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Sekome, Keitumetse

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An assessment of assurance of non-financial information among the Top 40 Global companies

A research report submitted by

Keitumetse Sekome

Student number: 2321611

Date submitted: February 2025

Contact number: +27 82 620 4167

Email: 2321611@students.wits.ac.za

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List of abbreviations and acronyms

Abbreviation/Acronym	Description
AA1000AS	Accountability 1000 Assurance Standard
CDP	Carbon Disclosure Project
CERES	Coalition for Environmentally Responsible Economies
CRD	Climate Risk Disclosure
CSR	Corporate Social Responsibility
ESG	Environmental, Social and Governance
EU	European Union
GRI	Global Reporting Initiative
GDPR	General Data Protection Regulation
IAASB	International Auditing and Assurance Standards Board
IIRC	International Integrated Reporting Council
IFRS	International Financial Reporting Standards
IoT	Internet of Things
ISAE	International Standard on Assurance Engagements
ISO	International Organisation for Standardisation
ISSB	International Sustainability Standards Board
KPI	Key performance indicator
NFRD	Non-Financial Reporting Directive

Abstract

This study investigates the assurance of Corporate Social Responsibility (CSR) reports among the Top 40 global companies specifically for 2014, 2018 and 2022. The study aims to understand the patterns and drivers behind the development and implementation of third-party assurance practices. By way of a comprehensive content analysis of various CSR reports, the study measures the *extent* of compliance with recognised regulatory standards such as the Global Reporting Initiative (GRI), International Integrated Reporting Council (IIRC), and various other international assurance frameworks including ISAE 3000 and AA1000AS. The research examines whether proactive corporate behaviours characterised by early and voluntary adoption of sustainability practices correlate with higher levels of third-party CSR assurance.

The findings indicate a variety of assurance-related practices, with differences in how companies approach assurance across industries, geographical regions and corporate risk profiles. Some internal and external factors such as regulatory pressure, organisational size, and industry-specific sustainability risks are often important determinants of assurance quality and coverage. The study also highlights the current limitations in reporting and assurance practices, including challenges concerning the voluntary nature of non-financial disclosures and the lack of uniform assurance protocols. By offering insights into the determinants and implications of CSR assurance, this research aims to inform the development of global assurance standards, support the work of assurance providers and guide corporate strategies toward greater transparency and stakeholder engagement.

Keywords: Assurance, Sustainability, Corporate Social Responsibility (CSR), Proactivity, Non-financial Reporting, Integrated thinking

Foreword

This dissertation explores how non-financial information is assured among leading global corporations, highlighting the increasing significance of Corporate Social Responsibility (CSR) in corporate governance. Sections 1 – 5, outline a schematic for evaluating the extent to which organisations assure non-financial information. The schematic is then applied to a sample of globally listed to demonstrate how various assurance frameworks are utilised to ensure credibility over CSR reports. The first four sections of this dissertation have been structured as a research paper for submission to a conference and journal.

This work represents a timely contribution to ongoing discussions on corporate accountability, aiming to inform future policy development, enhance assurance practices, and foster a more sustainable business landscape.

Sincerely,

Keitumetse Sekome

February 2025

1: Introduction

Corporate social responsibility (CSR) reporting was introduced to encourage a proactive approach to, and evaluation of, an entity's actions and impact on its environment and stakeholders including, for example, employees, consumers, communities, and the general public (Tai and Chuang, 2014). CSR reporting has grown over the past two decades with companies having increased scrutiny over their economic and socio-political impact on the environment in which they operate (Michelon et al., 2015). CSR reports have, most recently, evolved into an integrated response where companies disclose information about their operations in a way that addresses the management of an integrated set of resources and includes environmental, social and governance (ESG) concerns (Sethi et al., 2017).

The increase in the number of companies that publicly report on their environmental and social performance has seen a corresponding rise in the amount of CSR reports which include assurance statements prepared by third parties such as verification agencies or audit firms (O'Dwyer and Owen, 2005). CSR reporting has highlighted the increased need for assurance over CSR reports to give stakeholders comfort over the quality of such reports issued and to provide reassurance over the company's interest in not only financial aspects of their operations but to also factor in non-financial considerations linked to social responsibility (Donkor et al., 2021).

Increased CSR reporting by companies, and the associated interest by stakeholders, has driven the need for the assurance of such information (Farooq et al., 2024a). The International Auditing and Assurance Standards Board (IAASB) has developed standards to govern the assurance of CSR reports. The Global Reporting Initiative (GRI) and the International Organisation for Standardisation (ISO) have also followed suit in developing guidance and criteria on how CSR reports must be assured by third parties (Fiechter et al., 2022). In recent years, the outlook of CSR reporting has transformed, prompting the need for robust assurance frameworks to enhance the credibility and reliability of non-financial reports (Seidenstein and Maroun, 2025).

Historically, companies have employed mass communication tools such as public relations, advertising and political lobbying in the absence of CSR reporting (Moravcikova et al., 2015). These tools have been ineffective as they have been overwhelmed by external events which have led to companies being accused of unethical and illegal activities (ibid). As a result, companies sought the importance of recognising ESG issues to avoid long-term investment risks which are detrimental to the company's investors. Although companies issue CSR reports, the absence of centralised data-gathering institutions has made it difficult to ascertain

the exact number of corporate CSR reports issued (Sethi et al., 2017). Many academic researchers are concerned that “corporate management” has taken control of the nature and process by which reports are prepared (du Toit, 2017) . As a result, information about the company is distributed only if it is favourable in that it enhances the corporate image of the company even if it means disregarding true transparency and accountability to stakeholders (Haji and Anifowose, 2016). Put differently, there are perceptions and views that there is a lack of completeness and credibility in CSR reporting (O'Dwyer and Owen, 2005), particularly given the complex nature of extra-financial disclosures (Gaudy and Malsch, 2023).

A common issue is that the often-voluntary nature of issuing CSR reports by companies may create a challenge as a communication instrument to create public trust. Concern is expressed regarding the level of scepticism about ESG issues which are disclosed in CSR reports and the extent to which the information provided is independently verified (Sethi et al., 2017). Furthermore, unlike financial reports, CSR reports do not follow regulatory standards which allow companies to dictate the type of information they want to disclose.

There is also a broad spectrum of sustainability-related frameworks that adds to the complexity to extra-financial disclosures (Afolabi et al., 2022). Entities may use various principles from multiple frameworks depending on the needs of their stakeholders and also their ability to collect and gather the relevant data required (Bui and De Villiers, 2018, Dimes and Molinari, 2023). This means that reports are not always consistent and nor do they always contain appropriate subject matters to be assured (O'Dwyer and Owen, 2005). Consequentially, this makes the evaluation and comparison of such reports difficult and to some extent, impossible (Sethi et al., 2016).

Nevertheless, assurance over non-financial information has grown (Issa and Hanaysha, 2023). The extent of this assurance and how it is operationalised forms the focus of the current study. Understanding assurance practices of entities globally can provide unique insights that can be broadly appliable to organisations in both developed and developing economies.

The research questions addressed by this study are:

> ***RQ1: To what extent do the Top 40 Global companies make use of CSR assurance?***
>
> ***RQ2: To what extent do the Top 40 Global companies make use of the underlying components of CSR assurance?***
>
> ***RQ3: How does the use of CSR assurance vary by industry and jurisdiction of the Top 40 Global companies?***

The study is exploratory in nature in line with previous interpretive work in the accounting and assurance sphere (see, for example, Cerbone and Maroun, 2020, Alvesson, 2003, Lai et al., 2017, Rowley, 2012). As a result, the study does not aim to quantify non-financial assurance in a positivist sense. The contribution of the study is more modest. The aim is to provide a descriptive analysis of the extent of the assurance which is an underdeveloped area of research, particularly with regard to how organisation can operationalise assurance as part of an integrated strategy (Maroun et al., 2023).

By examining their assurance scores, the study will evaluate compliance with established assurance frameworks, the incorporation of the six capitals, and the extent of third-party assurance over their reports. This comprehensive analysis will provide insights into the reliability and transparency of sustainability disclosures among leading corporations. The research follows a content analysis of CSR reports from the Top 40 global companies, which looks at the nature and extent of assurance provided.

Prior research has predominantly focused on specific regions, with studies often highlighting European countries such as the UK (García-Sánchez et al., 2022b), the Netherlands (Simnett et al., 2009a) and Australia (Simnett et al., 2009a). The current study will be among the first multi-national assessment of CSR assurance practices. This broader scope will enrich the understanding of global practices in corporate sustainability reporting.

This research on sustainability reporting will have significant implications for various stakeholders.

For policymakers, it will provide empirical insights into the effectiveness of existing regulations and the need for enhanced guidelines on corporate sustainability reporting. As governments and various standard-setting bodies aim to improve transparency and accountability in corporate sustainability reporting, understanding the role and impact of assurance mechanisms can support the development of policies that foster more consistent and reliable non-financial disclosures. This study can also shed light on the varying regulatory approaches across jurisdictions, contributing to comparative discussions on global best- and worst-practices.

Academics will benefit from a comprehensive analysis of current practices, contributing to the body of knowledge on integrated thinking and assurance frameworks. While existing literature has explored CSR reporting and its quality (for example, Prinsloo and Maroun, 2021, Mans-Kemp and van der Lugt, 2020, Malola and Maroun, 2019, Barth et al., 2017, Michelon et al., 2015), research on the assurance dimension remains underdeveloped or limited to specific jurisdictions, particularly concerning its effectiveness, stakeholder perceptions, and alignment

with emerging sustainability frameworks such as the ISSB and GRI standards. This study can advance theoretical debates on accountability, legitimacy, and signalling theories in the context of non-financial assurance and can also inform future research directions. By addressing these gaps, the study enhances the academic discourse on the evolving role of assurance in sustainability governance which can then be applied to practice.

Assurance providers will gain a clearer understanding of industry benchmarks and expectations, enabling them to refine their services. While assurance over financial information follows well-established audit standards[1], CSR assurance is often subject to multiple frameworks and limited standardisation, leading to inconsistencies in practice. The International Sustainability Standards Board (ISSB) is attempting to standardise this process but this is still a developing area and this research can contribute to the ongoing discussions and developments in this space. This research can also highlight gaps in current assurance methodologies and offer recommendations for improving the credibility and comparability of CSR assurance. The components of extra-financial assurance can also offer insights into stakeholder trust in assurance providers and explore how factors such as the independence, expertise and scope of assurance engagements influence perceptions of credibility and may evidence proactivity by organisations.

Finally, practitioners will receive valuable insights into best practices for sustainability reporting, helping them to enhance their reporting strategies and improve stakeholder communication. For organisations, this study offers insights into the strategic implications of CSR assurance, and how it can be used as a proactive tool, particularly in enhancing stakeholder confidence and managing reputational risks. Academic literature on voluntary assurance suggests that firms adopt it as a signalling mechanism to demonstrate commitment to sustainability (Flammer, 2021, Van Zijl et al., 2017), but the cost-benefit trade-offs remain an area of ongoing debate. This research can provide empirical evidence on assurance practices and how these can be refined and improved. Overall, this research aims to bridge gaps in understanding and practice, fostering a more sustainable corporate landscape.

The remainder of the study is structured as follows. Section 2 outlines the evolution of non-financial reporting and assurance frameworks, with a focus on their historical development and changes to date. It highlights the changes toward integrated reporting and the advancement of frameworks such as the GRI and IIRC, which stress the importance of credibility and stakeholder confidence in CSR assurance. Section 3 outlines the methodology.

[1] For example, the International Auditing and Assurance Standards Board (IAASB) sets high-quality international standards for auditing, assurance, and quality management that strengthen public confidence in the global profession.

Section 4 and 5 presents findings and analyses across the years 2014, 2018 and 2022. Section 6 provides the conclusion.

2: Literature Review – the history of assurance practices

The Early Days: Laying the Groundwork for Reporting and Assurance (1990s)

In the 1990s, the idea of companies reporting on more than just profits began to take shape (Gray et al., 1995, Gray, 1992, Gray, 1990). Organisations started recognising the importance of transparency in how they impacted the environment and society. One of the first significant steps was the *CERES Principles* adopted in 1993, which encouraged companies to share details about their environmental practices (Milne, 1996). By 1997, the Global Reporting Initiative (GRI) had emerged, offering the first set of guidelines to help organisations standardise these reports (Wu et al., 2021). O'Dwyer and Owen (2005) similarly show that early sustainability assurance practices were not uniform or rather standardised across organisations which created a gap that frameworks like ISAE 3000 have bridged.

However, while companies began questioning their environmental and social impact, the assurance side still had to catch up (Park and Brorson, 2005). Audits of these reports were informal and inconsistent, allowing room for improvement in verifying what companies were claiming (Simnett, 2012). The evolution of frameworks such as the CERES Principles, GRI, and ISAE 3000 to promote structured reporting and assurance is consistent with (Jain et al., 2021), which discusses the growing alignment of sustainability reporting standards on a global scale to address stakeholder expectations.

A Turning Point: Bringing Structure to Assurance (Early 2000s)

The early 2000s marked a turning point, as sustainability reporting developed even further and assurance began to catch up (Wallage, 2000, Dando and Swift, 2003). The GRI's G3 Guidelines, launched in 2005, and encouraged organisations to have their reports independently verified to boost credibility. Around the same time, the International Federation of Accountants (IFAC) introduced *ISAE 3000* in 2002, the first global standard for assuring non-financial information. This was a great deal as it gave organisations and assurance providers a clear framework for validating reports on issues like sustainability and corporate social responsibility (CSR). Together, these developments helped organisations to prove their credibility and commitment to ESG impacts, ensuring their reports could be trusted (Simnett, 2012). This is consistent with (Eccles et al., 2014), who argue that proactive ESG management increases stakeholder trust and reduces reputational risks due to quality assurance services offered.

The Push for Integration: Connecting Financial and Non-Financial Reporting (2010–2015)

By the 2010s, it was clear that reporting on sustainability could not be presented on an enclosed scale. Businesses needed to present a full picture that connected financial results with their environmental and social impacts. This aligns with (Adams and Frost, 2008), who stresses the importance of including diverse multi-capitals in sustainability reporting to ensure a comprehensive view of corporate performance (Manurung and Basuki, 2010, O'Dwyer et al., 2011, Perego and Kolk, 2012, Mock et al., 2013, Forte and Barac, 2015).

This shift was championed by the International Integrated Reporting Council (IIRC), which was formed in 2010 to promote integrated reporting (IIRC, 2013). At the same time, the GRI's G4 Guidelines called for independent assurance to verify these increasingly complex reports. To meet these growing demands, assurance standards also evolved. ISAE 3000 remained a cornerstone, while new tools like the *AA1000AS* and ISAE 3410 (focused on greenhouse gas disclosures) emerged to address specific needs (Ackers, 2009, Simnett, 2012, IAASB, 2015). This period showed how reporting and assurance were moving in the same direction, responding to the need for more holistic and reliable corporate disclosures (Fiechter et al., 2022). (Perego and Kolk, 2012) also proved that proactivity in adopting sustainability frameworks like GRI and Integrated Reporting enhances credibility and improves stakeholder confidence.

Global Alignment: Building Cohesion in Reporting and Assurance (2020–2023)

Moving to 2020, the conversation around sustainability reporting reached the global market. In 2021, the International Sustainability Standards Board (ISSB) was established to unify sustainability standards worldwide (ISSB, 2021). By 2023, the IFRS Foundation introduced its S1 and S2 Standards, which streamlined sustainability-related disclosures for businesses everywhere. To ensure these reports could be trusted, the IAASB launched *ISSA 5000*, a comprehensive framework for CSR and sustainability assurance (Issa and Hanaysha, 2023, Hay et al., 2024). Alongside the established ISAE 3000 and ISAE 3410 standards, ISSA 5000 provided the tools to validate even the most complex ESG reports. These developments showed how reporting and assurance were becoming more interconnected, ensuring that sustainability disclosures met the highest standards of credibility (Fiechter et al., 2022). This echoes the findings of (Simnett, 2012), who proved that international standards reduce significant differences in assurance practices which enhances comparability across organisations in various jurisdictions.

The Role of the EU: Driving Transparency through Mandates

In Europe, the EU's Non-Financial Reporting Directive (NFRD) played a vital role in advancing reporting and assurance over non-financial information. Additionally, European Commission reports emphasize that the role of NFRD has significantly enhanced transparency and accountability in non-financial disclosures (García-Sánchez et al., 2022b). It required large companies to disclose their environmental, social, and governance impacts, aligning with global frameworks like GRI and ISSB (Hartlapp et al., 2014). Importantly, it also encouraged third-party assurance to ensure the accuracy of these disclosures. By mandating these practices, the NFRD demonstrated how government policy could support businesses in being more transparent and accountable (Bürgin, 2021).

A Journey of Growth: Reporting and Assurance Side by Side

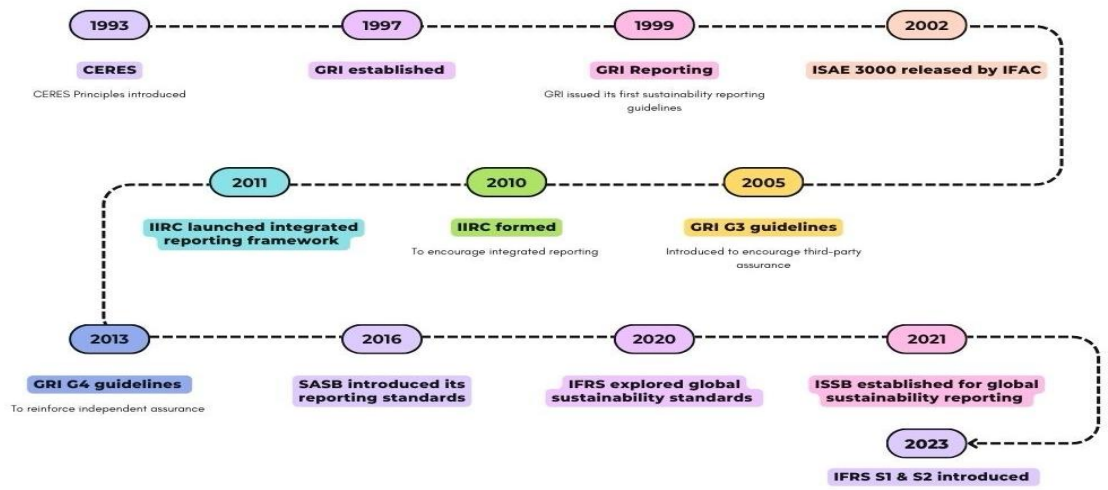
Retrospectively, it is evident that reporting and assurance have grown concurrently over the years. In the 1990s, reporting frameworks like the *CERES Principles*[2] and GRI's early guidelines laid the foundation for transparency, while assurance was still in its infancy. The 2000s brought structure, with ISAE 3000 providing a blueprint for assurance (Oware and Moulya, 2023). By the 2010s, integration had evolved tremendously, with frameworks like the IIRC's Integrated Reporting Framework pushing businesses to connect their financial and non-financial data. Furthermore, (Simnett et al., 2009b) indicate that scoring frameworks including both financial and non-financial metrics best aligns assurance practices with stakeholder expectations.

In recent years, global standards like ISSA 5000 and IFRS S1 and S2 have ensured that these disclosures are not just comprehensive but also reliable, to meet the needs of investors, regulators, and other stakeholders (Fiechter et al., 2022). It was also noted by (Jain et al., 2021) that aligning with global frameworks ensures that CSR reports are credible and useful for decision-making by the relevant stakeholders.

Figure 1 summarises the key milestones in the assurance space.

[2] CERES Principles refer to guidelines developed by the Coalition for Environmentally Responsible Economies to assist organisations with carrying out their operations in a sustainable and environmentally responsible way.

Figure 1: Evolution of non-financial reporting and assurance frameworks



2.1 Proactivity

Proactivity refers to the actions undertaken by entities to address environmental, social, and governance (ESG) issues early on before they create greater problems within the entity. It involves forward-thinking behaviour, where companies extend beyond regulatory compliance but also set higher standards and adopt voluntary frameworks for sustainability reporting (Alrazi et al., 2015). By being proactive, companies can improve transparency, build trust and confidence with stakeholders, and effectively manage risks associated with social and environmental concerns (Eccles et al., 2014). This is consistent with Eccles et al. (2014), who argue that proactive ESG management increases stakeholder trust and reduces reputational risks due to quality assurance services offered.

Proactivity involves voluntary initiatives by organisations aimed at improving non-financial metrics and long-term value creation (Ferreira et al., 2024). de Villiers et al. (2022), states that proactivity can influence accountability and credibility through employing robust management and accounting systems, enabling stakeholder engagement, and applying integrated thinking. A proactive approach improves the credibility of CSR reports, particularly when incorporated with external verification. Assurance bridges the accountability-expectation gap by providing credibility around non-financial disclosures, and fosters transparency and trust among stakeholders (de Villiers et al., 2022).

Applying proactivity within the entity can significantly improve CSR assurance by ensuring that companies deal with sustainability issues holistically and at an earlier stage. Proactive companies are likely to implement robust internal controls, which can contribute to improved quality and reliability of non-financial information reported. This will make it easier for third-party auditors to verify the data (García-Sánchez et al., 2020). Additionally, the credibility of CSR reports will be strengthened which consequentially will provide stakeholders with confidence that the company's sustainability efforts are genuine and impactful (Perego and Kolk, 2012).

By taking a proactive stance, companies can align themselves with best practices and frameworks like the Global Reporting Initiative (GRI) and Integrated Reporting (IR) which will allow for continuous improvement in CSR assurance and thus also set industry benchmarks (Adams and Frost, 2008). This will not only ensure accountability but will also encourage positive environmental and social outcomes.

This concept of proactivity embodies an integrated thinking logic. Corporate governance tools must be leveraged to communicate and create value and effectively allocate resources and capital (Ecim, 2024). Integrated thinking can assist in achieving a sustainable business model by means of streamlined reporting systems, mindful allocation of resources, focus on sustainable development goals and a circular approach to value creation (Maroun et al., 2023). Sustainability reporting, and the related assurance, developed as a result of stakeholder demands for more social and environmental information (De Villiers et al, 2022). However, this reporting needs to be imbued with a practical application of an integrated thinking philosophy, which also aims to promote the related assurance. Appropriate communication, including assurance statements, can reduce the gap between the organisation’s ideology and actions and the stakeholder expectations (Ecim, 2024).

CSR reporting has emerged as a crucial mechanism for companies to communicate their environmental, social, and governance (ESG) performance to stakeholders. CSR reporting encompasses the disclosure of non-financial information alongside financial data, providing a comprehensive view of a company's sustainability efforts. Non-financial information includes metrics related to environmental impact, social initiatives, labour practices, and corporate governance (Sethi et al., 2017).

External assurance is fundamental in enhancing the credibility and reliability of CSR reports. External assurance involves independent verification of the accuracy and completeness of the information presented in CSR reports (Ballou et al., 2018). It serves to reassure stakeholders, including investors, consumers, employees, and regulators, that the reported information is

trustworthy and reliable (Hodge et al., 2009). Assurance helps mitigate concerns about greenwashing and ensures transparency in corporate sustainability efforts (Ballou et al., 2018)

Numerous studies have explored the role and impact of external assurance on CSR reporting. (Deegan and Gordon, 1996) highlighted the potential benefits of assurance in improving the credibility of CSR disclosures. They found that external assurance contributes to the credibility of CSR reports by providing independent verification of sustainability performance. Patten (2002) further supported these findings, demonstrating that firms receiving external assurance tend to disclose more comprehensive and reliable CSR information.

Assurance of CSR reports increases stakeholder trust and confidence in CSR reporting. External assurance signals a company's commitment to transparency and accountability in its sustainability practices, thereby enhancing stakeholder perceptions of the organisation's credibility and integrity. Assurance ultimately plays a key role in promoting stakeholder engagement and dialogue around sustainability issues (Stubbs and Higgins, 2014).

In recent years, there has been significant progress in the assurance of non-financial information as a means of enhancing the quality of CSR reports. Simnett et al. (2009b) explored the evolving role of assurance providers in verifying non-financial information, such as environmental and social performance metrics. They identified various assurance mechanisms, including independent audits, reviews, and certifications, aimed at enhancing the credibility and reliability of CSR disclosures.

Voluntary frameworks also provide guidance on CSR reporting practices. The Global Reporting Initiative (GRI) offers a comprehensive framework for reporting on economic, environmental, and social impacts. Similarly, the International Integrated Reporting Framework (IIRC) promotes integrated reporting, which integrates financial and non-financial information to provide a holistic view of an organisation's value-creation process (Fiechter et al., 2022).

Ultimately, it is clear that CSR reporting plays a crucial role in disclosing non-financial information to stakeholders, alongside financial data. External assurance enhances the credibility and reliability of CSR reports, mitigating concerns about greenwashing and promoting transparency to some extent. Research has shown the importance of assurance in increasing stakeholder trust and confidence in CSR reporting. regulations and standards, such as the Companies Act 2006 and voluntary frameworks like GRI and IIRC, govern CSR reporting practices in the United Kingdom, promoting consistency and accountability in sustainability disclosures.

Importantly, the use of assurance signals a proactive approach to risk management, strategy, operations and performance evaluation (Alrazi et al., 2015). Organisations genuinely committed to sustainable performance want to disclose the mechanics to the market to capitalise on the benefits of CSR reporting. This will require robust management control systems to support the collection, analysis and reporting of the data. However, superficial reporting and greenwashing cannot be precluded (Simnett et al., 2009b). Practically, the one way to manage this is to engage an independent expert to verify the accuracy, completeness and validity of the details contained in a CSR report (Simnett et al., 2009b). This shows a proactive approach which is reflective of an integrated thinking logic taking hold at the organisation (Ecim, 2024, Maroun et al., 2023). Consequently, the extent of assurance may also indicate increasing levels of proactivity (along with the related proxies of proactivity) in an organisation. Table 1 summaries some of the different ways in which proactivity can be measured.

Table 1 - Proxies of proactivity

Grouping/dependent variable	Measure	Basis	Scoring
CDP	Scores provided by the then Carbon Disclosure Project (CDP, 2017, CDP, 2020)	The Carbon Disclosure Project (CDP) runs a global disclosure system for companies to manage environmental impacts and allocates scores to organisations, based on their social and environmental impacts, with particular reference to climate change, forests, and water security (Matisoff et al., 2013)	Ordinal - Performance is rated from A to D where A represents the highest level of performance and is converted to an ordinal environmental performance score.
ESG	Composite ESG scores by Thomson Reuters/Refinitiv (Refinitive, 2021)	ESG scores from Refinitiv measure a company's ESG performance, commitment, and effectiveness, based on company-reported data (Suvanto, 2023).	Ordinal - The scores range from D (poor level of ESG performance/transparency) to A (high level of ESG performance/transparency). These are converted to ordinal measures where a higher value implies better ESG performance.

Climate Risk Disclosure	Scores provided by compliance with TCFD recommendations	CRD scores are based on the level of disclosure and robustness of climate risk assessment (i.e. qualitative scores against TCFD criteria) (Dilling et al., 2024)	Ordinal - Performance is rated from A to D where A represents the highest level of performance and is converted to an ordinal climate performance score.

The non-financial assurance framework discussed in this study (see Section 2.2) offers an alternative way in which to assess proactivity or integrated thinking in an organisation. It is highly unlikely that firms would invest large amounts of money into assurance without first having established appropriate management control systems (Velte and Stawinoga, 2017, De Villiers and Dimes, 2020, Dimes and de Villiers, 2021). Therefore, having assurance over non-financial aspects can signal an additional way in which proactivity in the organisation can be observed.

2.2 Development of non-financial assurance scoring framework

The extent to which organisations embody proactivity can be evidenced by the level of assurance provided on non-financial disclosures. This would be made of various elements. The elements of the non-financial assurance scoring framework are developed below (the nature and extent of this scoring framework is further developed in Section 3, Table 4).

Responsibility and Compliance

The role which management and directors play in the combined assurance process is vital for ensuring that the non-financial reporting is credible and accurate, especially in CSR reports (Liu et al., 2019, King et al., 2022, Maroun, 2022). This aspect highlights the extent to which management actively interacts with and provides oversight of the assurance processes, to ensure that they achieve relevant standards and meet regulatory requirements. The involvement of top management has the ability to affect the overall quality of the assurance outcomes and the trust or reliance stakeholders place in the reports (Simnett et al., 2009b).

Commitment from management and the board ensures the success of assurance processes. Management and directors need to demonstrate proactive involvement in reviewing the assurance process to ensure that they address both the materiality and accuracy of the information disclosed in the CSR reports (Richard and Odendaal, 2021, Krasodomska et al., 2021, Sánchez-Sancho et al., 2024). Their active role signals to the organisation and its stakeholders that non-financial reporting is not merely a procedural formality but an essential part of the organisation's business strategy (Gray et al., 1995). This sort of engagement enables leadership to take ownership of the reporting process, which in turn, creates an

environment where ethical reporting and sustainability practices are prioritised within the organisation (Eccles et al., 2014).

As further proved by Stacchezzini et al. (2016), leadership's direct involvement in CSR assurance can assist in improving the quality of the sustainable information disclosed in CSR reports. This allows the reports to go beyond mere compliance with regulatory requirements. Directors and management set a tone at the top that encourages ethical behaviour across all individuals of the organisation through demonstrating accountability and transparency in their operations (IoDSA, 2016).

Advocating for accountability when reporting on non-financial assurance within an organisation is a key contributor to ethical behaviour and transparent reporting. In practice, this entails aligning the assurance process with the organisation's internal governance structures and performance measurement systems (Dando and Swift, 2003). When accountability is consistently emphasised by management, it becomes part of the organisation's culture (Dumay and Dai, 2017), where employees at all levels feel the need to uphold ethical decision-making and accurate reporting (Carroll and Shabana, 2010).

Research by Jones et al. (2016) points out that a ripple effect throughout the entire organisation is created when management is involved in both the oversight and practical execution over CSR assurance as it influences employees' behaviour who prioritise ethical considerations in their daily operations. An organisational culture that emphasises accountability at all employment levels contributes significantly to the success of sustainability initiatives and the credibility of assurance processes (Gray et al., 1995).

Using management involvement to assign assurance scores, adhering to regulatory standards, and organisational accountability, the framework aims to ensure a holistic assessment of the effectiveness and credibility of the non-financial assurance process.

As demonstrated by (Simnett et al., 2009b), this scoring framework is used because the emphasis on strong leadership commitment ensures that non-financial reporting is made a strategic priority for the organisation as a whole. This enhances the reliance on sustainability reports. The responsibility and compliance framework accounts for the degree to which the assurance process aligns with established reporting standards and regulatory guidelines. As Carroll and Shabana (2010) demonstrate in their research paper, ensuring accountability across all levels of employment in the organisation enhances the integrity and reliability of CSR reports, thereby influencing the scoring of the assurance process.

As a result, direct statements by the directors that they take accountability for the assurance process signals a proactive approach by management towards assurance practices.

Coverage

Coverage evaluates the breadth of assurance in addressing the six capitals: financial, manufactured, intellectual, human, social and relationship, and natural capitals. These capitals represent the diverse resources and relationships businesses depend on and impact (Steenkamp et al., 2025). A report that inclusively considers all six demonstrates a holistic view of an organisation's footprint, ensuring stakeholders see the full spectrum of its sustainability efforts (Grassmann et al., 2019, Herath et al., 2021). Narrow coverage, on the other hand, risks overlooking critical areas, which can lead to gaps in accountability and stakeholder trust. Essentially, companies must address how returns are generated for their stakeholders and their ability to meet debt obligations (financial capital), including the specific tangible (manufactured capital) and intangible (intellectual capital) they use to achieve this (Kılıç et al., 2021).

Value creation for companies cannot be explained only by financial metrics (Herath et al., 2021), as consideration needs to be made also to the impact employees have on the organisation (financial capital), broader stakeholder groups (social and relationship capital) and the environment the company operates in (natural capital) on a broader spectrum (Ferreira et al., 2024).

The abovementioned resources highlight the importance of following a multi-capital approach to promote an integrated approach for sustainable business practices. This information needs to be used by companies and communicated to stakeholders by means of disclosure in integrated or similar reports as a way to keep them informed about capital outputs and outcomes (Ecim and Maroun, 2023).

Assurance over the broad range of capitals is indicative of an organisation that is able to manage and evaluate both financial and extra-financial matters as part of an integrated thinking strategy that emphasises a more holistic outlook and sustainable development (Maroun and Prinsloo, 2020).

Level of Assurance

The level of assurance provided in CSR reports is vital when determining whether non-financial information is reliable and credible (Marín Andreu and Ortiz-Martínez, 2018, Aras and Crowther, 2007). Stakeholders are driven by an evaluation of the accuracy and completeness of sustainability disclosures made by organisations which is why this data needs to be accurate. Understanding the differences between the various levels of assurance and their implications assists in assessing the overall effectiveness of the assurance process in CSR reporting.

One of the types of assurance is reasonable assurance which is the highest level of verification, where the assurance provider performs a comprehensive review of the information reported to ensure that it is free from material misstatement. This level of assurance gives stakeholders a high degree of confidence that the information disclosed in CSR reports is credible, accurate and reliable (Farooq et al., 2024b, Farooq and Maroun, 2017). According to Simnett et al. (2009b), reasonable assurance involves testing underlying systems and processes from which non-financial information is produced. This often entails performing interviews with key staff member, data sampling, and in-depth audits. In essence, this entire process becomes very rigorous and is a demanding form of assurance.

The IAASB defines reasonable assurance as a high, but not absolute, level of confidence provided over both financial and non-financial information. Although providing this type of assurance is heavily reliant on having key resources and is costly, it remains important for organisations who desire to signal a strong commitment to transparency and accountability, because it enhances the credibility of the sustainable information disclosed (Kolk and Van Tulder, 2002, IAASB, 2016, IAASB, 2015). Opting for reasonable assurance highlights the willingness of an organisation to undergo thorough scrutiny and indicates how invested it is in presenting its sustainability efforts with integrity.

In contrast**,** limited assurance, involves a less detailed scrutiny of an organisations' reports, where a lower level of confidence over the accuracy of the information reported is provided by the assurance provider. This typically entails performing a review or selective audit of the entire report. Burritt and Schaltegger (2014) further explains that limited assurance provides stakeholders with the confidence that information reported is reasonable, although it does not provide the same level of confidence as reasonable assurance as it typically has fewer audit procedures.

Limited assurance still plays a key role in enhancing the credibility of CSR reports, especially for organisations who want to balance their costs with the need for verification. As highlighted by (Stacchezzini et al., 2016), despite limited assurance being less intensive, it can still improve the transparency of the information disclosed in CSR reports and reduce the risk of providing information which can mislead or misinform stakeholders, in cases where reasonable assurance is too resource-heavy for the organisation.

Combined assurance, integrates both internal and external assurance providers to help strike a balance between the rigour of reasonable assurance and the costs of limited assurance (Prinsloo and Maroun, 2020, Maroun and Prinsloo, 2020). This approach combines the expertise of internal auditors who have sufficient knowledge of the organisation's operations and external auditors who are independent and provide objective perspectives (Frias-Aceituno

et al., 2013). Pereira et al. (2023) demonstrate that combined assurance offers a comprehensive and flexible model for CSR reporting as it brings together internal oversight with external verification, in turn ensuring a more robust assurance process.

Combined assurance is a key element for an organisation to manage its risks. A principles-based approach to risk management, informed by integrated thinking, needs to be implemented by the governing body to assess the underlying risks and business model (Prinsloo and Maroun, 2021). This is supported by both internal and external assurance components to achieve the combined assurance model (CAM) objectives.

A well-functioning CAM can bolster the effectiveness of an organisation's internal controls and, in turn, contribute to improved operating efficiency and the realisation of business objectives (Forte and Barac, 2015). A more comprehensive review of and response to material risks can inform management's decision-making processes and provide stakeholders with greater confidence in the information included in external reports (Stubbs and Higgins, 2014).

It is often assumed that "assurance" is only provided by an independent expert who expresses an opinion on a defined subject matter. External assurance is only a part of a more coordinated approach to overseeing operations, internal processes, and risks. Assurance should be considered more broadly. Different internal sources of assurance must also be used to mitigate adverse economic, environmental and social impacts, enhance the quality of reporting to stakeholders and safeguard long-term value creation (Prinsloo and Maroun, 2021). Examples include risk management functions, internal auditors, verifications by environmental, social and governance (ESG) specialists and audit and risk committees' monitoring functions.

For the combined assurance process to operate effectively, assurance providers must have the necessary expertise, resources and standing in the organisation (IoDSA, 2016). A carefully designed management and control framework must be in place, enabling communication among assurance providers and allowing those charged with governance to coordinate the use of different types of assurance to achieve monitoring and control objectives. Factors to consider when designing a CAM include the level of risk, the efficiency with which assurance providers can mitigate risk and materiality of the affected systems, processes and data (PwC, 2010).

In combined assurance, internal assurance functions, such as internal auditors, are responsible for ensuring that the data collection and reporting processes are accurate and align with internal controls. External providers on the other hand, perform independent reviews of the information reported to validate its accuracy and integrity. This allows for a better understanding of sustainability practices which are reported and allows for better risk management within the organisation (Frias-Aceituno et al., 2013). Organisations can also

leverage their internal knowledge while benefiting from the credibility provided from external reviews.

Incorporating reasonable, limited and combined assurance into the assurance scoring framework provides a structured way to assess the reliability of the assurance process when dealing with CSR reports. Higher scores are assigned to reports that are reasonably assured due to the level of scrutiny involved, which has a direct impact on the credibility of the disclosures. Reports where limited assurance is provided will however receive lower assurance scores, because of the lower level of confidence provided by this form of verification. Reports with combined assurance will receive slightly higher scores than those which rely on limited assurance, due to that this hybrid model integrates diverse expertise and provides a more robust approach to verify non-financial information.

Temporal Focus

Whether the assurance engagement is archival or prospective, this has significant implications on the credibility and comprehensiveness of CSR reports. Archival assurance looks at past performance and focuses on whether the organisation has achieved its historical sustainability targets to avoid overstated or misrepresenting its achievements (Simnett et al., 2009b, Simnett et al., 2009a). Prospective assurance, in contrast, assesses the organisation's readiness for future challenges, risks, and opportunities. It provides stakeholders with insight into the organisation's strategic foresight and resilience, but is far less common given the complex nature of assuring forward-looking information and estimates (Burritt and Schaltegger, 2014).

Simnett et al. (2009b), states that archival assurance can be used to validate performance outcomes against previously reported data to ensure that an organisation's achievements are not overstated or misrepresented. This is particularly important for demonstrating accountability to stakeholders who place reliance on audited or verified historical information to assess the organisation's progress.

Archival assurance enhances confidence and trust in an organisation's sustainability outlook and provides stakeholders with objective proof about past achievements. The validation of historical data can assist organisation's to avoid reputational risks associated with inaccurate or misleading reporting (Kolk and Van Tulder, 2002).

Prospective assurance improves the decision-making process as it provides a forward-looking overview on the organisation's future risks and opportunities. Stakeholders, mainly investors and regulators, find this forward-looking perspective useful as it highlights the organisation's ability to handle uncertainties and mitigate potential risks. Companies with robust prospective

assurance show a strong strategic vision and long-term commitment to sustainability (Carroll and Shabana, 2010).

In the scoring framework, a higher score is given to CSR reports that integrate both archival and prospective assurance as opposed to those which only report on one component. A balanced temporal focus provides stakeholders with a holistic view of the organisation's historical achievements and future readiness. By incorporating both perspectives, the credibility of CSR reports is enhanced and the organisation's commitment to both accountability and a strategic foresight is indirectly communicated to the relevant stakeholders.

Procedures

The procedures an assurance provider uses in the assurance process is important when determining the rigour and depth which will be followed when verifying the information disclosed. Detailed analytical reviews, substantive testing, and cross-checking of data against independent benchmarks are some of the few audit procedures which can be used to enhance the robustness of the assurance process. A more rigorous approach will contribute significantly to credible and transparent reporting (Stacchezzini et al., 2016).

Analytical reviews and substantive tests are commonly used procedures to assess the consistency and reliability financial or non-financial information. Analytical reviews specifically involve comparisons for information reported against historical information or industry benchmarks as means to identify any variances or unusual trends. (Simnett et al., 2009b) argue that this kind of review is effective in identifying errors or misstatements in the information reported and improves the accuracy of sustainability reporting. Substantive tests entails the direct verification of data, through physical inspections, sampling, or testing underlying or reporting systems. These procedures contribute to a high level of assurance by verifying information or data at a more granular level.

Cross-checking data against independent benchmarks is another audit procedure which helps to validate the accuracy CSR reports. Burritt and Schaltegger (2014) indicate that the use of external benchmarks such as sustainability comparisons against peer organisations and regulatory standards is more objective when verifying the reported data. This ensures that the data is not just consistent internally within the organisation but also aligns with external standards of sustainability.

The scoring framework allocates higher scores to reports where rigorous and various assurance procedures are utilised in the assurance engagement. This incorporates the use of analytical reviews, substantive testing and cross-checking data against independent

benchmarks. These procedures highlight the organisation's commitment to scrutiny and transparency, which are fundamental to uphold stakeholder trust.

Scope

The scope of the assurance engagement refers to the level of detail applied in the verification process in terms of testing CSR reports. A comprehensive approach examines the accuracy of the data and the systems and processes used to obtain the data. This helps to ensure that every aspect of the CSR report is thoroughly assessed and reviewed. According to **Frias-Aceituno et al. (2013)**, a comprehensive analysis of assurance reports provides stakeholders with in-depth insights about the organisation's operations and sustainability practices. It normally addresses core areas such as environmental impact, social responsibility, governance structures, and stakeholder involvement. This type of in-depth review ensures that the information disclosed in the report accurately highlights the organisation's true sustainability performance, which then provides a more complete and reliable picture.

In contrast, the application of a limited scope in the engagement process only focuses on select aspects of the CSR report, by often concentrating on specific data points such as financial performance or environmental data. Although this is more cost-effective and efficient, it may not provide stakeholders with a detailed or clear picture of the organisation's sustainability efforts. A limited scope may often leave gaps in the verification of an organisation's sustainability practices as reviews of the CSR reports is focused to a specific area or data point, which could reduce the overall reliability of the CSR report (Stacchezzini et al., 2016).

The scoring framework accounts for the extent of the assurance scope, where higher scores are assigned to reports with a broader scope that integrates both data accuracy and the systems which generate the data. A more comprehensive approach enhances stakeholder trust and ascertains that the organisation has undergone thorough scrutiny and a transparent review process to improve the credibility of the CSR report.

Reporting

Reporting refers to how the assurance provider communicates findings from the engagement process to stakeholders. This component focuses on the independence and transparency upheld by the assurance provider, including how effectively the findings are presented to the stakeholders (Guthrie and Parker, 1989).

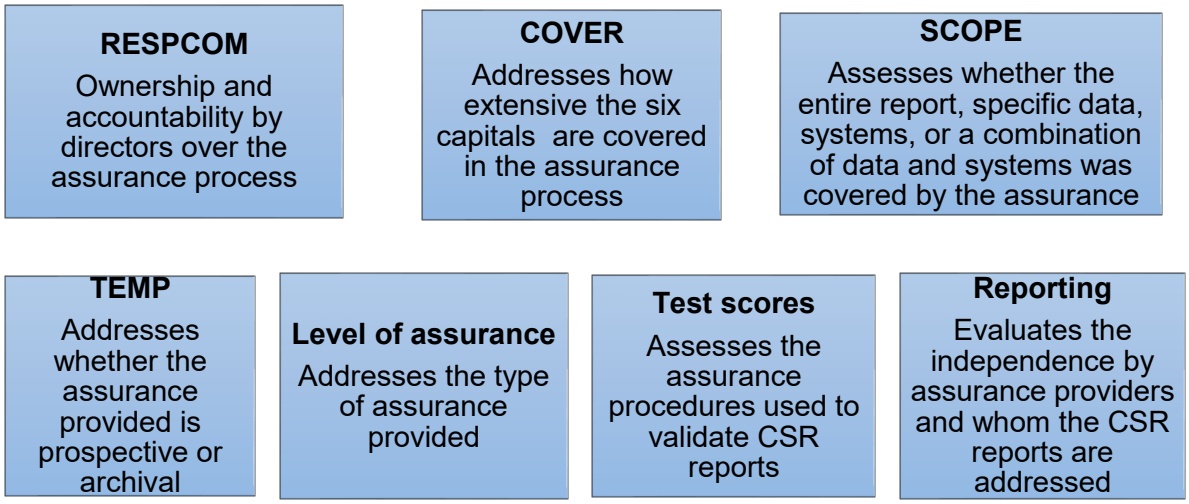
Independence is vital when ensuring that the assurance provider's findings are presented in a manner that is objective and unbiased. Burritt and Schaltegger (2014) state that an independent assurance provider reduces potential conflicts of interest and ensures that the

findings are a true reflection of the organisation's performance. The more independent the assurance provider, the greater the credibility of the assurance findings.

In the scoring framework, a higher score is assigned to CSR reports where the assurance provider is independent from the organisation it is reporting on and where the findings are well communicated to stakeholders. This level of transparency improves the trustworthiness of the CSR report and enables stakeholders to make informed decisions about the organisation's sustainability initiatives and disclosures.

Figure 2 summarises the components of an assurance score.

Figure 2: Final assurance score inputs



By incorporating the above components, this will illustrate the extent of assurance and can be compared with the levels of proactivity in the organisation. This will assist in answering the research questions. By analysing the sum of the seven components, the extent of CSR assurance will be identified. Responsibility by management, greater coverage of the six capitals, a more holistic scope, a range of temporal focus, higher levels of assurance, greater independence and more substantive procedures will lead to a higher extent of assurance. Consequently, the first research question is:

RQ1: To what extent do the Top 40 Global companies make use of CSR assurance?

This is then expanded to more specifically focus one each respective component to gain deeper descriptive insights. The second research question is:

RQ2: To what extent do the Top 40 Global companies make use of the underlying components of CSR assurance?

Finally, how this varies by industry and jurisdiction will provide useful insights into the best practices for assurance statements. The final research question is:

RQ3: How does the use of CSR assurance vary by industry and jurisdiction of the Top 40 Global companies?

3: Methodology

This research study follows a longitudinal content analysis approach to examine and analyse the evolution of assurance practices in CSR reporting among the top 40 global companies over three periods being 2014, 2018, and 2022. The methodology aims to assess the development of assurance practices amongst leading organisations by evaluating quantitative assurance scores across multiple dimensions, including responsibility and compliance (RESPCOM), coverage of the six capitals (COVER_CAP), scope (SCOPE), temporal focus (TEMP), level of assurance (LEVEL), testing procedures (TEST), reporting (REPORT) and, ultimately, the overall assurance scores. The details are used to compute CSR assurance scores calculated according to prior research and summarised in Table 4 (see Section 3.2). Descriptive statistics will provide an understanding of the nature and extent of CSR assurance being used by the Top 40 Global companies. This methodology replicates Prinsloo & Maroun (2021) but applies it more specifically to non-financial information amongst global companies.

3.1 Population and study sample

The population used in this study is listed Global companies. The sample is the Global Top 40 companies by market capitalisation as of March 2024, which have prepared CSR reports consistently from 2014 to 2022. Limiting the sample to the Top 40 Global companies lowers the possibility that the extent of assurance is hindered by circumstances that the companies cannot reasonably control such as limited resources, availability of technical expertise or analyst coverage (Park and Brorson, 2005).

Various jurisdictions are analysed as per Table 2.

Table 2: Grouping of Jurisdictions

Grouping	Countries	Total
North/South America	USA, Brazil	14
Europe	Belgium, Germany, Switzerland, United Kingdom, Netherlands, Italy,	13
Asia	China, South Korea, Japan	13
Total		**40**

This provides a holistic coverage over assurance practices from both developing and developed economies. The breakdown of the specific companies is included in Appendix A.

The breakdown of the industries is provided in Table 3.

Table 3: Grouping of companies by industry type

Industry Type	Number of companies used in the study
Consumer goods and services	
Automotive	8
Technology	3
Telecommunications	2
Healthcare	2
Consumer goods	3
Total	**18**
Financial services and real estate	
Financial services	16
Total	**16**
Mining, chemicals and heavy industry	
Energy (Oil & Gas)	6
Total	**6**
Grand total	**40**

Again, the wide range of industries will provide useful insights into varying assurance practices.

The relatively small sample size of companies is not, however, considered a threat to validity nor reliability given the exploratory nature of the study and the fact that the intention is not to extrapolate results (Merkl-Davies et al., 2011). In addition, the time-consuming nature of the data collection process means that interpretive text analysis can only be productively applied to smaller samples (Merkl-Davies et al., 2011, Mansoor and Maroun, 2016). The proposed implications for non-financial assurance can also be tested with a larger sample of companies considering differences in industries' and countries' corporate governance systems and reporting requirements and is deferred for future research. The sample size is also in line with exploratory research in the accounting and auditing field (see, for example, Cerbone and Maroun, 2020, Alvesson, 2003, Lai et al., 2017, Rowley, 2012).

The 2014, 2018 and 2022 financial periods are considered. The 2014 period is selected because it aligns with organisations experimenting with different types of extra-financial reporting practices and the associated assurance thereof. The year 2014 was a critical phase where organisations were actively experimenting with various extra-financial reporting practices. During this period, frameworks like the GRI, Integrated Reporting Framework, and emerging sustainability standards were gaining traction. Many companies were exploring how best to present ESG information with traditional financial data (Maroun et al., 2023).

This was also when assurance practices were relatively new in non-financial reporting. Companies and assurance providers were testing different methods and approaches to verify the credibility of sustainability disclosures. This period serves as a foundation to observe how organisations came to define valid subject matters for assurance and implement combined assurance models (Maroun et al., 2023).

The second period (2018) allows organisations time to mature their management control systems for collecting, analysing and reporting on data to ensure that they have a valid subject matter to assure. By 2018, significant progress had been made in extra-financial reporting. Organisations began to refine their management control systems, enabling them to collect, analyse, and report on ESG data more effectively. This period reflects a phase of operational maturity where companies had better-defined subject matter for assurance, resulting in more reliable and robust sustainability reports (Ferreira et al., 2024).

As the midpoint between 2014 and 2022, 2018 provides a unique ground to examine how the landscape evolved. It captures the transition from early experimentation to more structured and integrated reporting practices. Assurance providers adopted sophisticated methodologies, reflecting improved alignment with global standards such as ISAE 3000 and AA1000AS. This year also highlights the growing importance of data accuracy and systems-based assurance in the assurance process (Ferreira et al., 2024).

This is also the midpoint between 2022 and 2014. The final year (2022) corresponds with observed growth in integrated thinking and sustainability-focused initiatives. It also allows researchers to assess the impact of the COVID-19 pandemic on assurance practices (Myeza et al., 2023, de Villiers et al., 2020). The year 2022 represents a peak of trends observed over the previous periods, marked by significant growth in integrated thinking and sustainability-focused initiatives. By this time, many organisations had embedded sustainability into their core strategies, making CSR reporting an integral part of their business operations. The influence of frameworks like the International Sustainability Standards Board (ISSB) and the adoption of new standards such as IFRS S1 and S2 are evident during this period (with the accompanying assurance per ISSA 50000 (Maroun et al., 2023).

Moreover, 2022 provides an opportunity to assess how the COVID-19 pandemic reshaped assurance practices. The pandemic underscored the importance of resilience and transparency, nudging companies to improve their reporting on sustainability-related risks and opportunities. Assurance practices had to adapt to this new context, with greater emphasis on remote audits, digital systems assurance, and the inclusion of pandemic-specific disclosures (Dimitropoulos and Chatzigianni, 2022).

Appendix A summarises the organisations used in the study.

3.2 Data collection and analysis

All data will be collected as follows:

The data for CSR assurance are obtained using qualitative content analysis of CSR reports. Literature and content analysis will be used to collect data on the nature and extent of CSR assurance by the Top 40 Global companies. A content analysis approach will be used because of its suitability for dealing with material that is not formatted while highlighting trends and investigating both text and graphic disclosures (Krippendorff, 2013). Each CSR report for each entity and financial year under review will be engaged with several times to understand its content and structure. The reports will be examined to identify subject matters that have been assured. For each subject matter being tested, the nature and extent of the assurance provided will be recorded, using the pre-defined indicators/characteristics per Table 4.

After a thorough analysis of the respective subject matters, the assurance scores will be computed as explained in Section 2.2. Data is collected on a thematic table. As disclosures are coded in accordance with the components of the assurance score, previous disclosures will be revisited to ensure consistency and accuracy in the coding process. As a result, the process is iterative.

Each subject matter of each assurance statement in the reports are included and scored according to the components. This is then aggregated per company to obtain an overall score. Table 4 summarises the scoring process based on the prior literature in Section 2.2.

Table 4: Nature and extent of assurance		
Indicator	**Formula**	**Explanation of formula**
Responsibility and Compliance (RESPCOM)	$RESPCOM_{fy} = \frac{RESP_{fy} + STMTfy + FRAMEWORKy}{K}$	Where, for each year (*FY*): • RESP = 1 if the board of directors stated that it takes responsibility for the design and operation of the combined assurance model and 0 in all other instances • STMT = 1 if there is a clear statement that the CSR report has been prepared under a combined assurance model and 0 in all other instances; and • FRAMEWORK (GRI, ACCOUNT, IIRC IGRC, SSE, TCFD, SDGs, SEC, SOX, CCG, Global tax) = 1 if the CSR report has been prepared in compliance with the relevant frameworks/guidelines respectively and 0 in all other instances. • K= 3
Coverage (COVER)	$COVER_{fy}$ = $\frac{1}{2}\sum_{e=1}^{E_{fy}}[\frac{CAPITAL_{fy}}{6} + \frac{ACCOUNT_{fy}}{4}]$	For each assurance engagement (e) per year (FY): • CAPITAL ranges from 0 to 6 being of capital types assured and • ACCOUNT rages from 0 to 4 being the number of AA1000 indicators assured.
Level of Assurance (LEVEL)	$LEVEL_{fy}$ = $\frac{1}{2S_{fy}}\sum_{s=1}^{S_{fy}} K.SUBJECT_{zfy}$	For each subject matter per year (FY): • K = 2. for reasonable assurance engagements, • K = 1. for limited assurance, • K = 0 where the level of assurance cannot be determined and • S is the total number of subject matters in each firm-year
Temporal (TEMP)	$TEMP_{fy}$ = $\frac{1}{2S_{fy}}\sum_{s=1}^{S_{fy}} K.SUBJECT_{zfy}$	For each subject matter (s) per year (fy): • K = 1 if the subject matter is arch • K = 2 if the subject matter is prospective • N is the total number of subject matters in each firm year

Test procedures used (TEST)	$TEST_{fy}$ = $$\frac{1}{14S_{fy}}\sum_{s=1}^{S_{fy}} K.SUBJECT_{zfy}$$	For each subject matter per year (fy): • K ranges from 0 to 14 being the number of test procedures performed on that subject matter • N is the total number of subject matters in each firm year.
Scope of Engagement (SCOPE)	$SCOPE_{fy}$ = $$\frac{1}{4E_{fy}}\sum_{e=1}^{E_{fy}} K.ENGAGE_{zfy}$$	For each assurance engagement (e) per year (fy): • K = 4 if the assurance opinion covers the whole CSR report. • K = 3 if the assurance engagement covers systems/controls and data • K = 2 if the assurance engagement covers systems/controls • K = 1 if the assurance engagement covers data only • E is the number of assurance engagements per firm year
Reporting (REPORT)	$REPORT_{fy}$ = $$\frac{1}{3}\sum_{e=1}^{E_{fy}}[IND_{zfy} + ADDRESS_{zfy}]$$	For each assurance engagement (e) per year (fy): • IND = 1 if there is a clear independence statement by the assurance provider in the assurance report and 0 if this is not the case. • ADDRESS = 2 if the assurance report is addressed to an external stakeholder, 1 if the assurance report is addressed to an internal party, and 0 if there is no addressee.

Final Assurance Score (FINAL)	$ASSURANCE_{fy}$ = $\frac{RESPCOM_{fy}+COVER_{fy}+LEVEL_{fy}+TEMP_{fy}+TEST_{fy}+SCOPE_{fy}+REPORT_{fy}}{7}$	The score ranges from 0 to 1 where 0 implies no proactivity and 1 implies maximum proactivity.

Simply put, the scoring framework aims to capture different dimensions of an assurance engagement, which includes, for example, who takes responsibility for the report, the different types of capitals assured, the level of assurance the temporal range, the scope of the engagement, and the type of test procedures (adapted from Prinsloo & Maroun, 2021).

Each assurance report will be read several times and included on a thematic table to assess each indicator. All extra-financial reports are considered. This includes, for example, integrated reports, sustainability reports, governance reports, annual reports, verification certificates etc. A disclosure checklist will be used to reduce subjectivity and ensure that there is limited scepticism applied in assessing the indicators. The data collection tool and results will be reviewed by a second reviewer (supervisor) to ensure the reliability of the data captured. Any discrepancies will be addressed by the lead researcher and resolved before analysing results. Statistical measures for inter-coder reliability will not be generated as all data will be captured by the lead researcher and all differences will be resolved before further analysis. The nature and extent of assurance are defined by the historical research using several indicators/characteristics as shown in Table 4.

The scores generated per subject matter will be used to calculate an overall CSR assurance score as shown under the final indicator listed in Table 4. Descriptive statistics will be used to analyse the various indicators/characteristics as outlined in Table 4.

The relatively simple scoring system per Table 4 is consistent with the inherently exploratory and qualitative nature of the current study. The aim is not to test for drivers and consequences of non-financial assurance in a positivist sense (Malafronte and Pereira, 2021, Favato et al., 2021). Instead, examples from the extra-financial reports under review will be selected to illustrate the different assurance practices and highlight both best- and worst-practice with regard to assurance (adapted from Brennan, 2022). Judgement will be required to select specific disclosures, consistent with comparable interpretive work (Favato et al., 2021, Lai et al., 2018). As examples are identified, previous reports and assurance reports will be re-coded

to ensure that the scoring is consistent and complete. Given the exploratory nature of this study, the coding process will be iterative (de Villiers et al., 2019, Dumay et al., 2017).

As the study is an exploratory one, which is not concerned with testing possible drivers of high levels of integrated thinking or establishing a causal model for generalising findings, regression or structural equation models are not used and are deferred for future research.

3.3 Assumptions, limitations, and delimitations

This study does not intend to extrapolate findings, but rather to explore the level of assurance provided over CSR reports in the context of Global Top 40 companies over a spanned period from 2014 to 2022 to examine possible connections between this assurance and underlying organisational accounting and reporting infrastructure. Given the limited entities per jurisdiction, caution should be exercised when generalising the findings. The study focuses solely on the Top 40 Global companies.

All information to score the CSR assurance is obtained from integrated, environmental and sustainability reports in combination with their corresponding independent assurance statements. There is an inherent assumption that the assuring entity will disclose the nature and extent of assurance procedures performed. Disclosure of all assurance procedures performed in the assurance report, however, is not mandatory in terms of the CSR assurance standards. As a result, assurance procedures that have been performed may not be included in the collected data due to non-disclosure.

Furthermore, as only publicly available information will be used, impression management in CSR disclosures cannot be precluded (Haji and Anifowose, 2016). The disclosures, even if provided, may not be an accurate reflection of the practices of an entity as entities may withhold specific information, or avoid the assurance of specific information, to safeguard their competitive advantage within the industry.

4: Results

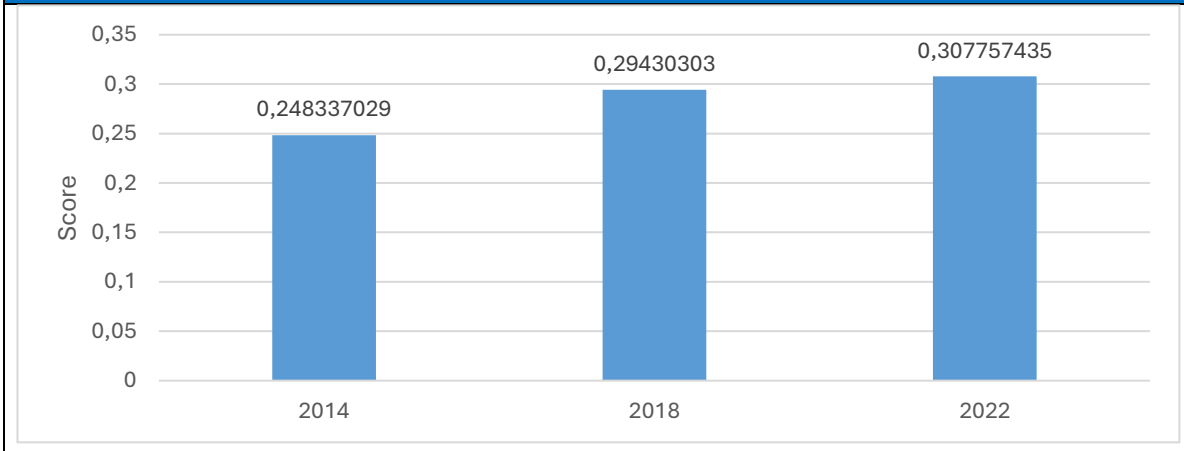
4.1: Individual component assessment

Each individual element of the assurance score is assessed below.

RESPCOM

Figure 3 illustrates the average level of responsibility and compliance shown by directors or management over combined assurance related to their CSR reports across 2014, 2018 and 2022. It was noted that there was an increase in responsibility and compliance over this period. In 2014, the average compliance level was approximately **0.25**, which increased to around **0.3** by 2018 and remained consistent at this level in 2022.

Figure 3: Average responsibility and compliance



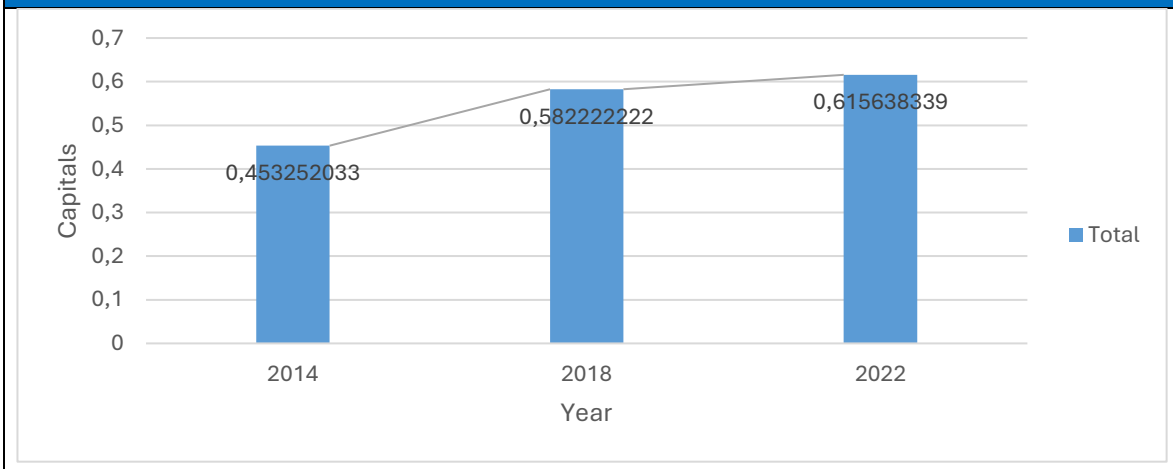
The period from 2014 to 2018 indicates an increased focus on aligning corporate practices with global sustainability and assurance standards. This gradual change is likely influenced by regulatory developments, greater investor focus on ESG factors, and increased stakeholder expectations (Ecim et al., 2020, Ecim and Maroun, 2024). However, the slowdown and stabilisation in 2018 may indicate that many organisations reached a baseline level of compliance with established frameworks.

As combined assurance often involves integrating internal controls, external assurance providers, and management oversight, this can be complex to implement effectively. The stabilisation in compliance levels could also point to resource constraints or a lack of continuous improvement initiatives.

COVER_CAP

Figure 4 details the coverage of assurance over capitals. It was noted that there was an increase in coverage from approximately **0.5** in 2014 to around **0.6** in 2022 highlighting a commitment to integrated reporting, which emphasises a holistic view of how organisations create value over time. The rising coverage of the six capitals reflect guidance on integrated reporting, which emphasizes the significance of presenting a holistic view of value creation and indicating proactivity in CSR reporting (Flower, 2015, Grassmann et al., 2019, Herath et al., 2021).

Figure 4: Average coverage over the six capitals



The steady growth in coverage can be attributed to the increasing adoption of integrated reporting frameworks such as the IIRC framework, which encourages the interdependence of the capitals within organisations (IIRC, 2021). Organisations are progressively understanding the importance of the six capitals for evaluating long-term sustainability. For instance, natural capital disclosures have become more relevant due to rising concerns about climate change, biodiversity and resource depletion (Maroun and Ecim, 2024a), while social and relationship capital disclosures are gaining momentum due the society's call for equity, inclusion, and stakeholder engagement (Rinaldi, 2020). The growing focus on natural and social capitals is consistent with (Deegan and Gordon, 1996), who highlight that environmental and social disclosures are crucial for aligning corporate reporting with stakeholder needs and expectations.

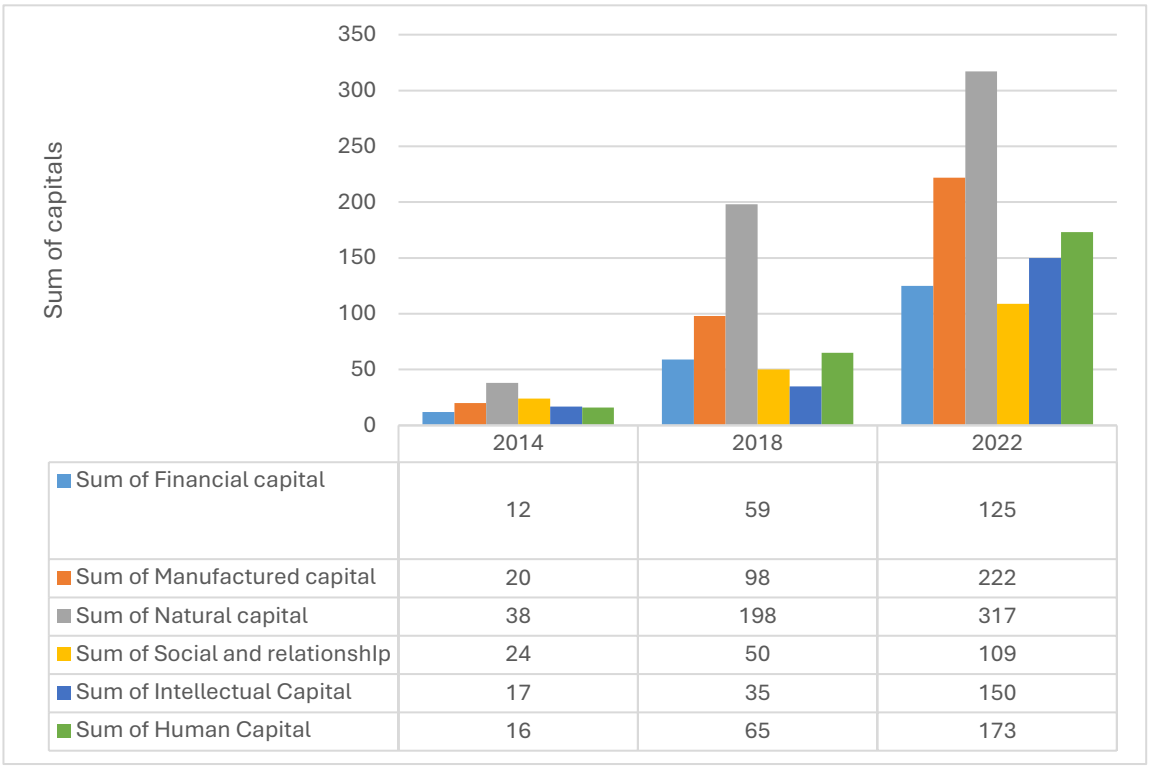
However, the modest pace of growth proves that challenges remain. Quantifying and reporting on certain capitals, such as natural and social capitals, tends to be complex because of the lack of universally accepted measurement metrics and the qualitative nature of these aspects (Hassan et al., 2020, Roberts et al., 2021). (Cho et al., 2015) also stresses the challenges of quantifying non-financial capitals, a limitation noted in slower growth for certain capitals like intellectual and human capitals as indicated in Figure 4. Moreover, the upward trend indicates progress but also highlights that organisations may still put financial and manufactured capital first over less tangible capital such as intellectual or human, resulting in gaps in their reporting.

The next section will specifically look at the trends for each respective capital.

Assurance over the individual capitals

Figure 5 reveals a clear upward trend in the assurance levels for the various types of capitals across 2014, 2018 and 2022. This trend indicates that organisations have increasingly recognised the value of assuring non-financial information as part of their sustainability and integrated reporting initiatives. The substantial growth across different capital types indicates a shift toward a more holistic approach to evaluating corporate performance and sustainability. The increase in coverage across the six capitals is consistent with the IIRC framework's emphasis on integrated thinking and the interconnection of these capitals in value creation for organisations (Adams and Frost, 2008).

Figure 5: Assurance over the capitals



	2014	2018	2022
Sum of Financial capital	12	59	125
Sum of Manufactured capital	20	98	222
Sum of Natural capital	38	198	317
Sum of Social and relationshlp	24	50	109
Sum of Intellectual Capital	17	35	150
Sum of Human Capital	16	65	173

Natural Capital

Assurance over natural capital was already the highest among the six types, starting at 38 ***(2014= 38, 2018= 198 and 2022=317)***. This early lead indicates that even in 2014, environmental considerations were an essential aspect of corporate reporting even though this was the infant stage of sustainability and environmental considerations. The assurance level for natural capital jumped significantly to 198, reflecting a substantial increase in attention. This increase suggests that by 2018, environmental issues, such as climate change and resource management, had gained prominence, prompting more comprehensive assurance practices.

The assurance level reached 317, representing the highest growth across all capital types. This increase further highlights the critical importance placed on environmental sustainability and the necessity for thorough verification of environmental information as stakeholders demand more transparency regarding environmental impacts.

Manufactured Capital

In 2014, assurance levels were relatively low at 20, suggesting that in earlier years, manufactured capital was not a primary focus for assurance activities. Assurance of manufactured capital surged to 98 in 2018, indicating growing recognition of the importance of verifying the value generated by tangible assets and production processes.

By 2022, assurance for manufactured capital increased to 222. This trend shows a continuous and robust rise, likely driven by the need to account for value creation and operational efficiencies accurately.

Human Capital

The assurance level was modest at 16, which may reflect the early stage of human capital verification practices. The relatively low initial number suggests that in 2014, there was limited emphasis on the assurance of human resources-related data. Assurance over human capital experienced significant growth in 2018, increasing to 65. This up rise signals a growing awareness of the critical role that workforce-related metrics (e.g., employee engagement, skills development, and retention) play in a company's long-term success. By 2022, assurance for human capital increased further to 173. This growth aligns with the increasing focus on human capital's impact on productivity, innovation, and corporate sustainability, reflecting heightened stakeholder interest in verified human resource practices.

Intellectual Capital

In 2014 assurance for intellectual capital started low at 17, similar to human capital, suggesting that intellectual property and knowledge-based assets were only beginning to be recognised for their importance. By 2018, assurance levels had doubled to 35. This gradual increase shows the growing significance of intellectual assets, including proprietary technology, patents, and other intangible assets, as companies sought to provide assurance over their value.

The assurance level increased to 150 by 2022, indicating a substantial shift in focus. The increase may reflect advancements in recognising the contribution of knowledge-based assets to competitive advantage and long-term growth, necessitating independent assurance.

Social and Relationship Capital

Assurance for social and relationship capital in 2014 was at 24, indicating a moderate level of focus on verifying social interactions, partnerships, and community engagement.

The assurance level increased to 50 in 2018, reflecting a gradual increase in emphasis. This trend suggests a growing acknowledgement of the importance of stakeholder relationships and social responsibility in corporate reporting.

By 2022, the assurance level more than doubled to 109. This surge indicates that organisations increasingly valued transparency and assurance of their social commitments and partnerships as these aspects became more integral to reputational management and risk mitigation.

Financial Capital

In 2014 financial capital assurance started at a lower level of 12, which implies that while assurance over financial information was common, the integration of this assurance into broader, multi-capital frameworks was still developing. Assurance for financial capital increased to 59 in 2018, reflecting an integration of traditional financial audits into the more comprehensive assurance of sustainability and multi-capital reporting.

The assurance level in 2022 reached 125, which, while significant, is still relatively lower compared to natural and manufactured capital. This suggests that although financial metrics remain crucial, they are increasingly perceived as a part of a broader narrative that includes non-financial capitals.

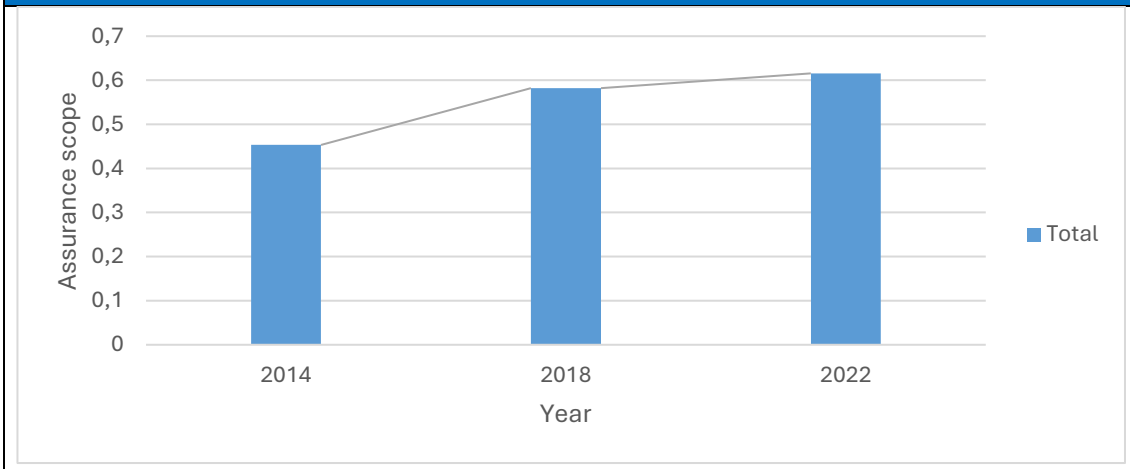
Overall, the graph above indicates a shift from a primarily financial-centric assurance model to a more integrated approach involving non-financial capitals. The most notable growth was observed in natural capital, followed closely by manufactured, human, and intellectual capital. This reflects a broader recognition of the importance of sustainability, innovation, and human factors in value creation. It also highlights the increased levels of proactivity applied in the organisation’s operations.

The marked increase across all categories between 2014 and 2022 aligns with the evolving regulatory and stakeholder expectations for corporate transparency and accountability. It also highlights the increasing complexity of assurance engagements as companies aim to provide stakeholders with a clearer, more reliable view of their non-financial performance and long-term sustainability.

SCOPE

With regards to scope, Figure 6 shows the upward trend from around 0.45 in 2014 to 0.6 in 2022 signals an increasing reliance on external assurance to enhance the credibility and reliability of CSR disclosures.

Figure 6: Average scope of testing



The increase in scope highlights organisations' efforts to respond to growing stakeholder demands for trustworthy and robust CSR reporting. Initially, assurance may have been limited to isolated data points, such as emissions or workforce diversity metrics. Over time, organisations appear to be shifting to more comprehensive assurance engagements including assuring entire reports and underlying systems. This trend toward broader assurance scopes in figure 7 reflects findings by (O'Dwyer and Owen, 2005), who indicate that a holistic and comprehensive view in assurance practices builds stakeholder confidence in CSR reports. This broader scope aligns with trends in assurance frameworks such as those outlined by the IAASB and the TCFD. (Jain et al., 2021) also links the increase in scope to regulatory pressures and changing global standards like GRI and TCFD.

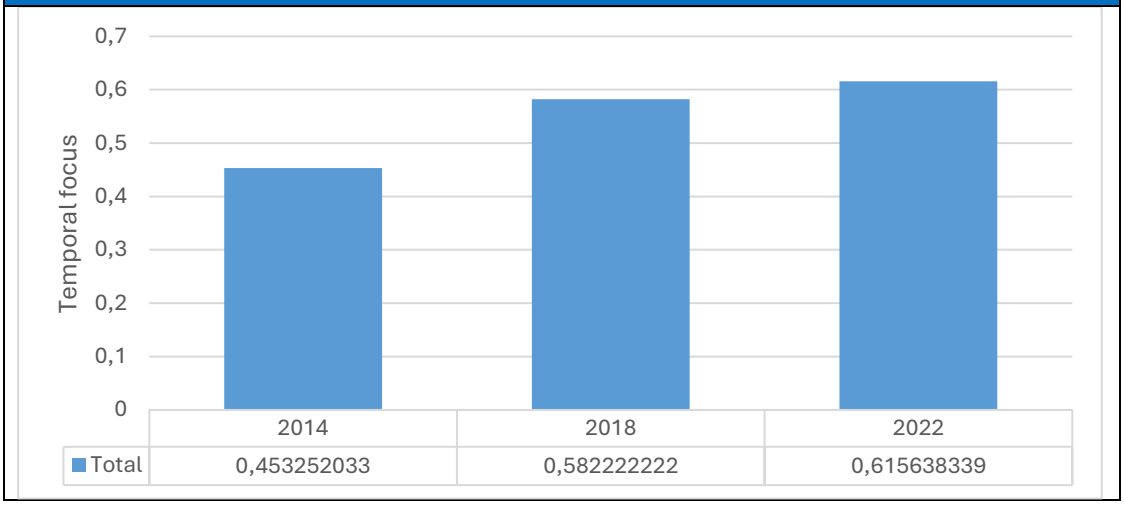
It must be noted that achieving a comprehensive assurance scope is often limited by costs, expertise, and the ever-changing nature of assurance standards. Nonetheless, the overall increase in assurance scope is promising but still needs improvement. For example, organisations could benefit from integrating assurance processes earlier in their reporting cycles, by using technology to improve data accuracy, and ensuring that assurance engagements address material aspects of their reports. Technology plays a vital role in enabling broader testing scopes, as discussed in in the findings which is consistent with the findings by (Hodge et al., 2009) pertaining to the use of advanced technological tools for data validation.

TEMP

Figure 7 illustrates how assurance practices have increasingly struck a balance between historical performance (archival) and future preparedness (prospective) from 2014 to 2022.

The gradual growth indicates that organisations progressively recognise the need to provide stakeholders with both backwards-looking validation and forward-looking insights over CSR reports.

Figure 7: Average focus of testing



The growth in the average of the temporal focus across ***(2014=0.45, 2018=0.58 and 2022=0.62)*** can be attributed to the growing awareness surrounding climate change and other sustainability risks, which has driven stakeholders to demand future-oriented metrics like risk preparedness and mitigation strategies, hence the need to ensure that assurance practices align with prospective views. The observations of increased prospective focus in the assurance of sustainability reports is consistent with (Eccles et al., 2014), who argues that forward-looking disclosures are pivotal for strategic decision-making and risk management amongst various corporate organisations.

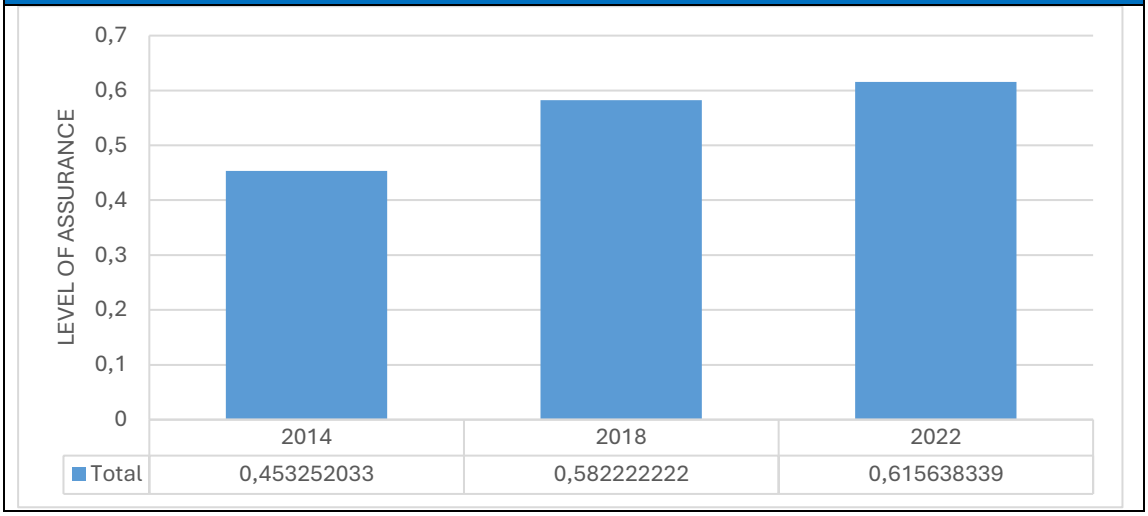
More so, global-oriented frameworks like the TCFD emphasise retrospective and prospective disclosures, thus encouraging organisations to enhance their temporal focus in their CSR reporting. The role and importance of frameworks like TCFD in encouraging future-oriented disclosures is also highlighted by (Dilling et al., 2024).

Organisations are also increasingly aligning sustainability reporting with broader strategic goals to integrate historical and future-oriented perspectives. (Simnett et al., 2009b) also emphasizes the rising importance of balancing historical and forward-looking assurance practices to achieve growing stakeholder demands, as evident in the above findings.

Level of Assurance

In Figure 8, the average level of assurance graph highlights a steady growth from 2014 to 2022, showing an increase in the use of reasonable assurance, limited assurance, or combined assurance provided by external assurance providers. This progression indicates a growing commitment by organisations to enhance the credibility and reliability of their CSR disclosures.

Figure 8: Average level of assurance



In 2014, most external providers auditing the Top 40 global companies relied primarily on providing limited assurance over CSR reports and would evaluate selected aspects of sustainability reporting ***(2014=0.45, 2018=0.58 and 2022=0.62)***. This lower level of assurance indicates a cautious and early-stage adoption of external assurance practices. By 2018, there was an evident shift toward combined assurance even though external providers still leaned more towards providing limited assurance. The integration of combined assurance methods for a few companies aimed to provide stakeholders with a more holistic evaluation of the non-financial data. The shift suggests a maturing understanding of assurance needs and practices given the ever-changing markets and industries these companies operate.

In 2022, the level of assurance further progressed, with an increasing number of organisations opting for reasonable assurance over their CSR reports. In 2022, external providers saw the highest level of assurance provided since the early adoption of sustainability reporting. This indicates growing trust in external assurance providers and a stronger emphasis on accountability and transparency. The increasing levels of assurance over time align with the findings by (Simnett et al., 2009b), who found that reasonable assurance provides greater stakeholder confidence in CSR disclosures compared to limited assurance despite the

difficulty of providing reasonable assurance to prove the credibility and reliability of sustainability reports.

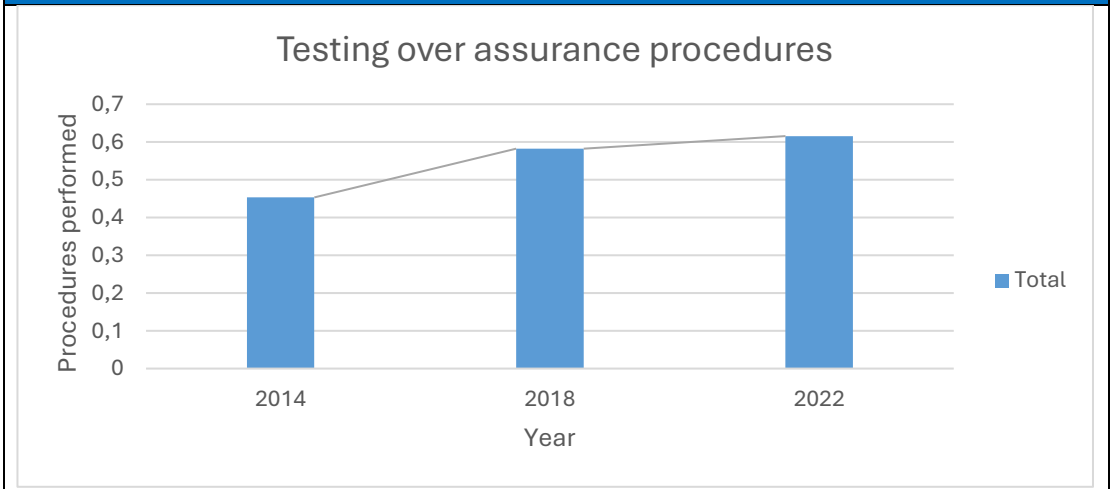
This progression over the years can be attributed to stakeholder expectations and pressure. As investors, regulators, and other stakeholders demand greater transparency in CSR reporting, most organisations are turning to external providers to demonstrate the reliability of their disclosures by providing reasonable assurance over certain subject matters. A higher level of assurance helps build trust and confidence among these groups.

Furthermore, regulators across the globe are increasingly requiring assurance for non-financial disclosures, particularly in huge sectors like mining, financial services, and heavy industries. This has driven organisations and external assurance providers to adopt higher assurance levels to comply with these requirements. (Jain et al., 2021) indicated that the shift toward higher levels of assurance correlates with regulatory requirements in most cases, such as those established by the EU and ISSB.

TEST

It was noted in Figure 9 relating to the testing over assurance procedures that there was a consistent upward trend in the depth and variety of assurance procedures used from 2014 to 2022. This includes increased substantive testing, stakeholder engagement, reliance on multiple data sources, and analytical procedures demonstrating a growing commitment to data accuracy and robustness.

Figure 9: Average of procedures performed



The upward trend in the level of assurance is possibly because of technological advancements. The technological environment has grown significantly over the years from 2014 as recently in 2022 there has been an availability of sophisticated tools for data validation ***(2014=0.45, 2018=0.58 and 2022=0.62)***. This has enabled organisations to employ more rigorous assurance procedures by leveraging technology to enhance assurance engagements. The increasing trend in the varying assurance procedures shows progress in data analytics and digital auditing tools, which mirrors (Simnett et al., 2009b) findings on making use of technology for better audit quality.

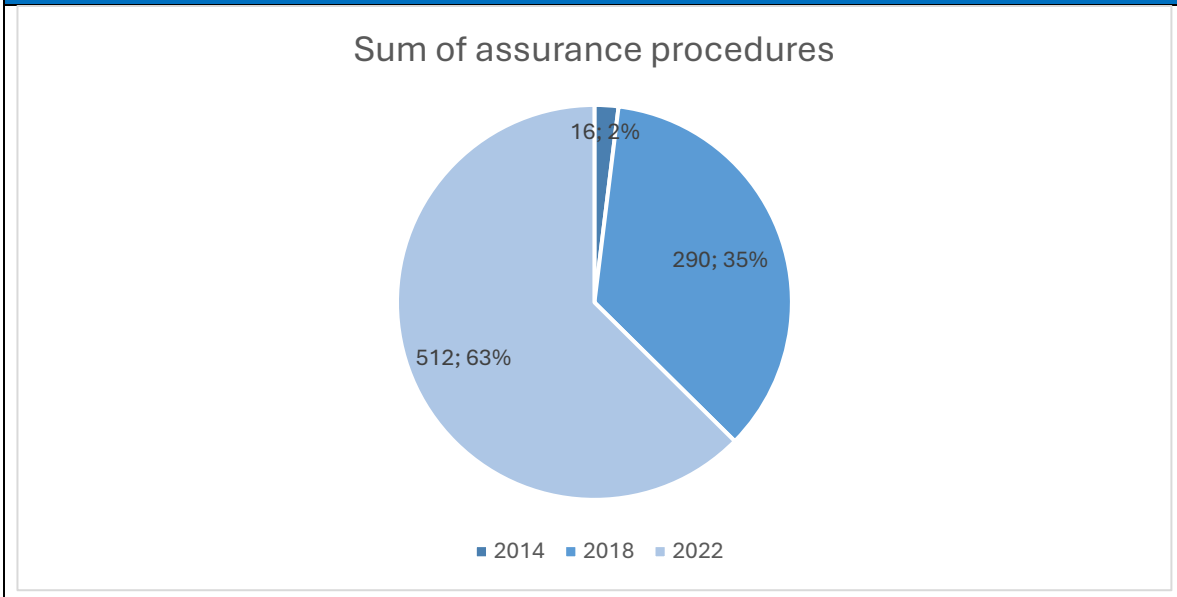
The level of testing has grown in line with the ever-changing global reporting standards like the GRI and other global assurance frameworks which have encouraged detailed validation processes, influencing organisations to adopt more rigorous procedures to ensure the validity, accuracy and completeness of non-financial information disclosed in CSR reports. Furthermore, this change is supported by the GRI's frameworks, which encourage rigorous validation processes to ensure that sustainability disclosures are credible and reliable (Michalczuk and Konarzewska, 2020).

The substantial increase in the average level of testing can also be attributed to organisations' increasing reliance on external assurance providers, who bring more standardised methodologies and higher scrutiny levels in their assurance practices thus enhancing the quality of CSR reporting and the level of testing through the various audit procedures performed.

Assurance over audit procedures performed

Figure 10 shows the audit procedures being performed.

Figure 10: Audit procedures performed



This study investigates the evolution of various assurance-related procedures across 2014, 2018 and 2022 ***(2014=2%, 2018=35% and 2022=63%)***, highlighting trends in methodologies such as analytical reviews, data comparisons, stakeholder interviews, and more. The findings as illustrated in the table above highlight a significant shift toward enhanced data-driven approaches and greater engagement in sustainability assurance.

The use of analytical procedures saw a significant rise, increasing from just 16 instances in 2014 to 512 instances by 2022. This trend reflects a major shift towards data-driven methodologies in assurance processes, indicating a growing recognition of the importance of rigorous data analysis in sustainability assessments.

The comparison of sustainability data with other financial or non-financial reports also experienced substantial growth, from 13 cases in 2014 to 356 in 2022. This increase highlights an effort to ensure that sustainability data aligns with broader corporate reporting, signalling a deeper integration of sustainability into overall financial disclosures.

Interviews with executives and senior managers surged from 64 in 2014 to 762 in 2022, demonstrating the increasing involvement of leadership in sustainability assurance processes.

This indicates that companies are recognising the strategic importance of sustainability and actively engaging their top management in related audits. The combination of stakeholder interviews and site visits indicates a deeper engagement, as proven by (Eccles et al., 2014), to address evolving ESG matters.

While the number of interviews with external stakeholders remained unchanged between 2014 and 2018 (19 instances), it jumped to 112 by 2022. This growth reflects heightened engagement with investors and capital providers, driven by rising expectations regarding environmental, social, and governance practices on a global scale.

The testing of key controls saw a slight increase from 20 in 2014 to 53 in 2018 but then declined to 45 in 2022. This fluctuation may suggest a shift in focus toward strategic data verification methods rather than purely operational control testing, especially as organisations increasingly rely on data analytics.

Reasonableness checks showed a significant increase, from 6 instances in 2014 to 132 in 2018, stabilising at 125 by 2022. This indicates that while reasonableness checks became essential in the audit process, systems for sustainability reporting may have matured, leading to a slight decline in the number of checks.

The review of presentation and disclosure increased significantly, from 7 instances in 2014 to 347 in 2022. This increase suggests a heightened focus on how sustainability data is presented, likely influenced by regulatory requirements and stakeholder demand for transparency.

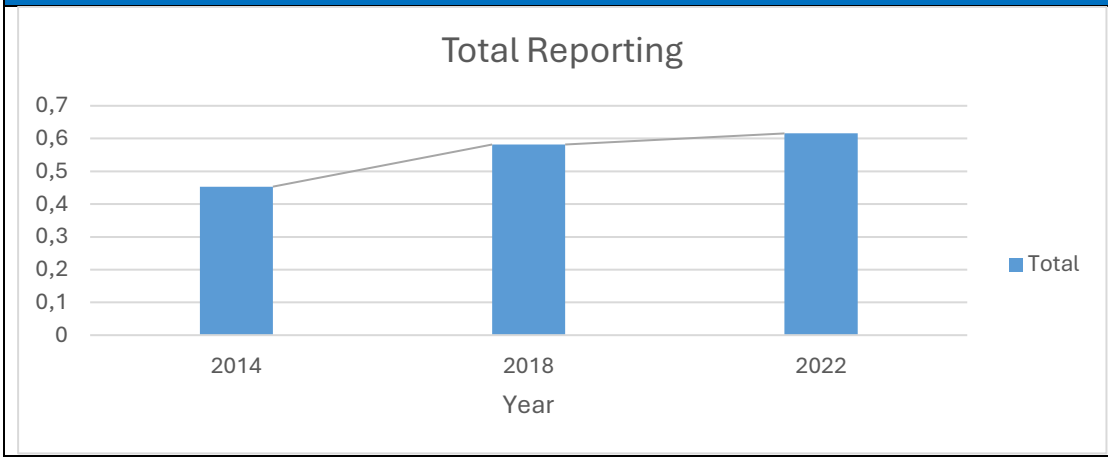
The number of site visits for data verification grew steadily, from 52 in 2014 to 324 in 2022. This trend reflects an increasing investment in on-site verification, driven by the need for accurate and trustworthy sustainability information in light of regulatory pressures.

Testing data generation processes also grew substantially from 29 instances in 2014 to 315 by 2022. This highlights the importance of verifying how sustainability data is generated to ensure the integrity of reported information.

REPORT

Figure 11 indicates the increasing reporting trends.

Figure 11: Average of Reporting



The graph in Figure 11 indicates the average assurance scores for reporting practices across 2014, 2018, and 2022. It shows rising growth in the robustness, transparency, and independence of assurance reporting across the three years. The increase in reporting scores in 2014, 2018 and 2022 shows an industry-wide shift toward better transparency and independence in assurance practices, which is similar to (Simnett, 2012) findings on aligning assurance with stakeholder confidence.

In 2014, low assurance scores (0.45) were identified, with minimal reporting transparency and independence. Assurance engagements were limited in scope, as they only addressed specific data points or a select area of sustainability reporting. This is because in 2014, being the early adoption phrase, assurance practices were in their infancy, with very low regulatory requirements for non-financial reporting.

Organisations focused on financial disclosures, whereas assurance over non-financial aspects like sustainability was voluntary and a prerequisite for organisations. More so, some organisations lacked internal controls to achieve robust reporting, which deterred proactivity in assurance practices.

The year 2018 (0.58) demonstrated a transition into maturity with a noticeable improvement in assurance scores, which showed increased levels of independence and enhanced scope of reporting. Assurance engagements began to provide a holistic approach to addressing broader aspects of sustainability reporting with a focus on integrated thinking rather than reporting only on financial disclosures.

This increase can be attributed to the regulatory developments, such as the EU's NFRD, which made it a requirement for organisations to disclose their ESG impacts. This also increased the need for independent assurance by assurance providers. Regulatory advancements such as the EU's NFRD have made comprehensive reporting a necessity. This is a trend also noted by (Jain et al., 2021) whereby the growth in reporting proves the significance of applying robust assurance systems to meet stakeholder expectations. Key assurance providers, including the Big 4 audit firms, advanced their methodologies to cover wider scopes and integrated systems, as shown in the "Scope" dimension of Figure 2.

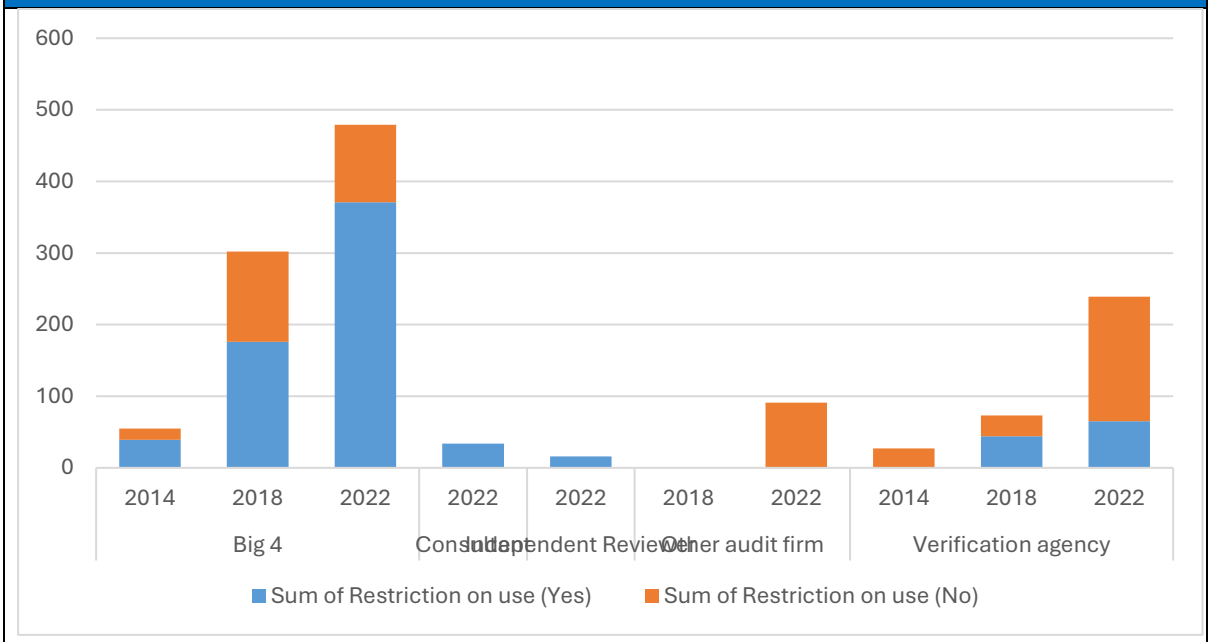
In 2022, assurance practices achieved very high scores (0.62), as a result of strong independence, comprehensive scope, and enhanced transparency in reporting. This can be linked to the development of the ISSB and the introduction of IFRS S1 and S2 standards.

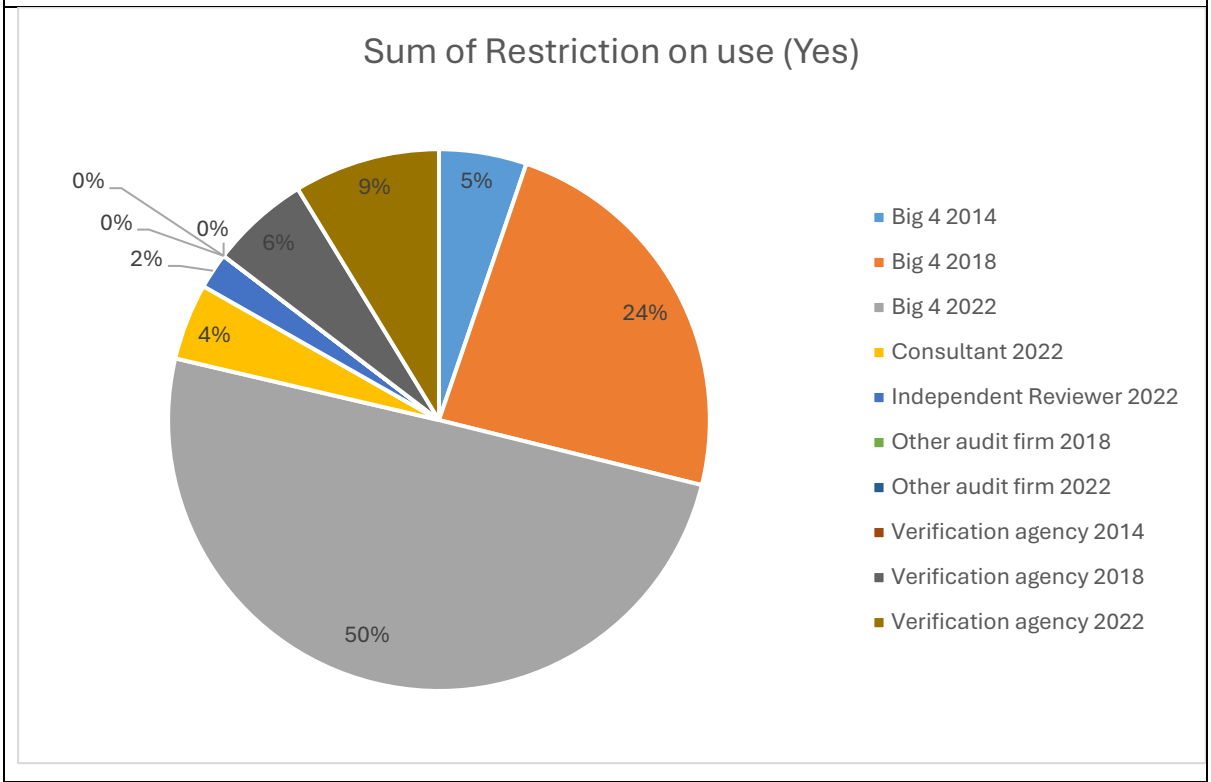
The COVID-19 pandemic emphasized the importance of transparency in reporting resilience and sustainability practices which led to more rigorous assurance by organisations to enhance stakeholder confidence.

Furthermore, technological developments, such as data analytics and digital auditing tools, provided assurance providers with enhanced resources to adopt more sophisticated methodologies to ensure greater accuracy and completeness in the assurance of sustainability reports.

Figure 12 expands on aspects related to restrictions of use.

Figure 12: Restriction on use





This analysis examines the trends in restrictions on the use of assurance reports by different types of assurance providers from 2014 to 2022. The data categorises the restrictions into two groups: "Yes" for cases where restrictions were imposed, and "No" for cases where there were

no restrictions. The assurance providers analysed include Big 4 Audit Firms, Verification Agencies, Other Audit Firms, and Consultants/Independent Reviewers.

In 2014, the Big 4 audit firms reported relatively few restrictions, with 39 cases of imposed restrictions and 16 cases of no restrictions. However, by 2018, there was a significant increase in restrictions, with 176 cases reported. This rise suggests that audit firms were becoming more cautious in response to increased regulatory scrutiny and expectations for accountability. The rapid growing restrictions imposed by Big 4 audit firms across 2014, 2018 and 2022 echoes (Simnett et al., 2009b) assertion that increased regulatory scrutiny and accountability demands aim to encourage assurance providers to adopt more diligent assurance practices.

By 2022, the trend continued upward, with restrictions increasing to 371 cases while the number of cases without restrictions dropped to 108. This shift indicates that imposing restrictions on the use of audit reports had become almost standard practice among the Big 4. The overall trend shows a clear increase in restrictions, reflecting a growing emphasis on risk management and compliance.

In 2014, verification agencies had 44 cases with restrictions and 27 without. By 2018, these numbers remained relatively stable, with 44 cases of restrictions and 29 cases of no restrictions. However, in 2022, there was a notable increase in both categories: 65 cases with restrictions and 174 cases without restrictions. This trend suggests that while verification agencies did impose more restrictions, there was also a significant increase in cases where no restrictions were noted. This dual trend may reflect a growing confidence in the quality of data provided by companies, indicating that organisations may be feeling more assured about the reliability of their information. The balanced approach by verification agencies in imposing restrictions suggests adaptability to evolving market conditions while being able to remain flexible (Perego and Kolk, 2012).

In 2018, other audit firms reported only one case of restrictions with no cases of unrestricted reports. By 2022, however, the situation changed significantly, with 91 cases of imposed restrictions and none without. This rapid increase suggests that smaller audit firms are responding to a heightened sense of accountability and liability, particularly as they navigate a more complex regulatory landscape. The increased restrictions also highlights growing complexities in sustainability reporting, as shown by (O'Dwyer and Owen, 2005).

For consultants and independent reviewers, the data showed minimal or no reported restrictions during the years examined. This could indicate that these groups either played a

minor role in the assurance landscape or that their restrictions were not significant enough to warrant attention.

Table 5: Data Trends from 2014 to 2022

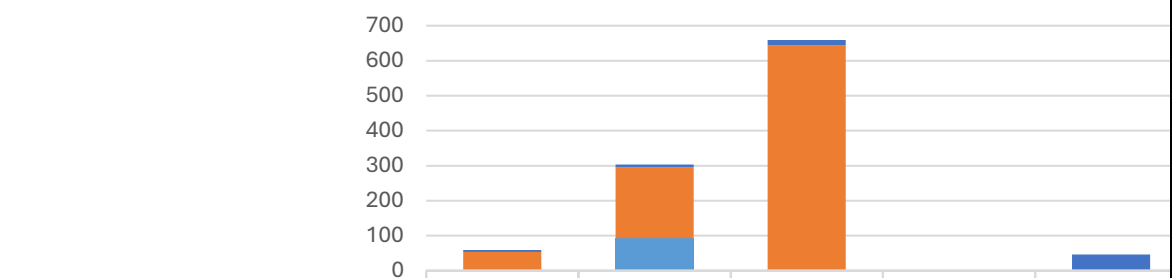
	Sum of Restrictions on Use ("Yes")	Sum of Restrictions ("No")	Count of Restrictions ("Yes")	Count of Restrictions ("No")
2014	39	43	82	82
2018	220	156	376	376
2022	486	373	859	859

The marked increase in the sum of "Yes" responses illustrates a notable increase in the imposition of restrictions over the observed period. Although the growth in "No" responses is evident, it is notably less prominent than the increase seen in the "Yes" category, indicating a more consistent but less dramatic trend.

The count data reinforces the trends observed in the sum, further emphasising the rising frequency of imposed restrictions. The parallel increase in the count of "No" responses mirrors that of "Yes," suggesting that while concerns regarding restrictions have remained consistent, the dynamics of their application have undergone significant changes.

The findings from this analysis reveal a clear and significant trend toward increased restrictions on the use of assurance reports between 2014 and 2022. The increase in "Yes" responses reflects a growing acknowledgement among organisations of the necessity for stringent usage guidelines, particularly within the context of the Big 4 audit firms. This evolution is indicative of broader shifts in regulatory expectations and corporate governance practices, underscoring the critical importance of transparency and accountability in the assurance process. As the regulatory landscape continues to evolve, understanding these trends will be essential for stakeholders navigating the complexities of assurance reporting in an increasingly scrutinised environment.

Figure 13: Focus of testing



	2014	2018	2022	2018 Archival	2022 Archival
Sum of Whole report/fair presentation	5	8	15	1	46
Sum of Data & systems	0	0	0	0	0
Sum of Systems	0	0	0	0	0
Sum of Data	54	202	644	0	0
Sum of Not specific	0	93	0	0	0

Data Trends from 2014 to 2022

Sum of Not Specific

No records were noted in this category for both 2014 and 2022. However, an increase occurred in 2018, with 93 items recorded. This temporary surge suggests a brief focus on this area that declined significantly by 2022.

Sum of Data

The emphasis on data significantly increased, starting with just 54 instances in 2014 and surging to 644 by 2022. This remarkable growth reflects a clear shift toward data-driven assurance practices.

Sum of Systems and Data & Systems

No records appeared in these categories during the three years, which may indicate that assurance efforts have focused more on the data itself rather than specific systems.

Sum of Whole Report/Fair Presentation

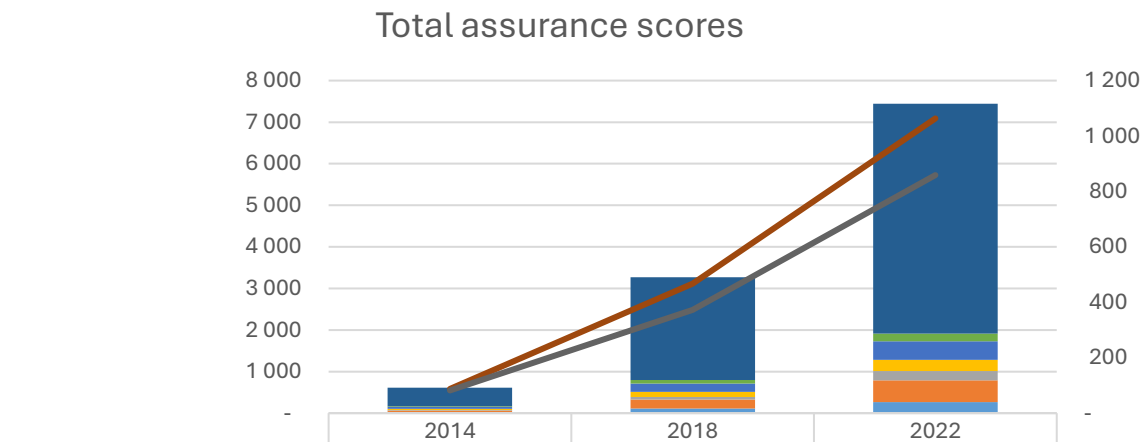
This category saw a gradual increase from 5 in 2014 to 15 by 2022, with an increase in the archival section, which recorded an additional 46 items in 2022. This points to an increasing emphasis on comprehensive and accurate reporting.

The next section details an overall look at the assurance scores.

4.2: Total assurance score

The total assurance score is presented in Figure 14.

Figure 14: Assurance scores



	2014	2018	2022
Sum of TEST	444	2 475	5 529
Sum of COVER_CAP	21	84	183
Sum of LEVEL	44	202	447
Sum of TEMP	27	125	271
Sum of SCOPE	19	59	222
Sum of REPORT	37	218	529
Sum of COMP_TOTAL	20	110	264
Sum of Assurance Score	88	468	1 063
Count of Subject Matter	82	373	859

The above graph highlights a consistent and significant growth in combined indicator assurance scores across the three reporting periods 2014, 2018, and 2022, indicating a notable change in assurance practices over time. This upward trend reflects a systematic strengthening of processes to ensure the reliability, accuracy, and robustness of non-financial reporting, particularly in sustainability and corporate social responsibility.

The increase in overall scores suggests that organisations are progressively responding to stakeholder demands for greater accountability and transparency. Assurance processes have become more structured, with increasing coverage in governance, financial, and sustainability. This progression indicates a maturing approach to corporate reporting, where organisations

not only commit to disclosing non-financial information but also ensure the credibility of these disclosures through rigorous assurance mechanisms.

Furthermore, this reflects advancements in aligning assurance practices with established frameworks, such as the TCFD and other globally recognised standards. The steady growth of assurance scope shows a response to stakeholder expectations for holistic evaluations of sustainability reports which aligns with (Jain et al., 2021), who indicated the importance of aligning assurance with global standards like GRI and TCFD.

Key assurance components such as TEMP, SCOPE, and LEVEL prove that organisations are adopting a more integrated approach to assurance. For example, the TEMP indicator highlights a growing emphasis on providing both prospective and archival assurance, catering to the dual need for forward-looking strategies and retrospective accountability. This balanced approach improves strategic decision-making, as highlighted by (Eccles et al., 2014), because it addresses both historical performance and future resilience.

Similarly, the consistent improvement in SCOPE indicates an expanding application of assurance to cover entire reports, integrated systems, and data rather than looking at components in isolation, thereby enhancing the comprehensiveness of the assurance process. This shift toward broader testing is consistent with the findings by (Hodge et al., 2009), which stress using advanced technological tools to enhance data validation. However, achieving comprehensive assurance is constrained by cost and expertise, as also highlighted by (O'Dwyer and Owen, 2005).

The steady increase in assurance scores indicates growing organisational efforts to address complexities associated with combined assurance, including integrating various assurance providers and aligning assurance objectives across multiple domains. As highlighted in Figure 2, indicators such as RESP_COM and REPORT are critical in ensuring accountability and independence within the assurance process. The rise in these scores underscores the importance of directors' ownership over assurance processes and the role of independent, credible assurance providers in validating CSR reports.

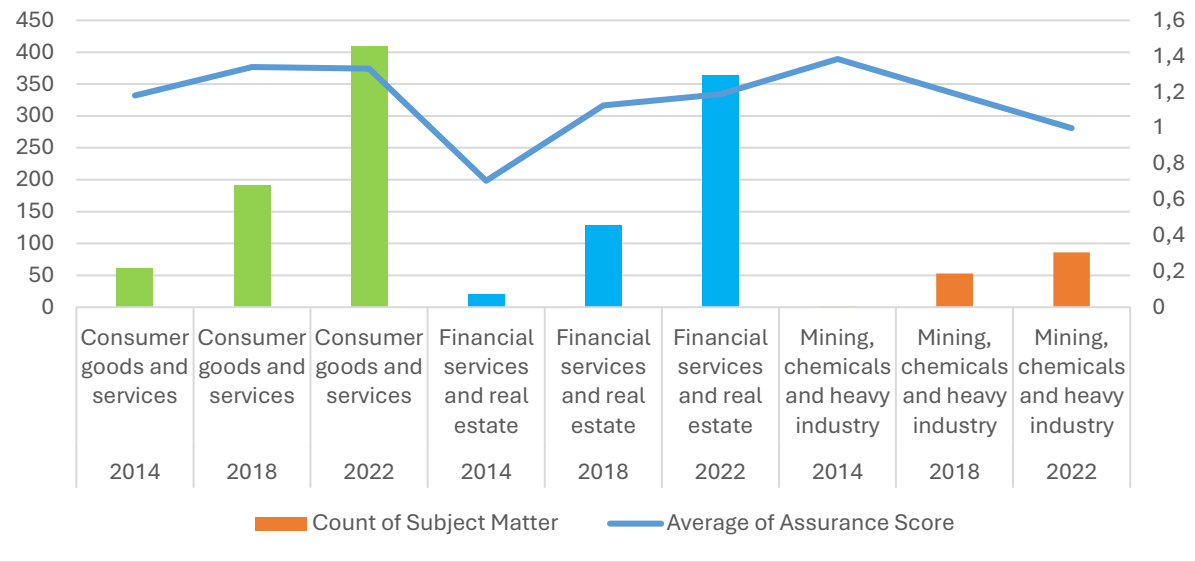
Section 5: Industry and jurisdictional analysis

The specific industry and jurisdictional analysis is presented below.

Industry analysis

Figure 15 illustrates the differences in assurance scores across three industries over 2014, 2018 and 2022.

Figure 15: Measuring assurance scores across different industries



The assurance scores within the consumer goods and services industry demonstrate an upward trend which reflects significant improvements in assurance practices from 2014 to 2022. This may suggest that organisations in this sector respond to heightened stakeholder demands for comprehensive assurance across diverse reporting aspects, likely driven by consumer expectations and regulatory pressures.

The Financial services and real estate sector shows consistently high assurance scores across all years, indicating a mature and stable approach to assurance processes. The notable increase proves that this sector has expanded its scope of assurance. The relatively high assurance scores further highlight the sector's emphasis on rigorous and credible reporting.

While the assurance scores in mining, chemicals and heavy industry are consistently lower than those in the other two sectors, the gradual increase over time indicates progress in

addressing assurance gaps. This suggests that the industry has yet to embrace comprehensive assurance practices. This could be attributed to challenges such as the complexity of operations, cost constraints, or the sector's historical focus on financial rather than non-financial disclosures.

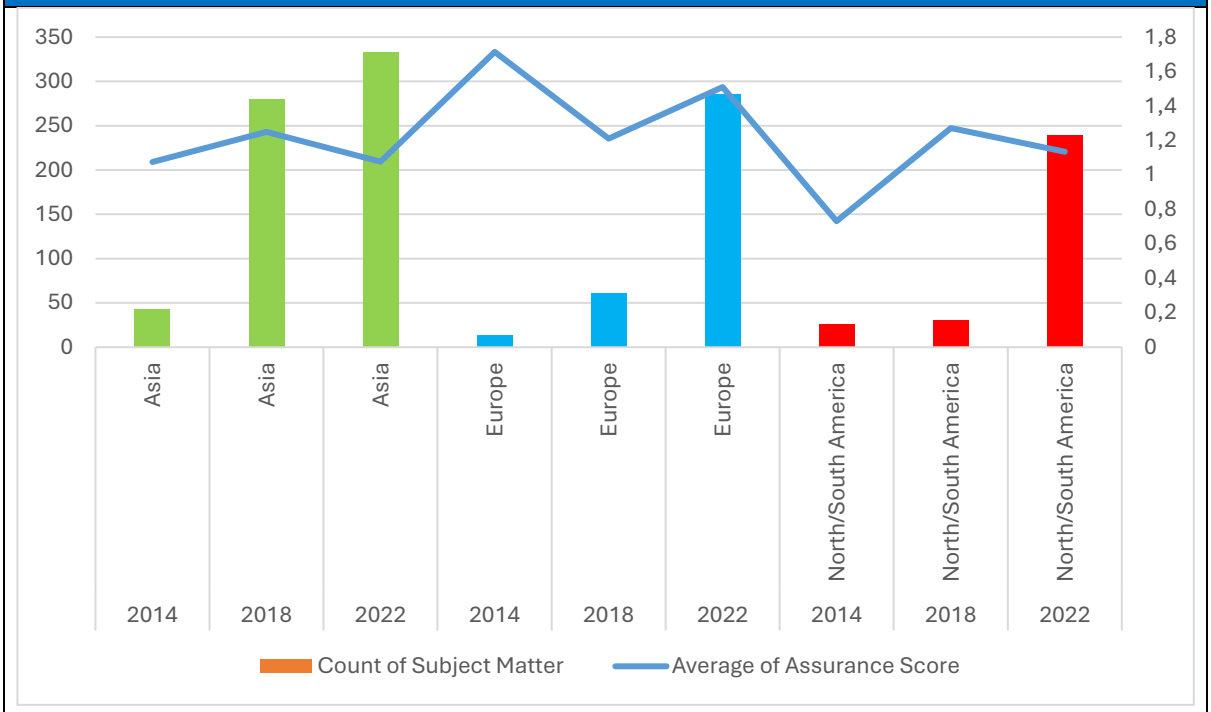
This steady increase can also be attributed to the mandatory reporting standards such as the EU's Corporate Sustainability Reporting Directive, which notes biodiversity as a vital component (Da Mata et al., 2025). Organisations are pressurised to disclose how their operations impact various ecosystems and how associated risks are mitigated. Quality assurance practices help ensure transparency, achieve investor expectations, and align with global sustainability goals. Furthermore, these practices assist organisations to manage their reputations and address stakeholder concerns about environmental impacts (Maroun and Ecim, 2024b).

The differences in assurance scores across the above three industries reflect varying levels of maturity, regulatory demands, and stakeholder pressures. Financial Services and Real Estate stand out with consistently high scores, likely due to stricter compliance requirements and the critical role of trust in this industry. In contrast, Consumer Goods and Services demonstrate dynamic growth in assurance scores and subject matter coverage, driven by evolving market expectations. Mining, Chemicals, and Heavy Industry show slower progress, potentially indicating a need for improvement in aligning assurance practices with emerging sustainability and governance priorities.

Jurisdictional analysis

It was noted in Figure 16, that there was a significant increase in the assurance of respective subject matters from 2014 to 2018 and further to 2022, with 2022 showing the highest count in subject matters for the countries based in Asia. The average assurance score remained relatively stable from 2014 to 2018 and slightly increased in 2022.

Figure 16: Measuring assurance scores against various jurisdictions



The above can be attributed to the fact that many Asian countries, particularly those in emerging economies, are experiencing growing industrialisation, leading to higher demands for sustainability reporting and assurance. Furthermore, governments in Asia, such as Japan, South Korea, and India, have been implementing stricter corporate reporting standards, which potentially could have contributed to the increase in the assurance over subject matters. Lastly, countries in Asia experience investor pressure as international investors seek greater transparency in corporate disclosures, which explains the rise in assurance activities in the jurisdiction.

For the countries based in Europe, the assurance over the count of subject matters remained relatively low in 2014 and 2018 but gradually increased in 2022. The average assurance score fluctuated across the years, peaked in 2018 and declined by 2022.

These trends can be attributed to the fact that Europe has in the past been a leader in sustainability reporting, but the slower growth in the assurance over the count of subject matters may indicate a saturation of the market or a shift toward enhancing quality rather than quantity of subject matters assured. On the other hand, the rise in assurance in 2022 may be

attributed to stronger adoption of frameworks like GRI and TCFD, which require detailed disclosures by organisations.

The EU Directive on non-financial reporting, particularly Directive 2014/95/EU, has played a vital role in enhancing assurance practices concerning non-financial information across European countries. The directive requires large public-interest organisations to disclose information on ESG issues, together with traditional financial reporting, to ensure transparency and accountability in the overall reporting. This has encouraged organisations to adopt independent assurance processes to verify the accuracy and reliability of non-financial information.

A key contribution by the EU directive is that it has raised awareness about the significance of non-financial disclosures for stakeholders (Kolk, 2016). Organisations are increasingly recognising the importance of third-party assurance of their CSR reports. This shift towards assurance has resulted in a more uniform approach to non-financial reporting, thus enhancing trust and comparability across organisations (Simnett et al., 2009b).

Furthermore, the NFRD requires a more structured and comprehensive disclosure of ESG impacts, resulting in greater pressure for quality assurance practices (Qiao and Marquis, 2019). In the UK, Germany, and France, the implementation of the directive has accelerated the demand for specialised assurance services tailored to sustainability reporting suitable for the needs of particular organisations (Herzig and Schaltegger, 2011). These practices ensure that organisations comply with the directive's requirements and enhance the credibility of their non-financial disclosures.

As the EU progressively updates its regulations, for example, the proposal for the Corporate Sustainability Reporting Directive (CSRD) in 2021, assurance of non-financial disclosures is expected to be more rigorous, with a focus on verification by accredited third party assurance providers (Bürgin, 2021). This continuous change and growth is shaping a future where non-financial reporting is more integrated, reliable, and aligned with global sustainability standards and frameworks (Kolk, 2016).

In North/South America, the count of subject matters assured remained relatively low in 2014 and 2018, with a significant increase in 2022. The average assurance score shows a slight increase from 2014 to 2018 and stabilises thereafter.

Companies in North/South America may have taken slightly longer to adopt assurance practices due to historically less stringent regulatory requirements compared to Europe. The increase in assurance practices in 2022 could potentially be attributed to growing regulatory interest, particularly in the U.S. and Canada, and increased consumer and investor pressure

for ESG transparency. Most organisations could also be aligning with global frameworks such as the SASB and TCFD which may have contributed to the increased assurance practices.

Additional findings and trends are presented in Appendix B.

5.1: A consolidated view of best- and worst-practices

The findings from this research study make an important connection between the best and worst practices in sustainability assurance. Overtime, many organisations have pioneered an increasing responsibility and compliance in alignment with global sustainability standards which reflects a positive trend towards achieving accountability. This change is mainly influenced by best practices applied by these organisations, such as obtaining assurance for not only their financial performance but also accounting for non-financial data. These organisations are transparent about why they need assurance and are able to link this to enhanced legitimacy and stakeholder trust. Organisations that clearly communicate and present the key purpose and value of their assurance processes assist in enhancing the credibility of their CSR reports and align their reporting with global standards and other regulatory requirements. This therefore aligns with the findings in Section 4 which highlights a growing focus on integrated reporting and accountability between 2014 and 2018. However, the downturn in compliance by 2022 indicates that some organisations reached their compliance baseline with no desire to strive for continuous improvement in their business practices. This may be due to worst practices such as vague or misleading disclosures or making use of impression management, where negative performance is overlooked while positive outcomes are overly emphasized.

Best-performing organisations are adopting a comprehensive view of value creation by making use of robust management information systems which are assured for accuracy and reliability. These organisations link their sustainability initiatives to their overall business models to ensure consistency with KPI's that are continuously reviewed and monitored. This integrated approach highlights a steady growth in coverage, particularly for natural and manufactured capital as it shows detailed materiality processes and value creation. This is relevant due to increasing environmental concerns and stakeholder demands for social equity and inclusion. These organisations show a proactive approach to sustainability reporting by being transparent in linking stakeholder expectations to value creation.

In contrast, organisations that fail to apply integrated thinking are lagging behind. These organisations usually have underdeveloped information systems which are not assured for accuracy. This can lead to fragmented reporting and superficial risk assessments, resulting in limited capital assessments and a poor interlink of information across reports, which can affect the completeness and reliability of their sustainability disclosures. The reduced growth

noted in intellectual and human capitals can be linked to these worst practices, as these organisations tend to prioritise financial and manufactured capital and overlook the long-term value created by intellectual assets and human resources.

The findings also highlight that organisations are increasingly recognising the importance of assurance or verifying non-financial information to enhance the credibility of their sustainability reports. They are also adopting multi-level assurance approaches by combining internal controls with external assurance providers to provide stakeholders with a more holistic analysis of sustainability information. These organisations offer detailed assurance reports and disclose the methods used, which enhances stakeholder trust and meets the demand for transparency. However, some organisations still follow poor practices. This includes using vague assurance statements that cover entire reports but make no reference to the underlying subject matters. This lessens the effectiveness of assurance and raises questions relating to the credibility of the reports. Furthermore, these organisations predominantly make use of limited assurance in their engagement process, which leads to lower confidence compared to using reasonable assurance.

The findings also indicate that some organisations impose restrictions on assurance reports. This is a poor business practice that arises where internal and external assurance activities are not aligned and create gaps in coverage and interconnectivity issues. This can be clearly seen where organisations avoid getting assurance over areas they know to have significant issues or selectively assure certain aspects which are less problematic which can lead to incomplete or biased reporting. The trend reflecting increasing restrictions is observed in Figure 13 which also highlights a growing risk management focus and a reluctance to fully embrace transparency.

The findings in this research study clearly demonstrate that organisations which are proactive in adopting best practices in sustainability assurance such as transparency in disclosures, integrated thinking, and comprehensive assurance approaches are best positioned to build trust and meet stakeholder expectations. On the contrary, those organisations which rely on worst practices such as vague disclosures, limited assurance, and restricted reports, are more prone to damaging their credibility and falling short in meeting global sustainability standards. It is important for organisations to shift beyond mere baseline compliance and commit to improving the reliability and completeness of their sustainability reporting amidst increasing stakeholder demands for transparency and accountability.

Table 6 summarises the observations.

Table 6: Disclosure summary of best and worst assurance practices		
Theme	**Best practice**	**Worst practice**
Theoretical application	• Assurance is obtained over both financial and extra-financial data • The organisation clearly signals the reason and rationale for assurance • The organisation makes the link to enhanced legitimacy • Transparent disclosures • Reports are prepared using established sustainability-related frameworks such as, for example, the GRI, the IIRC Integrated Reporting Framework and/or the Task Force for Climate- and Nature-Related Disclosures • Reports are assured using established assurance frameworks such as, for example, the ISAE 3000 or AA 1000 AS.	• Disclosures are generic and superficial • Impression management tactics are used • Disclosures are vague, misleading or detract focus from negative outcomes to positive outcomes only • Greenwashing by including detailed extra-financial metrics without explicitly assessing the impact of these metrics, setting targets and explaining outcomes and impact on stakeholders • Limited application of other codes or frameworks • Limited engagement with assurance providers • Poor corporate governance disclosures
Integrated thinking	• The organisation has a robust management information system to collect, analyse and report on extra-financial information • The information system is subject to assurance • Multi-capital assessment with trade-offs are performed and assured • Strategy is linked holistically to the business model and continuously monitored against key performance indicators that are assured • Likelihood, magnitude and time-frames for risks disclosed and assured • Detailed materiality determination process • Detail of engagement channels, key concerns/expectations • Link the stakeholders to capitals and value creations • Accountable for targets and reporting on positive and negative outcomes	• The management information system is under-developed • The information system is not assured as part of the assurance engagement and no controls testing takes place • High level/superficial risk assessments • Limited capital assessments and lack of connectivity of information across the report • Limited stakeholder engagement with focus on providers of financial capital
Combined assurance	• Responsibility for the combined assurance is taken by those charged with governance, including compliance with frameworks or guidelines • The use of a combination of internal and external assurance and other experts to provide accurate, complete and reliable reporting • The level of assurance provided (reasonable, limited or no assurance) needs to be appropriate for the subject matter • The assurance provides sufficient coverage over extra-financial matters	• There is limited engagement with various assurance sources • There is a lack of external and internal assurance which results in important areas of extra-financial reporting not being assured • Internal and external assurance do not complement each other and may result in areas being overlooked • Limited aspects of the report are assured as management avoids assuring areas where they know that there are issues • Areas where there is interconnectivity are not assured in conjunction with each other

Table 6: Disclosure summary of best and worst assurance practices		
Theme	**Best practice**	**Worst practice**
	• Internal and external assurance uses a wide range of procedures to obtain assurance • Various stakeholder legitimate needs are addressed as part of the assurance • Detailed disclosure on board activities, outcomes and direction	
Assurance practices	• Technological innovations, artificial intelligence and advanced data collection and analysis is used • Sources of assurance are identified clearly in extra-financial reports and the methods used to provide assurance are disclosed • Different levels of assurance are used and strive to provide high rather than moderate levels of assurance for the most material subject matters • Different frameworks, guidelines and codes of best practice can inform a more comprehensive and innovative assurance model • Summary of ESG impacts from other, detailed reports is included • Hyperlinks used for connectivity and reference to additional reports	• Assurance statements are difficult for stakeholders to find and follow • Poor format of assurance reports which may lack insight and analysis • There are restrictions on the use of assurance opinions • Predominantly limited assurance engagements are used rather than reasonable assurance • Subject matters are not appropriate and may lack rationale • Assurance statements are vague and cover "entire" reports without being specific on the underlying subject matter, particularly for internal assurance work performed • Predominantly quantitative disclosures are assured while qualitative disclosures are vague • Insufficient details of audit procedures performed. • A lack of "Key Audit Matters" from an extra-financial assurance perspective

6: Conclusion

This research report highlights a detailed picture of how assurance over CSR reports has changed over time and how it has become a vital element in the landscape of sustainability reporting. The literature proves why assurance matters, specifically in addressing the growing demand for credibility and transparency in ESG disclosures. Frameworks such as GRI, TCFD, and SASB are highlighted as the core foundation of global sustainability reporting, as they set clear benchmarks for non-financial disclosures. Assurance, as the literature suggests, serves to validate these CSR disclosures, ensuring their reliability and alignment with stakeholder expectations while also enhancing corporate accountability. It further provides a comprehensive analysis of trends in assurance practices, as drawn from the robust literature review and detailed empirical evidence in Section 4.

The trends in Section 4 highlight substantial growth in the uptake of assurance over CSR reports across the top 40 global countries across various jurisdictions and assurance providers. Across the examined years 2014, 2018, and 2022 there is clear evidence of expanding assurance practices. In jurisdictions such as Europe, assurance has been relatively mature, with a focus on quality and alignment with frameworks like the GRI and TCFD. Over time, Europe has shown consistent growth, emphasising the influence of strong regulatory environments and stakeholder expectations over assurance practices. Meanwhile, Asia demonstrated rapid expansion in assurance practices due to industrial growth, the growing influence of investor pressure, and increasing regulatory mandates. This contrasts with North and South America, where the adoption of assurance practices is more recent, thus indicating a delayed engagement with strict sustainability practices and frameworks.

The different types of assurance providers also played an important role in the above trends. Big 4 audit firms emerged as dominant players in providing assurance services over CSR reports due to their global expertise, technical capabilities, and reputation for quality. Their influence is particularly dominant in complex markets and industries requiring alignment with advanced sustainability frameworks. In contrast, consultants and verification agencies have grown gradually, while attending to the diverse needs of smaller companies or niche industries through cost-effective and specialised offerings. The late emergence of smaller audit firms as seen in 2022 signals a maturing market, where even companies in emerging jurisdictions or those with limited resources can access and offer assurance services.

The analysis in Section 4 and 5 also highlights an important evolution in the scope and complexity of CSR reporting. The number of subject matters assured has consistently increased across the years, reflecting a broader commitment by organisations to disclose non-financial information. This trend can be seen predominantly in Asia and Europe, where companies are increasingly integrating ESG factors into their corporate strategies and reporting structures. The increase in assurance scores in the later years, indicates that companies are not only expanding the scope of their disclosures but also improving the quality of these reports to align with stakeholder and regulatory expectations.

A key takeaway from this research report is the diversification in assurance frameworks and methodologies. Many organisations are shifting beyond basic reporting to adopting globally recognised frameworks like SASB and TCFD amongst many others, which emphasize climate risk, governance, and materiality. This has grown the demand for assurance services to address these complex requirements and further contributing to the growth trends observed across providers and jurisdictions as outlined in the general findings.

Overall, this research report concludes that assurance over CSR reports has evolved from being just a niche or rather isolated practice to being the cornerstone of corporate transparency and accountability. The observed trends highlight the increasing sophistication of sustainability reporting and reliance on assurance to validate various CSR disclosures. While the dominance of the Big 4 underscores the importance of quality and expertise, the emergence of alternative providers and jurisdictions demonstrates the inclusivity and adaptability of the assurance market. As sustainability and ESG considerations continue to attract global prominence, assurance practices are likely to be even more integral to building stakeholder trust and ensuring the credibility of corporate sustainability efforts.

Areas for future consideration include assessing how the accounting infrastructure can be improved and formalised to allow the systems and controls which support internal decision making and reporting to stakeholders to be formally assured. Researchers should consider how different frameworks, initiatives, guidelines and codes of best practice can inform a more comprehensive and innovative assurance model. For example, the impact of the CSRD initiative on assurance outcomes and quality in the European Union (and the related impact on subsidiaries in developing economies) merits further exploration. Similarly, the impact of ISSA 5000 on assurance practices will provide valuable insights into identifying non-financial assurance trends. The indicators detailed in this chapter can also be expanded and applied to other jurisdictions, cross-jurisdictional analyses, larger sample sizes and industry-specific studies. Finally, research into the levels of proactivity of organisations and their association with the extent of CSR assurance being used is also an important area of research. This will enhance our understanding of the interconnection between management's underlying reporting infrastructure and the supporting integrated thinking logic with the quality of assurance.

The limitations imposed by this research study include the reliance on publicly disclosed CSR reports, which may potentially omit internal assurance processes applied by the various organisations. There is a variability in the reporting standards and terminologies used by the organisations which may affect the scoring framework due to inconsistencies. There were no direct stakeholder interviews held to validate the perceived effectiveness of assurance practices within the organisations. Areas for future research amidst emerging technological advances include the investigation of how artificial intelligence, blockchain, and big data analytics can be applied to improve assurance processes and address current limitations imposed by data validation, accuracy and credibility.

Appendices

Appendix A: Organisations used in the study

Sample of organisations and associated jurisdiction		
Top 40 global companies	**Jurisdiction (country)**	**Grouping**
1. China Construction Bank	China	Asia
2. Apple	USA	North/South America
3. Mercedes Benz	Germany	Europe
4. Shell	United Kingdom	Europe
5. Toyota	Japan	Asia
6. Volkswagen	Germany	Europe
7. Samsung	South Korea	Asia
8. Sinopec	China	Asia
9. Johnson & Johnson	USA	North/South America
10. BMW	Germany	Europe
11. Morgan Stanley	USA	North/South America
12. Nestle	Switzerland	Europe
13. BP	United Kingdom	North/South America
14. China Mobile	China	Asia
15. Chevron	USA	North/South America
16. Bank of America	USA	North/South America
17. ICBC	China	Asia
18. Citi Group	USA	North/South America
19. HSBC	United Kingdom	Europe
20. Wells Fargo	USA	North/South America
21. Ping An Insurance	China	Asia
22. Goldman Sachs	USA	North/South America
23. Tencent Holdings	China	Asia
24. American Express	USA	North/South America
25. Tesla	USA	North/South America
26. Coca-cola	USA	North/South America
27. Stellantis	Netherlands	Europe
28. Equinor	Norway	Europe
29. Hyundai motors	South Korea	Asia
30. GM motors	USA	North/South America
31. Nippon Telegraph & Tel	Japan	Asia
32. UBS	Switzerland	Europe

33. Zurich Insurance Group	Switzerland	Europe
34. Cigna	USA	North/South America
35. TD bank	Japan	Asia
36. Intesta Sanpaolo SpA	Italy	Europe
37. Itau Unibanco	Brazil	North/South America
38. AB InBev	Belgium	Europe
39. Postal Savings Bank of China	China	Asia
40. CNOOC	China	Asia

Appendix B: Suplementary findings and trends

The overall trend from 2014 to 2022 indicates a significant increase in restrictions imposed by assurance providers, particularly among Big 4 audit firms and other audit firms. (Simnett et al., 2009b) highlighted that the dominating presence of the Big 4 audit firms in assurance practices reflects shows their expertise in dealing with complex sustainability reporting requirements as also proven the findings below.

By 2022, it appears that imposing restrictions had become the norm, reflecting a growing cautiousness and potentially stricter compliance requirements in the assurance landscape. (Hodge et al., 2009), argues that stricter controls in assurance practices are a result of increasing stakeholder demands for credibility accountability and credible CSR reporting which explains the rising restrictions imposed by assurance providers.

Verification agencies exhibited a more balanced approach in 2022, with notable increases in both restricted and non-restricted cases. This indicates a diversification in their assurance practices and an adaptation to evolving market conditions.

Several economic factors may have influenced these trends:

There has been a global push for enhanced transparency and accountability in corporate reporting, particularly concerning environmental, social, and governance (ESG) risks. This regulatory pressure likely prompted Big 4 audit firms to impose more restrictions to mitigate liability. Furthermore, (Simnett et al., 2009b) highlighted that the dominating presence of the Big 4 audit firms in assurance practices reflects shows their expertise in dealing with complex sustainability reporting requirements as also proven the findings below.

Following significant economic uncertainties, such as the 2008 financial crisis, firms became increasingly risk-averse. Audit firms may have raised restrictions to limit potential legal repercussions should the data they audited be found unreliable.

As sustainability reporting evolved and frameworks like the TCFD and the GRI emerged, assurance providers may have introduced more restrictions to reflect the challenges associated with assuring complex information.

Events such as the COVID-19 pandemic and subsequent economic disruptions could also have influenced the rise in restrictions by 2022. Businesses faced unprecedented uncertainties, leading audit firms to adopt more stringent measures to manage liability risks amidst volatile reporting conditions. The impact of the COVID-19 pandemic on assurance practices, as noted in the findings, is supported by (Fiechter et al., 2022), who highlights how global crises have the ability to reshape corporate governance and reporting frameworks.

The increasing restrictions imposed by assurance providers from 2014 to 2022 reflect a response to a more regulated, complex, and risk-averse economic environment. As sustainability and corporate governance issues have gained prominence, organisations are prioritising responsible reporting practices. This evolution emphasizes the importance of adaptability and transparency in a rapidly changing business landscape, as assurance providers seek to navigate the challenges of contemporary corporate reporting.

This report analyses the evolving landscape of restrictions on the use of assurance reports from 2014 to 2022. By categorising data into "Yes" and "No" responses regarding the imposition of restrictions, we aim to elucidate trends in audit practices, particularly among the Big 4 audit firms. This analysis underscores the growing emphasis on accountability and the shifting regulatory environment in which assurance providers operate.

Overview

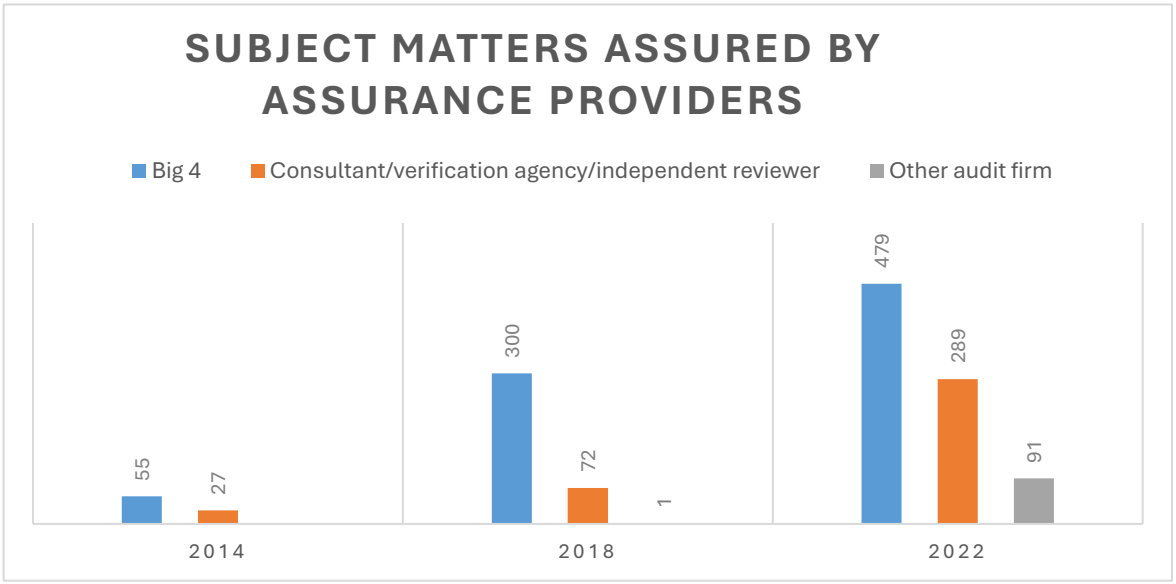
In 2014, the restrictions on the use of assurance reports were relatively minimal, with only 39 instances classified as "Yes" and 16 as "No." This initial dataset suggests that organisations and audit firms maintained a more permissive stance regarding the application of assurance findings.

A substantial change occurred by 2018, as the number of "Yes" responses increased to 176. This increase indicates a growing recognition of the need for more stringent usage guidelines among audit firms and organisations. Concurrently, the "No" responses also saw an up rise, rising to 126, highlighting an increasing awareness of responsible usage practices.

The trend toward stricter restrictions is particularly within the Big 4 audit firms. By 2022, these firms reported 586 cases of imposed restrictions, contrasting sharply with only 250 cases where no restrictions were noted. This disparity underscores a significant shift toward enhanced accountability and risk management in assurance reporting, reflecting a broader industry trend.

Figure 17 shows the number of subject matters assured per year. Subject matters assured are limited to sampled companies that engaged in CSR assurance in 2014, 2018 and 2022. Types of assurance providers engaged as well as the inclusion of restrictions on the use of resulting CSR assurance reports are also included.

Figure 17: Number of subject numbers assured



The Big 4 audit firms have shown a steady and dominant increase in the number of subject matters assured over time. In 2014, their involvement was relatively low ***(Big 4= 55, Consultants/verification agencies/independent reviewers= 27, other audit firms=0)***, but by 2018, there was a significant rise in assurance by them, with the Big 4 firms being the leading assurance providers ***(Big 4= 300, Consultants/verification agencies/independent reviewers= 72, other audit firms=1)***.

By 2022, the growth in assurance reached its peak, highlighting their ability to handle the increasing complexity of sustainability reporting ***(Big 4= 479, Consultants/verification agencies/independent reviewers= 289, other audit firms=91)***. Their established global reputation, technical expertise in addressing advanced frameworks like TCFD and SASB, and having stricter regulatory requirements likely contribute to them being the leading assurance providers.

Additionally, the steady increase in the number of subject matters assured by the Big 4 audit firms mirrors (Adams and Frost, 2008) findings that larger corporate organisations have more resources to handle the increasing complexity of integrated reporting compared to smaller organisations.

The preference for well-known and credible assurance providers by organisations, particularly among multinational corporations and listed entities, has further increased the growth of the Big 4 firms as leading assurance providers. (García-Sánchez et al., 2022a) proved that organisations' reliance on well-known or rather well-established assurance providers for assurance services reflects efforts to enhance stakeholder trust and manage reputational risks for the organisation by ensuring quality assurance over CSR reports.

For consultants and verification agencies, in 2014, they assured a comparable number of subject matters to the Big 4 but remained a secondary player. Their growth between 2014 and 2018 was lower compared to the Big 4, however, by 2022, they experienced a significant increase in assured subject matters, though still did not match up to the Big 4 firms. This growth can be linked to their cost-effectiveness and ability to offer specialised services suitable to specific industries or disclosure needs, such as environmental data verification. The increase of consultants and independent reviewers aligns with (Perego and Kolk, 2012), who argue that smaller assurance providers are capable of offering industry-specific expertise, particularly for emerging markets.

In jurisdictions with less strict regulations, they provide a practical and affordable alternative to larger firms. Furthermore, the expansion of ESG reporting across various sectors has created new opportunities for consultants and verification agencies, especially in markets or industries where comprehensive assurance is not yet prioritised.

The graph above clearly indicates that 'other' audit firms only began to provide assurance in 2022, with no data for the years 2014 and 2018. This highlights their late emergence in the assurance market. While their contribution to assurance is still relatively low compared to the Big 4 and consultants, their presence as shown in 2022 signals growing diversification in the assurance landscape. This emergence may prove an increased demand for assurance services in jurisdictions where the Big 4 have limited presence or are cost-prohibitive. Smaller firms may also be responding to regulatory inclusion, gaining accreditation to provide assurance services. Their assurance service offerings might be suitable to companies with simpler and less complex assurance requirements, allowing them to carve out a niche in a competitive market although they are ruled out from being leading assurance providers.

Overall, the trends in the graph above highlight the dominance of the Big 4 audit firms as the most trusted assurance providers, particularly for complex and high-profile assurance needs which particularly align with large multi-corporation or listed entities. However, the rise of consultants and smaller firms indicates a diversification of the assurance market, driven by cost considerations, regional dynamics, and the growing need for sustainability and ESG reporting requirements.

Assurance audit procedures

Global Economic and Regulatory Drivers of Change

Several global factors have influenced these trends in assurance procedures:

Frameworks such as the GRI and the TCFD have mandated that companies report non-financial data with the same rigour as financial information. This has increased testing and reviewing processes as organisations strive to meet evolving standards.

The rise of ESG investing has led to greater demands from capital providers for transparent and detailed sustainability reporting. This shift has driven the increase in stakeholder interviews and the focus on external comparisons to verify data reliability.

The escalating climate crisis has brought sustainability issues to the forefront of corporate reporting. Companies are expected to account for and disclose their environmental impacts, necessitating rigorous data collection, verification, and reporting processes.

Innovations in data analytics and digital auditing tools have empowered auditors to perform more sophisticated analyses. This is reflected in the increased use of analytical procedures and reasonableness checks, aligning with global trends that leverage automation and big data to enhance audit quality.

Heightened public and regulatory scrutiny over corporate responsibility, particularly related to carbon footprints and sustainability practices, has compelled companies to enhance their reporting processes. This has resulted in an uptick in controls and reporting process testing.

Overall, the findings suggest that assurance procedures related to sustainability audits have become increasingly robust and integrated into mainstream corporate reporting across 2014, 2018 and 2022. Driven by regulatory changes and global economic pressures regarding environmental accountability, these trends underscore the need for organisations to adopt more comprehensive and transparent sustainability practices. As companies navigate this evolving landscape, the importance of data-driven approaches and executive engagement will continue to shape the future of sustainability assurance.

Restrictions over assurance

The significant rise in the "Data" category from 54 in 2014 to 644 in 2022 highlights a growing shift towards data-driven assurance. This trend is likely influenced by advancements in technology and the ongoing digital transformation in various industries, prompting organisations to invest in data analytics for better decision-making.

The steady growth in the "Whole report/fair presentation" category, while smaller compared to the "Data" segment, indicates an increasing demand for thorough and transparent reporting. This suggests that stakeholders are becoming more attentive to how information is presented and the accuracy of that information.

The following Global Economic Influences may have possibly influenced the above trends:

The embrace of big data began around 2014, but between 2018 and 2022, we saw a remarkable acceleration in digital transformation initiatives. This shift was driven by technologies like the Internet of Things (IoT), cloud computing, and artificial intelligence, all of which contributed to the rise in data emphasis.

The period of global economic shifts was marked by significant economic events, including recovery from the 2008 financial crisis, global trade tensions, and the COVID-19 pandemic. The pandemic, in particular, forced many businesses to pivot to remote operations, highlighting the need for robust data management.

Stricter regulatory frameworks, such as the General Data Protection Regulation (GDPR) introduced in 2018, prompted organisations to enhance their data management practices. This regulatory environment likely explains the upward trends in both the "Data" and "Whole report/fair presentation" categories.

From 2014 to 2022, advancements in technology made it easier and more cost-effective to collect, store, and analyse large volumes of data. This shift is reflected in the increasing reliance on data within assurance practices.

The aforementioned highlights a clear movement toward more data-centric assurance methodologies over the years. The substantial increases in data evaluation and reporting practices demonstrate a response to broader technological, economic, and regulatory shifts. As organisations continue to adapt to these changes, the integration of sophisticated data management and analytical techniques will be crucial for effective assurance in the future.

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Faculty of Commerce, Law and Management

Candidate's Declaration

Name of Candidate:	Keitumetse Sekome
Person Number:	2321611
Degree:	MCom Accountancy
Supervisor / Co-Supervisor:	Dusan Ecim & Warren Maroun
School:	Accountancy
Title of Thesis/Dissertation/ Research Report:	An assessment of assurance of non-financial information among the Top 40 Global companies

Candidate's Declaration:

i. I hereby submit my PhD Thesis/**Masters** dissertation for examination (circle applicable).

ii. I confirm that my signed declaration in terms of Rule G9.7 is included in each copy of the thesis/ dissertation.

iii. I have checked all copies of my thesis/ dissertation and declare that no pages are missing or poorly reproduced.

iv. I hereby submit a CD/USB containing a PDF version of my submission for examination and ____1_____ bound copies.

Candidate's Signature: _____ Keitumetse Sekome _____ **Date:** ___28/02/2025_____