observed in the literature, where the shift from voluntary to mandated ESG disclosures has been driven by growing investor expectations and regulatory developments (Deckelbaum et al., 2020). Empirical evidence from the current study supports this, with 70.5% of respondents recognizing ESG as critical due to stakeholder demands and compliance requirements. Moreover, 21.8% view ESG as linked directly to revenue echoing literature insights that ESG enhances market differentiation (KPMG, 2022). One respondents survey response emphasized, "Companies cannot pitch for global clients without an ESG strategy. It’s a minimum requirement now." Standalone ESG reports are increasingly used (57.1%), although integrated reports remain common (39.1%). This duality mirrors discussions in the literature about the industry's transitional maturity. Most respondents (76.2%) rated the ESG maturity of the Indian IT sector as intermediate, aligning with scholarly observations that IT firms are catching up due to external pressures rather than internal proactivity (Mitra, 2018). Awareness, while

increasing, remains moderate. Persistent challenges such as resource intensity, framework complexity, and data inconsistencies were noted, paralleling concerns raised by Arvidsson and Dumay (2022) and Van der Lugt et al. (2020) regarding ESG reporting becoming more checklists driven. Certifications and third-party validations are seen as essential tools, not only for compliance but also to strengthen credibility. This finding is consistent with observations in the literature that assurance bridges the gap between disclosure quantity and quality (Jebe, 2019; Markarian, 2023). Materiality assessments, though advancing, still reflect global critiques regarding industry misalignment and metric overload (Srinivasan & Bolar, 2020).

Furthermore, stakeholder engagement is becoming embedded in ESG decision-making. This supports Stakeholder Theory, which posits that firms benefit by addressing the expectations of diverse stakeholder groups (Zheng et al., 2022). One survey respondent's response observed, "Investors now ask for ESG risk disclosures alongside financials. ESG is no longer peripheral it's part of core reporting." Yet, literature critiques about materiality selection and under-reporting of risks (Sahoo & Swain, 2018; Eastman, 2023) which supports the survey's findings that certain ESG dimensions especially governance and social aspects remain underexplored.

5.2 Discussion of Research Question One

Research Question 1: Has ESG reporting in the Indian IT industry evolved?

The analysis confirms a clear evolution of ESG reporting practices within the Indian IT industry, highlighting a strategic shift from compliance-driven reporting to integration into

core business strategies. Companies increasingly recognize sustainability as critical for stakeholder relationships, regulatory compliance, and business performance enhancement. Notably, the industry's maturity in ESG practices is still predominantly intermediate, with substantial room for progress. Continued adoption of global standards and improved transparency and data accuracy are recommended to further advance ESG maturity. Further examination reveals that this evolution is closely linked to increased pressure from international investors and stakeholders demanding higher transparency and accountability. These shifts are well-documented in the literature. Initially, Indian IT companies viewed ESG through a narrow CSR or compliance lens (Telang, 2011), but now, firms like Infosys and Wipro are aligning with global frameworks such as GRI, SASB, and TCFD (Sphera, 2023). Empirical findings from this study reinforce these shifts more than 80% of respondents rated ESG as important, citing brand value, client expectations, and investor confidence. "Sustainability has become part of leadership KPIs. The compliance team no longer only manages it is now a boardroom topic," interpreted from one ESG lead survey response, supporting the integration described in Stewardship Theory (Kolawole et al., 2025).

However, smaller firms still face barriers, including a lack of dedicated ESG personnel and difficulty managing intensive reporting frameworks (GRI, ISSB). As one respondent’s survey response interpret, "GRI is ideal for large corporations, but mid-size IT firms struggle to meet its reporting intensity." Literature also echoes this disparity and calls for sector-specific, scalable frameworks (Savio et al., 2020).

5.3 Discussion of Research Question Two

Research Question 2: How are Indian companies responding to changing ESG frameworks and global needs, and what impact has this had on their operations?

Indian IT companies are significantly adapting to global ESG frameworks by establishing combined governance structures involving both dedicated sustainability teams and board-level oversight. These adaptations positively impact investor relations, competitive advantage, and operational efficiencies, albeit with persistent challenges related to resource allocation and data standardization. The strategic response of companies illustrates the broader recognition of ESG's role in long-term corporate strategy, highlighting the importance of collaborative governance structures to drive meaningful sustainability outcomes. This response aligns with the literature's review of Indian IT firms reacting to regulatory mandates like BRSR, client expectations, and global reporting trends (Sphera, 2023). Companies increasingly participate in materiality assessments, risk management, and voluntary frameworks (SDGs, TCFD), with internal governance expanding to support ESG at the C-suite level. One respondents survey response interpreted, "CEO and CSO drives ESG with a long-term view. Companies are making investments today that will not pay off this quarter, but they are necessary for resilience and reputation." Capacity-building and ESG training are also expanding, mirroring global literature that emphasizes ESG literacy at all levels of the organization (Eccles et al., 2018). Partnerships with consultants, NGOs, and academia have enabled contextual adaptation and improved accountability, consistent with the calls for interdisciplinary collaboration (Muigua et al., 2022).

Nonetheless, respondents noted overlapping frameworks remain a burden: “Companies are forced to pick from 3–4 frameworks and tailor everything manually,” which reflects Van der Lugt et al.’s (2020) concerns about reporting fatigue.

5.4 Discussion of Research Question Three

Research Question 3: How is the lack of a standardized framework affecting comparability, reporting, and decision-making in ESG reporting?

The absence of standardized ESG frameworks poses substantial challenges to comparability and decision-making. This lack of uniformity complicates benchmarking across companies, undermining transparency, and reliability. Stakeholders prioritize environmental factors, emphasizing the need for balanced reporting across ESG dimensions. Companies express strong support for standardized guidelines and frameworks, underscoring a clear necessity for improved regulatory frameworks to enhance ESG comparability and decision-making effectiveness. These findings corroborate concerns raised in the literature about data inconsistency, regulatory fragmentation, and low comparability (Barker et al., 2018; Stolowy et al., 2023). Survey responses noted issues with overlapping standards, framework misalignment, and resource constraints. As per the one of the survey response interpretations, “There’s no single playbook for ESG in IT.” Literature and empirical voices alike call for sector-specific adaptations that reflect intangible metrics like data privacy and employee well-being, which are especially relevant for service industries. In addition, the demand for harmonization is echoed both in the research and the field. The BRSR’s structured format

represents a step forward, but concerns about relevance for IT persist: “BRSR has improved ESG accountability, but companies need better templates for the IT sector,” was interpreted from survey response of a sustainability officer. These align with the literature’s emphasis on the complexity of mapping sector-specific indicators (Novaes, 2023; Savio et al., 2020).

5.5 Discussion of Research Question Four

Contrary to concerns about declining data quality, the findings from this study—supported by both survey responses and heatmap analysis—indicate that ESG reporting mandates have had a positive impact on data transparency, material relevance, and societal accountability. Enhanced materiality assessments, robust stakeholder engagement, and increasing third-party assurance have improved the quality and trustworthiness of ESG disclosures. Companies such as Infosys, Wipro, and Tech Mahindra exemplify best practices, exhibiting consistent alignment with global frameworks (e.g., GRI, SASB, TCFD, UN SDGs) and achieving high scores across parameters like Transparency, Stakeholder Engagement, and Governance. The heatmap reveals a strong trend across firms in foundational ESG areas; however, it also exposes persistent gaps in categories like Assurance, Independence, Biodiversity, and Pollution—suggesting selective transparency in less regulated or harder-to-measure areas.

This duality aligns with academic critiques, such as Arvidsson and Dumay (2022), who caution that increased data volume does not inherently improve reporting quality. Empirical responses from IT professionals reinforce this concern, with one participant

stating, “Companies have good intentions, but their systems aren’t ready to provide assured data,” highlighting the gap between intent and capability. Furthermore, survey participants noted difficulties in aligning ESG ratings across agencies due to methodological inconsistencies, supporting Varottil (2023) and Larcker et al.'s observations about interpretive variability and lack of standardization.

While mandates like SEBI’s BRSR Core and the global ISSB framework mark considerable progress, full-scale transparency and accountability require deeper harmonization between local and global standards, increased sector-specific guidance, and wider adoption of independent audits. The heatmap underscores the need for greater external verification, especially for firms like Coforge, Tata Technologies, and Cyient, which scored lower in assurance-related parameters. As ESG reporting matures in the Indian IT sector, digital tools, auditable metrics, and consistent benchmarking will play a crucial role in achieving both quality and comparability. In conclusion, while notable strides have been made, both literature and field data confirm that the ESG journey is still evolving—with transparency and accountability improving, but not yet fully realized.

Chapter V contextualized the findings using stakeholder and stewardship theories, connecting them with global trends and practical implications. Chapter VI draws overall conclusions, discusses implications, and offers recommendations for industry and future research.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This study critically examines ESG (Environmental, Social, and Governance) reporting practices in the Indian IT industry through global and Indian survey responses, expert survey, and detailed reviews of sustainability reports from 14 NSE-listed companies from FY 2019-20 to FY 2023-24.

6.1.1. Evolution of ESG Reporting: ESG reporting within Indian IT has evolved notably, transitioning from compliance-driven actions to strategic business integration. Literature confirms that global ESG trends (Deckelbaum et al., 2020) and stakeholder-driven demands (Zheng et al., 2022) are influencing this shift. Most companies recognize sustainability as critical not only for compliance and stakeholder relations but increasingly for revenue generation aligning with Eccles & Klimenko's (2019) assertion that ESG is becoming a determinant of long-term competitiveness. This shift is reflected in organizational practices such as linking ESG KPIs to executive performance goals and embedding sustainability criteria in RFPs for client bidding. For instance, one survey respondent's response was interpreted, and it emphasized, "Companies cannot pitch for global clients without ESG metrics it is a basic need now" (Resp. 01, Sustainability Analyst, Large Indian IT Firm). To operate this evolution, firms should move beyond static

reporting and develop cross-functional ESG strategy units responsible for aligning sustainability with revenue, innovation, and market expansion goals.

6.1.2 Adaptation to ESG Frameworks: Indian IT companies are responding proactively to evolving ESG frameworks by establishing combined governance structures integrating dedicated sustainability teams with board-level oversight, a practice aligned with global ESG leadership model. Third-party certifications and validations (e.g., ISO, GRI assurance, BRSR Core) play a critical role in enhancing transparency and building investor confidence, supporting the view of assurance as a legitimacy tool. However, persistent barriers such as resource constraints, fragmented frameworks, and the risk of superficial reporting or greenwashing remain, echoing concerns by the respondents. One respondent noted, “companies managing 3–4 overlapping frameworks manually none of them fits IT perfectly” (Resp. 04, ESG Consultant, Freelancer). To address these issues, companies should adopt ESG software platforms to automate compliance mapping and data collection, while also advocating for industry-specific templates through IT industry associations. Collaborative benchmarking groups can also help mid-tier firms pool resources to achieve assurance, mitigate reporting fatigue, and align reporting rigorously with stakeholder priorities.

6.1.3 Impact of Framework Standardization: The absence of standardized ESG reporting frameworks continues to hamper comparability, benchmarking, and informed decision-making across the Indian IT sector. This study finds that stakeholders increasingly demand

balanced ESG disclosures, with an emphasis on environmental metrics echoing survey and literature. Respondents strongly advocate for more coherent, IT-relevant standards, reflecting calls in literature for harmonized and sector-specific guidelines (Schumacher et al., 2022). One ESG director's survey response interpreted, "BRSR helps, but it misses sector-specific risks" (Resp. 03, Director, Sustainability, IT Services). To move forward, companies can engage in cross-sectoral working groups to co-develop IT-aligned reporting templates and push for digital standardization through ESG APIs or integrated dashboards. Regulators and industry bodies must accelerate convergence between global frameworks (like GRI, TCFD, SASB) and domestic expectations, ensuring consistency without overburdening reporting teams.

6.1.4 Quality of ESG Data: ESG reporting mandates have tangibly improved transparency, accountability, and perceived societal value across the Indian IT sector. These improvements are underpinned by robust materiality assessments and third-party validations, with growing alignment to global standards such as GRI, SASB, TCFD, and the UN SDGs (IFRS Foundation, 2023). However, persistent concerns remain around inconsistent data quality especially in governance and social dimensions highlighting the urgent need for uniform assurance practices. One respondents' interpretation was, "Companies validate carbon emissions externally but still lack credible metrics for board diversity or grievance handling" (Resp. 05, ESG Lead, Mid-size IT firm). Addressing this requires companies to expand audit scope to cover all ESG pillars and adopt ESG-specific digital tools that enable traceable, real-time data flows.

This study findings highlight the pivotal role of stakeholder engagement in enhancing ESG performance. Proactive engagement leads to stronger sustainability strategies, transparent disclosures, and greater investor confidence, aligning with findings by Mitra (2018). Additionally, the study reveals a widening gap between large, listed firms and smaller enterprises in ESG maturity. While companies like Infosys and Wipro exhibit strong integration and alignment with global standards, smaller firms often lack the resources and regulatory urgency to match this pace (Savio et al., 2023). To close this gap, regulatory agencies and industry associations should offer targeted incentives, shared ESG infrastructure, and training programs to build capacity across the value chain.

Importantly, the growing relevance of digital sustainability emerged as a future-facing ESG dimension. With the IT sector leading digital transformation, companies are now expected to report on data privacy and digital carbon footprints (Arunkumar et al., 2025).

In conclusion, while notable strides have been made in ESG adoption and reporting quality, the Indian IT sector must now focus on improving cross-pillar data assurance, closing the capacity gap for mid-sized firms, and integrating digital ESG metrics. Doing so will strengthen strategic relevance, ensure comparability, and enhance stakeholder trust, aligning with broader academic perspectives on ESG impact (Eccles & Klimenko, 2019; Serafeim, 2020).

6.2 Implications

The findings of this research carry significant implications for the Indian IT industry's ESG (Environmental, Social, and Governance) reporting practices, influencing companies, stakeholders, regulatory bodies, and future academic research.

Research Question 1: Has ESG reporting in the Indian IT industry evolved?: The evolution of ESG reporting in the Indian IT industry from basic compliance to strategic integration marks a important transformation in how companies understand and implement sustainability. This shift reflects a growing realization that ESG is no longer a peripheral responsibility but a driver of competitive advantage, investor confidence, and long-term value creation. As one respondents survey response interprete, "Sustainability is now tied to revenue pipelines and companies can't bid for certain projects without a verified ESG profile" (Resp. 01, Sustainability Analyst, Large Indian IT Firm). This practical shift supports literature by Zheng et al. (2022), which frame ESG as essential to contemporary business strategy. Importantly, ESG is being embedded into key performance indicators, leadership appraisals, and board-level governance, signaling a move from voluntary adoption to structural accountability. However, ESG maturity varies significantly across companies. While larger firms demonstrate advanced integration, mid-sized players continue to struggle with fragmented reporting systems and limited ESG teams. This disparity underscores the need for sector-specific capacity-building programs, such as industry-led ESG literacy modules or collaborative reporting platforms that simplify framework alignment. For ESG to evolve further, companies must translate strategic intent into operational practices through technology adoption, stakeholder-informed materiality, and dedicated ESG strategy units.

Research Question 2: How are Indian companies responding to changing ESG frameworks and global needs, and its operational impacts? : Indian IT companies are actively aligning

with global ESG frameworks such as GRI, SASB, and TCFD, demonstrating a clear shift from passive compliance to strategic ESG positioning. The growing adoption of combined governance structures wherein sustainability teams report directly to ESG-conscious boards reflects a practical move toward accountability and long-term integration. One senior respondents survey response interpreter, "Company now have a quarterly ESG board update it's as regular as financial performance" (Resp. 02, Senior ESG Consultant, Global IT Firm), reinforcing the operational embedding of ESG in leadership cycles. However, this evolution is not without friction. Companies continue to face resource limitations, especially when juggling overlapping frameworks and managing fragmented data systems. These operational challenges echo global concerns about ESG standardization and efficiency. To address this, firms should invest in ESG capacity-building not just at the leadership level, but across procurement, HR, and finance functions through role-specific training and integration of ESG goals into departmental KPIs. Additionally, external validation through third-party certifications and sustainability ratings (e.g., BRSR Core, MSCI, CDP) should be treated not merely as compliance tools but as strategic enablers for risk mitigation, operational efficiency, and brand trust. Going forward, ESG integration must be seen as an operational imperative requiring cross-functional coordination, stakeholder feedback loops, and investments in scalable ESG technologies to support performance tracking and impact assessment.

Research Question 3: How does the lack of standardized frameworks impact ESG reporting comparability and decision-making? The absence of standardized ESG frameworks continues to hinder comparability, benchmarking, and effective decision-making across the

Indian IT sector. This study found that companies are increasingly vocal in their support for harmonized reporting systems, which aligns with Schumacher et al. (2022), who emphasize the need for consistent guidelines to improve strategic clarity. One ESG respondent's response articulated the challenge succinctly: "There's no one framework that fits one industry ending up in duplicating disclosures across clients, regulators, and investors" (Resp. 03, Director, Sustainability, IT Services). This fragmentation not only burdens internal teams but dilutes the strategic value of ESG data. To resolve these issues, industry associations and regulators should collaborate to co-develop IT-sector-specific ESG templates, incorporating metrics relevant to digital service delivery, data security, and software energy consumption. Standardized ESG scorecards with predefined KPIs could also support investor comparison and reduce interpretive ambiguity for stakeholders.

At the organizational level, companies should operationalize this advocacy by forming cross-functional ESG task forces capable of aligning current disclosures with emerging global norms (e.g., ISSB, BRSR Core, ESRS). Leveraging ESG software solutions that map multi-framework compliance requirements in real time can also reduce reporting inefficiencies and enhance cross-company data integrity. Harmonization will not only streamline ESG reporting processes but also foster greater transparency, build stakeholder trust, and improve strategic agility in a rapidly evolving sustainability landscape.

Research Question 4: Is ESG data quality declining, affecting transparency and accountability? While ESG reporting has become more prevalent, the quality and reliability of ESG data remains uneven, especially across governance and social dimensions, raising

concerns about transparency and accountability. The study reinforces the urgent need for enhanced external assurance, standardized metrics, and automated ESG data systems to combat risks such as greenwashing and narrative inflation. As one ESG officer's survey response interprets, "Companies audit environmental metrics well, but board evaluations and whistleblower metrics still lack consistency" (Resp. 05, ESG Lead, Mid-size IT Firm). The adoption of globally accepted frameworks like GRI, SASB, and TCFD combined with third-party audits can significantly improve stakeholder trust and mitigate reputational and regulatory risks.

To strengthen data credibility, companies should move beyond retrospective reporting toward real-time ESG data dashboards that provide performance insights to both internal teams and external stakeholders. This involves leveraging ESG tech platforms and integrating audit-ready systems capable of tracking Scope 1, 2 and 3 emissions, workforce diversity outcomes, and governance KPIs. Moreover, including ESG disclosures in statutory financial audits could serve as a trust multiplier for capital markets. The findings also highlight the critical need to build ESG competencies internally. Many organizations rely heavily on external consultants, which hinders institutional learning. Developing ESG-literate leadership and functional teams through ESG certification programs, internal academies, and cross-functional training can embed sustainability thinking into everyday business operations. As one participant's survey response interpreted "Biggest challenge isn't reporting, it is ESG fluency at the operational level" (Resp. 06, Strategy Manager, IT Firm). Building this internal capacity not only strengthens data integrity but also positions

companies to integrate ESG intelligence into risk management, innovation pipelines, and long-term strategic planning.

Finally, this research points towards broader implications for policymakers and academic researchers. Policymakers must consider these insights to create overall regulatory environments and frameworks that support effective ESG implementation. Meanwhile, future research should explore deeper into digital sustainability aspects and investigate mechanisms for supporting smaller companies within the industry, bridging the evident gap between leading large firms and smaller enterprises (Savio et al., 2023). Such targeted efforts can ensure sector-wide sustainable practices and drive continuous improvements in ESG reporting standards and outcomes.

6.3 Recommendations for Future Research

Future research should delve deeper into the emerging field of digital sustainability, particularly as IT companies continue expanding cloud infrastructure, AI-driven platforms, and data-intensive operations. As Arunkumar et al. (2025) suggest, embedding digital ESG metrics into mainstream reporting can help firms preempt digital risks while improving disclosure relevance. Researchers could examine how companies operate digital ESG KPIs, such as server energy optimization, or responsible AI governance.

There is also a pressing need to focus on small and mid-sized IT firms, which face distinct ESG adoption barriers including limited budgets, reporting expertise, and assurance access.

As Savio et al. (2023) highlight, tailored strategies are essential for inclusiveness in ESG progress. Future research could map capacity gaps and test the effectiveness of shared ESG services or digital toolkits. These findings would guide regulators and industry associations in designing targeted capacity-building programs, subsidies for ESG audits, or template-based ESG onboarding for smaller players.

Another valuable area is evaluating the efficacy of combined ESG governance models. While larger firms increasingly adopt dual structures sustainability teams under board oversight there is little empirical clarity on what governance design provides the best results. Comparative research across sectors or geographies, can provide practical models that Indian IT firms can adapt based on scale and ESG maturity.

Additionally, future research should assess the performance impact of adopting frameworks such as BRSR Core, ISSB, IFRS, etc. Given the regulatory momentum in India, a critical examination of how these standards influence operational efficiencies, stakeholder perception, or investor appeal would offer valuable evidence for both firms and policymakers (Schumacher et al., 2022). Researchers might conduct case studies or run ESG return-on-investment (ROI) models to provide actionable benchmarking insights. Longitudinal research is another priority. These insights would be especially useful for boards and investors evaluating the business case for ESG investments. It can also help distinguish between short-term symbolic adoption and long-term embedded transformation.

Finally, interdisciplinary research integrating technology management, environmental science, behavioral economics, and governance can generate holistic ESG models suited

for the complexities of the digital age. Future studies could explore how ESG intersects with innovation, workforce behavior, and automation offering practical pathways for IT firms to lead in both digital and environmental transitions. These cross-disciplinary collaborations could also support policymaking by generating actionable, system-wide sustainability solutions.

Summary of Future Research Recommendations

- Digital Sustainability Integration: Study ESG impacts of digital operations such as cybersecurity, data privacy, and digital carbon footprints.
- Small and Mid-Sized IT Firm Inclusion: Address ESG adoption challenges in smaller firms through tailored strategies and shared resources.
- Effectiveness of ESG Governance Models: Evaluate how combined governance structures influence ESG performance and accountability.
- Impact of ESG Framework Adoption: Analyze how specific ESG standards affect business outcomes and stakeholder trust.
- Longitudinal ESG Performance Tracking: Examine long-term ESG trajectories to understand their strategic and financial value.
- Interdisciplinary ESG Approaches: Explore integrated models combining tech, governance, and environmental science for holistic ESG solutions.

6.4 Conclusion

Strategic Shift from Compliance to Value Creation (Relates to RQ1): This study affirms a sector-wide transformation in ESG practices from reactive compliance to strategic value

creation. Indian IT companies now view sustainability as a competitive lever, not just a legal obligation. As one ESG lead's response to survey interpreted, "Sustainability is embedded into sales strategy, companies lose business if they can't show ESG roadmap" (Resp. 01, Sustainability Analyst, Large IT Firm). This reinforces the conclusion that ESG now impacts reputation, stakeholder alignment, and investor appeal (RQ1). Firms should continue linking ESG KPIs to revenue targets, RFP scoring, and executive evaluations to deepen this integration.

Strengthening ESG Governance and Internal Capacity (Relates to RQ2 & RQ4): Effective ESG performance demands strong internal structures and reporting mechanisms. The study found widespread adoption of dual governance models sustainability departments reporting to ESG-oriented boards. Yet capacity gaps persist, particularly in ESG data assurance and internal expertise. One respondents survey response interpreted, "Companies have board interest, but teams lack ESG fluency" (Resp. 06, Strategy Manager, Mid-size IT Firm). Addressing this (RQ2, RQ4) requires firm-level investment in ESG literacy, integrated data platforms, and independent verification of not just environmental, but social and governance disclosures.

Driving Inclusivity through Stakeholder Engagement (Relates to RQ1 & RQ2): The study emphasizes the value of inclusive ESG practices. Companies with deeper stakeholder engagement spanning employees, vendors, regulators, and local communities tend to report more comprehensive and credible ESG outcomes. As one ESG consultants' response interpreted, "Companies added health metrics after employee input on the materiality

survey" (Resp. 02, ESG Consultant, IT Services). This supports RQ1 and RQ2, revealing that inclusive processes enhance both decision quality and innovation. Actionable next steps include embedding stakeholder panels into ESG reviews and publishing stakeholder-informed KPIs.

Bridging the Gap for Small and Mid-Sized Firms (Relates to RQ3 & RQ4): While large companies show growing ESG sophistication, smaller firms continue to lag due to resource constraints and limited framework clarity. A director from a mid-tier firm responded to survey interpreted, "Firms use BRSR templates, but lack capacity to map against SASB or GRI" (Resp. 03, Director, Mid-size IT). This gap directly affects ESG comparability (RQ3) and data reliability (RQ4). Regulators and industry bodies should introduce shared reporting infrastructure, subsidized assurance programs, and tiered ESG compliance models suited for SMEs.

Harnessing Technological Innovation for ESG (Relates to RQ4): Digital ESG tools and innovation present a game-changing opportunity for the IT sector. The study highlights the emerging relevance of green IT and digital carbon tracking. This aligns with RQ4, pointing to the need for real-time ESG intelligence systems. Companies should invest in digital reporting infrastructure that automates data collection, maps framework compliance, and visualizes ESG impact dashboards.

Advancing ESG Leadership through Collaboration and Research (Supports All RQs): Sustained ESG maturity will depend on collaboration across sectors, continuous research, and shared learning. The study finds that companies engaging with academic, civil society, and regulatory partners tend to lead in governance innovation and data transparency. As

the survey interprets, “ESG approach transformed for some companies once they partnered with universities for framework design” (Resp. 05, Senior ESG Manager, Large IT Firm). Future efforts should prioritize interdisciplinary research, sector-specific guidance, and knowledge platforms that help companies translate global frameworks into local relevance advancing all four research questions.

APPENDIX A

SURVEY QUESTIONS

Survey No 1 – Questions for global respondents

- Age
- Name of Company
- Role in the Current Organization
- No of Years of experience
- How would you define sustainability in the context of our business?
- To what extent do you believe sustainability is integrated into our company's overall strategy and operations?
- Is the ESG Report part of your annual integrated report or standalone
- If Others for above question please provide information
- Is ESG Report validated
- Is there a designated Authorized Role for Sustainability in your company
- If Yes at which level
- Who is the top most person responsible for ESG Policy and Processes decisions in your organisation
- If Others for above question please provide information
- Do you have a dedicated inhouse department for ESG policy and Processes
- If Yes, what is the size of the group/department
- Is this group based in Corporate or different offices
- Are these employees on payroll of company

- Are the employees competent with respect to Education and Training
- Who is the responsible person/group for preparing and publishing the ESG report
- If Others is selected for above question then please provide information
- Is your organization certified to any ISO certification
- Does your organization use below standards for ESG Strategy and process
- If Other selected for above question, please specify
- Do you think management systems certifications benefits ESG Process setting and reporting. -Please rate on scale of 1 (Low) to 5 (Extremely Important)
- Do you suggest to have ISO certifications as a stepping stone towards ESG Journey
- Does your company have a Environmental/Sustainability Policy
- Who has signed this policy
- At which level your environmental targets, initiatives and allocation of budget level decisions are taken
- If other please specify
- Has your organization set specific environmental targets
- If yes do you publicly report the performance
- Has your organization conducted risk assessment from environmental perspective for changing ESG reporting landscape
- Please Provide information on Environmental Targets and Performance [Do you Report your Scope 1 performance Publicly and how is the performance since baseline]

- Please Provide information on Environmental Targets and Performance [Do you Report your Scope 2 performance Publicly and how is the performance since baseline]
- Please Provide information on Environmental Targets and Performance [Do you Report your Scope 3 performance Publicly and how is the performance since baseline]
- Please Provide information on Environmental Targets and Performance [Do you report your Energy Performance Publicly and how is the performance since baseline]
- Please Provide information on Environmental Targets and Performance [Do you report your Water Performance Publicly and how is the performance since baseline]
- Please Provide information on Environmental Targets and Performance [Do you report your Waste Performance Publicly and how is the performance since baseline]
- Please Provide information on Environmental Targets and Performance [Do you report your Paper Performance Publicly and how is the performance since baseline]
- Do you Measure, Monitor and Reduce Emissions from your suppliers
- On a scale of 1-5, how effective are your organization's initiatives in reducing environmental impact?
- Do you have any policy or procedure on Social Impact and control and or OHS Policy
- Who has signed this policy

- At which level your Social targets, initiatives and allocation of budget level decisions are taken
- If other please specify
- Has your organization set specific Social performance targets
- If yes do you publicly report Social performance
- Has your organization conducted risk assessment from Social perspective for changing ESG reporting landscape
- Do you report your organization level OHS incidents in public report
- Has your organization implemented diversity and inclusion programs
- Did your organization invest in social impact projects within the communities it operates in
- Does your company have diversity and inclusion initiatives in place?
- Does your company take initiatives to ensure the well-being of its employees?
- On a scale of 1-5, how effective are your organization's initiatives in reducing social impact?
- Does your organization have a clearly defined governance structure that includes oversight of ESG issues?
- Has your organization faced any ESG-related compliance issues or controversies during the reporting period?
- How diverse is your company's board in terms of gender and ethnicity?
- Does your company ensure ethical business practices and compliance with regulations?

- Has your organization conducted risk assessment for the changing landscape of ESG reporting from Governance perspective
- "On a scale of 1-5, how transparent is your organization in disclosing governance practices and policies?
- (Rating scale: 1 (not transparent) to 5 (very transparent) "
- Has your organization developed and dedicated budget towards achieving ESG objectives and Targets
- How has your organization been impacted from revenue perspective due to ESG Reporting
- Has your organization conducted risk assessment for the changing landscape of ESG reporting from Economic perspective
- Are ESG Targets Achievement related to compensation of employees
- Does your organization actively engage with stakeholders to gather feedback on ESG matters
- Do you conduct training and awareness sessions for your stakeholders for ESG Process improvement
- Do you support your stakeholders in their ESG reporting journey
- On a scale of 1-5, how well does your organization incorporate stakeholder perspectives into decision-making?
- Has your organization implemented sustainable practices in its supply chain.
- What is the level of Supply Chain Sustainability practices at your organization
- Do you engage in enhancing Sustainability Processes for your Supply Chain

- Do you ask your Supply chain to report their sustainability performance as per any criteria
- If Yes mention the same.
- Do you consider ESG processes as one of the prime criteria for supply chain onboarding
- Do you conduct audits of your supply chain on ESG
- If Yes, what is the frequency
- On a scale of 1-5, how resilient is your supply chain to ESG-related risks?
- How aware are you of ESG reporting practices in the Indian IT industry?
- Does your company currently engage in ESG reporting?
- Which Element of ESG has importance in your reporting
- Which of the elements of ESG is highly demanded by stakeholders in your process and reports
- If yes, which ESG reporting frameworks/Guidelines does your company follow? (e.g., GRI, SASB)
- Who are your key stakeholders for ESG Report
- On the scale of 1-5 How important are the ESG Ratings for your company
- Do you think change in the global landscape of ESG Reporting frameworks has impacted your organization
- Please rate if ESG reporting mandate has increased quality of global ESG reporting and benefited society at large
- How is the ESG reporting maturity of Indian IT industries

- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Improved Investor Relations and Access to Capital]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Enhanced Brand Reputation and Trust]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Operational Efficiencies and Cost Savings]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Risk Management]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Competitive Advantage]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Employee Attraction and Retention]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Cost and Resource Intensity]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Complexity and Lack of Standardization]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Risk of Greenwashing]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Data Accuracy and Reliability Concerns]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Regulatory and Litigation Risks]

- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Short-term Focus]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Quality of Data reported in the ESG reports]
- Has your company encountered any challanges in implementing ESG practices in the IT industry?
- Do you think current guidelines/frameworks/ratings are adequate and need no improvement
- If no then what are your suggestions
- Any additional comments or information you would like to provide regarding ESG reporting in the Indian IT industry.

APPENDIX B

SURVEY QUESTIONS

Survey Questionnaire 2 – India specific respondents

- Name
- Age
- Name of Company
- Role in the Current Organization
- No of Years of experience
- Contact Details
- How would you define sustainability in the context of IT and ITES Companies?
- To what extent do you believe sustainability is integrated into IT and ITES companies' overall strategy and operations?
- If Others for above question, please provide information.
- Does a Designated Role and Team for Sustainability drive more traction or is Board level control more important?
- Who should be the top person responsible for ESG Policy and Processes decisions in IT and ITES Companies.
- Should the Sustainability group based in Corporate or different offices?
- Who should be responsible for preparing and publishing the ESG report?
- Does the Management Certification support the ESG journey? Which one of the following you suggest will be the best.

- Which of the following are best suited standards for ESG Strategy and process
- If Other selected for above question, please specify.
- "Do you think management systems certifications benefits ESG Process setting and reporting.
- Please rate on scale of 1 (Low) to 5 (Extremely Important)"
- Do you suggest having ISO certifications as a steppingstone towards ESG Journey?
- At which level ESG targets, initiatives and allocation of budget levels should be taken.
- If other, please specify.
- Has the ESG Performance of IT and ITES Companies improved in the market?
- Has the IT and ITES organization faced any ESG-related compliance issues or controversies?
- On a scale of 1-5, how effective are IT and ITES organization's initiatives in reducing ESG impact?
- How does the ESG Budget impact the overall economy of the organization?
- How much do you think the IT and ITES industries are aware of ESG reporting practices in the Indian context?
- Which Element of ESG has importance in the reporting

- Which of the elements of ESG is highly demanded by stakeholders in the process and reports
- Which guidelines/Standards/Reporting Frameworks has more importance in IT and ITES industries.
- On the scale of 1-5 How important are the ESG Ratings for IT and ITES companies
- Do you think the change in the global landscape of ESG Reporting frameworks has impacted on IT and ITES Companies
- Please rate if ESG reporting mandate has increased the quality of global ESG reporting and benefited society at large.
- How is the ESG reporting maturity of Indian IT industries
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Improved Investor Relations and Access to Capital]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Enhanced Brand Reputation and Trust]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Operational Efficiencies and Cost Savings]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Risk Management]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Competitive Advantage]

- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Employee Attraction and Retention]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Cost and Resource Intensity]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Complexity and Lack of Standardization]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Risk of Greenwashing]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Data Accuracy and Reliability Concerns]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Regulatory and Litigation Risks]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Short-term Focus]
- Please Rate the impacts of ESG reporting Range of 1(Low) - 5(High) [Quality of Data reported in the ESG reports]
- Please note the challenges of ESG reporting in IT and ITES industries.
- Do you think current guidelines/frameworks/ratings are adequate and need no improvement?

APPENDIX C

TABLE WITH SELECTION DETAILS FOR THE COMPANIES TO REVIEW THE SUSTAINABILITY REPORT.

Company Name	Industry	Sector Name	Do they Have Sustainability Report	Years for which report is available	NSE Listing Large Cap
Infosys Ltd	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Tata Elxsi Ltd	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Wipro Ltd.,	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Mphasis Limited	Computers - Software & Consulting	Information Technology	Y	FY 20-21 to FY 22-23 FY 23-24 FY 19-20 no details on website.	Y
Cyient Limited	IT Enabled Services	Information Technology	Y	FY 19-20 to FY 23-24	Y
Sonata Software Ltd.	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Tata Consultancy Services Ltd.	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
COFORGE LIMITED	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y

Tech Mahindra Limited	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Persistent Systems Limited	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
LTIMindtree Limited	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
L&T Technology Services Limited	IT Enabled Services	Information Technology	Y	FY 22-23	Y
KPIT Technologies Ltd	Computers - Software & Consulting	Information Technology	Y	FY 19-20 to FY 23-24	Y
Tata Technologies Limited	IT Enabled Services	Information Technology	Y	FY 19-20 to FY 23-24	Y

APPENDIX D

Global Survey Respondents reference

Resp No.	Type of Company	Role	No of Years of experience
Resp Large 1	IT Firm	ESHS Process Specialist	19
Resp Large 2	ESG Audit and Services Firm	Analyst	2
Resp Large 3	IT Firm	ESHS Specialist	11
Resp Large 4	Anonymous	Anonymous	1
Resp Large 5	Market Analysis Company	Research Analyst ESG	1
Resp Large 6	IT Firm	Data delivery associate	7
Resp Large 7	Manufacturing	Operational manager	5
Resp Large 8	ESG Audit and Services Firm	Senior Manager Sustainability	11
Resp Large 9	Anonymous	Head - Sustainability & Environment	19
Resp Large 10	Renewable Energy Services Firm	Environment and Sustainability	23
Resp Large 11	Anonymous	ESG expert	12
Resp Large 12	Global Leader in electrification and automation	HSE Manager	11
Resp Large 13	IT Firm	HSE Manager	17
Resp Large 14	Anonymous	Chief Sustainability officer	20
Resp Large 15	Anonymous	Senior Associate ESG	10
Resp Large 16	Global Financial Analysis Company	Vice President	21
Resp Large 17	Transportation	ESG	15
Resp Large 18	IT Firm	SENIOR SME	20

Resp Large 19	IT Firm	Director	15
Resp Large 20	Global Medical Technology Company	Program Manager - Corporate Sustainability	19
Resp Large 21	Consulting Firm	Filed Officer	5
Resp Large 22	Pharmaceutical	Cluster HSE Head	25
Resp Large 23	Audit and Certification	HSE Manager	1
Resp Large 24	Commercial Marketing	ADMINISTRATOR	7
Resp Large 25	Health Services	Professional standards officer	2
Resp Large 26	Anonymous		26
Resp Large 27	Anonymous	Marketing manager	6
Resp Large 28	Anonymous	IT Manager	23
Resp Large 29	Anonymous	Manager	3
Resp Large 30	Global Engineering and Construction	Service Specialist	13
Resp Large 31	Global Engineering and Construction	Service Specialist	13
Resp Large 32	Anonymous	Manager	25
Resp Large 33	Anonymous	Senior Manager	15
Resp Large 34	Marketing company	Graphic Designer	5
Resp Large 35	Entertainment	Manager	2
Resp Large 36	Global Consulting Firm	Manager	3
Resp Large 37	IT Firm	Software engineer	7
Resp Large 38	Anonymous	Lead frontend engineer	7
Resp Large 39	Anonymous	VP, Strategic Initiatives	14
Resp Large 40	Anonymous	Manager	5

Resp Large 41	Anonymous	IT Engineer	10
Resp Large 42	Global Consulting Firm	Senior analyst	12
Resp Large 43	Anonymous	Software Engineer	20
Resp Large 44	Anonymous	Software Engineer	6
Resp Large 45	Anonymous	Software Engineer	20
Resp Large 46	Anonymous	Lead Technical Support	6
Resp Large 47	Wireless Infra	HEAD OF IT	7
Resp Large 48	Anonymous	Manager	9
Resp Large 49	Anonymous	Software Engineer	3
Resp Large 50	Anonymous	Director of Engineering	25
Resp Large 51	Anonymous	Business Development Manager	12
Resp Large 52	Logistics	Chief IT Technician	10
Resp Large 53	IT Firm	Owner	30
Resp Large 54	Anonymous	Media Manager	20
Resp Large 55	Anonymous	Entry level	3
Resp Large 56	Global Consulting Firm	Financial Analyst	3
Resp Large 57	Anonymous	Senior Developer	7
Resp Large 58	Anonymous	Data Analyst	5
Resp Large 59	Telecommunications	Program manager	8
Resp Large 60	IT Firm	MANAGER	10
Resp Large 61	IT Firm	Senior Manager	10
Resp Large 62	Anonymous	Manager	3

Resp Large 63	Anonymous	Manager	5
Resp Large 64	IT Firm	Director of Project Management	23
Resp Large 65	IT Firm	IT product manager	1
Resp Large 66	Anonymous	Product Developer	6
Resp Large 67	Anonymous	Supervisor	5
Resp Large 68	Anonymous	Customer Support	2.5
Resp Large 69	Anonymous	Lead engineer	19
Resp Large 70	Anonymous	Coding	9
Resp Large 71	IT Firm	IT manager	5
Resp Large 72	Anonymous	Senior Delivery Manager	24
Resp Large 73	Anonymous	Its specialist	25
Resp Large 74	Marketing company	Manager	16
Resp Large 75	Anonymous	Support Data Analyst	6
Resp Large 76	IT Firm	Senior Manager	15
Resp Large 77	IT Firm	Consulting Manager	27
Resp Large 78	Anonymous	Computer Engineer	2
Resp Large 79	Telecommunications	Information Technologist	9
Resp Large 80	IT Firm	IT manager	15
Resp Large 81	IT Firm	IT Manager	20
Resp Large 82	Construction	Manager	11
Resp Large 83	Anonymous	Communications Manager	7
Resp Large 84	Anonymous	IT Manager	25

Resp Large 85	Anonymous	IT Manager	5
Resp Large 86	IT Firm	Software Developer	15
Resp Large 87	IT Firm	project manager	19
Resp Large 88	Transportation	Software Architect	13
Resp Large 89	Anonymous	Solution Consultant	20
Resp Large 90	Anonymous	Managing Director	16
Resp Large 91	IT Firm	Human Resources Manager	22
Resp Large 92	Anonymous	Engineer	25
Resp Large 93	Anonymous	IT Manager	11
Resp Large 94	Anonymous	HR Supervisor	8
Resp Large 95	Anonymous	It services manager	18
Resp Large 96	Anonymous	Head on IT	7
Resp Large 97	Anonymous	Manager	3
Resp Large 98	Anonymous	Manager	5
Resp Large 99	IT Firm	Cybersecurity Analyst	7
Resp Large 100	IT Firm	IT Tech	6
Resp Large 101	IT Firm	Co-Owner	5
Resp Large 102	Anonymous	MANAGER	3
Resp Large 103	Anonymous	Software Engineer	7

Resp Large 104	IT Firm	Software Developer	8
Resp Large 105	IT Firm	Manager	9
Resp Large 106	Anonymous	Senior Solution Architect	48
Resp Large 107	Anonymous	Senior Associate	10
Resp Large 108	IT Firm	IT	1
Resp Large 109	IT Firm	Tech Ops Developer	12
Resp Large 110	Anonymous	IT Consultant	12
Resp Large 111	Pharmaceutical	Manager	5
Resp Large 112	IT Firm	Manager	9
Resp Large 113	Trading	Cloud engineer	16
Resp Large 114	Anonymous	Operations Manager	11
Resp Large 115	Anonymous	Software Engineer	6
Resp Large 116	Global IT Firm	Software Engineer	20
Resp Large 117	Anonymous	Desktop Support Analyst	22
Resp Large 118	Anonymous	Lead complaint handler	5

Resp Large 119	Anonymous	Supervisor	5
Resp Large 120	Anonymous	CEO	5
Resp Large 121	IT Firm	Employee	5
Resp Large 122	Anonymous	Manager	10
Resp Large 123	Anonymous	Employee	7
Resp Large 124	Anonymous	Healthcare Analyst	8
Resp Large 125	Anonymous	IT Manager	16
Resp Large 126	Anonymous	Development	13
Resp Large 127	Anonymous	Security	18
Resp Large 128	Anonymous	Implementation Specialist	4
Resp Large 129	Anonymous	Manager	16
Resp Large 130	Anonymous	software engineer	2
Resp Large 131	Anonymous	Manager Professional Services	17
Resp Large 132	Anonymous	Software Engineer	11
Resp Large 133	Anonymous	Project Manager	8

Resp Large 134	Anonymous	CCO	12
Resp Large 135	Anonymous	Lead Technical Architect	18
Resp Large 136	Anonymous	software developer	10
Resp Large 137	Anonymous	Sales	10
Resp Large 138	Anonymous	IT Professional	4
Resp Large 139	Anonymous	Communications Manager	6
Resp Large 140	Anonymous	Owner	9
Resp Large 141	IT Firm	It manager	14
Resp Large 142	IT Firm	IT Manager	3
Resp Large 143	IT Firm	Designer	15
Resp Large 144	IT Firm	CTO	20
Resp Large 145	marketing company	CEO	16
Resp Large 146	Anonymous	Software Engineer	10
Resp Large 147	Anonymous	IT Tech	3
Resp Large 148	Housing	Manager	7

Resp Large 149	IT Firm	Business analyst	25
Resp Large 150	Anonymous	Assistant	1
Resp Large 151	Telecommunications	Principal Network Engineer	23
Resp Large 152	Anonymous	Team Lead	3
Resp Large 153	Consulting Firm	Consultant	19
Resp Large 154	Anonymous	Senior Technical Solutions Specialist	9
Resp Large 155	Health Care	Manager	12
Resp Large 156	Financial Consulting	CTO	15
Resp Large 157	Global IT Firm	Service Delivery Manager	18
Resp Large 158	Renewable Energy Services Firm	Assistant Manager - Sustainability	4
Resp Large 159	Transportation	Jr Manager Sustainability	1
Resp Large 160	Anonymous	Self employed	5
Resp Large 161	Anonymous	Head - Sustainability & Environment	19
Resp Large 162	Audit and Certification	GHG Auditor	4.4
Resp Large 163	Consulting Firm	ESG Specialist	16

Resp Large 164	Anonymous	Manager	20
Resp Large 165	Anonymous	Social worker	20
Resp Large 166	Anonymous	Marketing manager	7
Resp Large 167	Cook industries Ltd	Owner	20
Resp Large 168	Anonymous	Intern	2
Resp Large 169	Anonymous	Team Manager	25
Resp Large 170	Anonymous	Assistant	2
Resp Large 171	Anonymous	Head of Strategy	24
Resp Large 172	Anonymous	Employee	13
Resp Large 173	Anonymous	Manager	7
Resp Large 174	Anonymous	senior architect	25
Resp Large 175	Anonymous	IT Project Manager	14
Resp Large 176	Anonymous	Assistant	3
Resp Large 177	Anonymous	Purchase	6
Resp Large 178	Anonymous	Accounts	5

Resp Large 179	Anonymous	Assistant	5
Resp Large 180	Anonymous	Assistant	9
Resp Large 181	IT Firm	Software developer	6
Resp Large 182	marketing company	Owner	40
Resp Large 183	Construction	IT PROJECT MANAGER	25
Resp Large 184	Anonymous	Client manager	6
Resp Large 185	Anonymous	Product manager	6
Resp Large 186	Anonymous	Manager	10
Resp Large 187	Anonymous	CFO	25
Resp Large 188	Security	Human Resource	9
Resp Large 189	Anonymous	Manager	20
Resp Large 190	Anonymous	Business manager	44
Resp Large 191	Anonymous	Manager	10
Resp Large 192	Anonymous	Director of IT	5
Resp Large 193	Anonymous	Research associate	5

Resp Large 194	IT Firm	Senior Engineer	4
Resp Large 195	Anonymous	IT Professional	10
Resp Large 196	IT Firm	Programme Manager	3
Resp Large 197	Anonymous	Vice President	15
Resp Large 198	IT Firm	Software developer	25
Resp Large 199	Anonymous	Analyst	2
Resp Large 200	Academic	Academic	13
Resp Large 201	Anonymous	CRM	22
Resp Large 202	Anonymous	Managing Director	38
Resp Large 203	Customer Service	Officer	2
Resp Large 204	Global IT Firm	Lead	11
Resp Large 205	Consulting Firm	Manager	5
Resp Large 206	Anonymous	Analyst	2
Resp Large 207	FMCG	Manager	16
Resp Large 208	Anonymous	CIO	16

Resp Large 209	Consulting Firm	Officer	23
Resp Large 210	Anonymous	Quality and Technical Manager	17
Resp Large 211	IT Firm	Team Leader	2years
Resp Large 212	Anonymous	Manager	8
Resp Large 213	Anonymous	Human Resource	13
Resp Large 214	Anonymous	Sales and Operations	14
Resp Large 215	marketing company	Senior Manager	12
Resp Large 216	Anonymous	Chief Sustainability Officer	7
Resp Large 217	Anonymous	Engineer	5
Resp Large 218	Health Care	Manager	18
Resp Large 219	Health Care	Human resource	5

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