Navigating Uncharted Territory: Exploring the Drivers and Challenges of TCFD Reporting in South Africa

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Declaration

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ABSTRACT

Climate-related risks and opportunities have a significant impact on companies' financial prospects. Publishing reports aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations plays a crucial role in aiding investor decision-making by ensuring that companies assess and provide fair presentation of material climate-related risks and opportunities. Understanding the drivers and challenges of TCFD reporting is vital to promoting its widespread adoption. However, there is a notable dearth of studies investigating the drivers and challenges of sustainability reporting in general, and TCFD reporting specifically, within the context of emerging markets like South Africa. Therefore, the objective of this study is to explore the drivers and challenges of TCFD reporting in South Africa by employing the legitimacy and stakeholder theories as a lens for analysis. The study used the conceptual model of influences around integrated reporting as a framework to answer the research question. This exploratory study employed a qualitative research approach by using semi-structured interviews to collect data from 7 experienced report preparers in South Africa.

The findings indicate that TCFD reporting in South Africa is driven by institutional investors, activist shareholders, public commitments, competitors, and working groups that provide a collaborative space for knowledge sharing and skills development. Additionally, the study identifies data collection, cost and time, skills, confidentiality and security, scenario analysis, and greenwashing as significant challenges related to TCFD reporting. The findings of this study carry significant importance as they contribute to the literature on the drivers and challenges of climate-related disclosures in South Africa and other comparable emerging markets. Moreover, the adapted conceptual model developed in this study paves the way for exploring additional research questions on TCFD reporting. In addition to enriching the academic understanding, this study intends to provide valuable practical recommendations for policymakers and report preparers to encourage greater adoption of TCFD reporting in South Africa.

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LIST OF ABBREVIATIONS

<IR>	Integrated Reporting
CROs	Climate-related risks and opportunities
CSR	Corporate social responsibility
ESG	Environmental, social, and governance
FSB	Financial Stability Board
G20	Group of 20
GHG	Greenhouse gas
GRI	Global Reporting Initiative
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
IoDSA	Institute of Directors South Africa
IPCC	Intergovernmental Panel on Climate Change
IPR	Interview protocol refinement
ISSB	International Sustainability Standards Board
JSE	Johannesburg Stock Exchange
NDCs	Nationally Determined Contributions
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
SER	Social and environmental reporting
TCFD	Task Force on Climate-related Financial Disclosures
TRWG	Technical Readiness Working Group
UNEP FI	United Nations Environment Programme Finance Initiative
WWF	World Wide Fund for Nature

CHAPTER 1: INTRODUCTION

1.1 The Consequences of Climate Change

Climate change is transforming the world as we know it. Communities worldwide have started to experience the harmful consequences of this warming phenomenon in their daily lives with an increased prevalence of wildfires, heat waves, floods, and droughts (World Wide Fund for Nature [WWF], 2021). The current impact of such climate change has already led to severe detrimental effects on the physical and mental health of populations globally by the damage on key infrastructure in urban settings, and the increase in human vulnerability in rural regions (Intergovernmental Panel on Climate Change [IPCC], 2022).

Governments, the private sector, developmental organisations, and ordinary civilians are in a race against time to prevent these effects from worsening into a cataclysmic environmental collapse. The Paris Agreement signed at the United Nations Climate Change Conference in 2015 set a target of limiting the rising temperature to well below 2℃, and preferably to 1.5℃, above the levels seen prior to industrialisation (United Nations, 2015). To achieve these ambitious targets requires an unprecedented collaboration on a global scale to reach net-zero carbon dioxide emissions by 2050 (Science Based Targets Initiative, 2021).

The consequences of not achieving this target are dire. At the current business-as-usual rate of emissions, warming is predicted to reach 1.5℃ above pre-industrialisation quantities between 2030 and 2052. In addition to the effect on communities and nature, this outcome will lead to economic upheaval as growth rates stagnate, workers become less productive due to extreme conditions, power supply becomes increasingly unstable, and global supply chains are disrupted (Myers, 2020).

1.2 South Africa's Commitments to Combat Climate Change

South Africa, as a water-scarce country that is particularly vulnerable to the effects of climate change and rising sea levels, has been identified as a potential "hotspot" area (Grant, Carmody, & Murphy, 2020). There are already dire socio-economic challenges faced by the country to further amplify this threat. These challenges may be seen in the rate of unemployment (more than one in three South Africans are unemployed); thereby cementing the nation's status as one of the most unequal countries in the world. In addition, the country's lack of financial resilience limits its ability to adapt and leaves it especially vulnerable to changing conditions (National Treasury, 2021).

Looking back in time, South Africa's historical economic growth trajectory was based on a powerful underlying minerals-energy complex. This was referenced by the capital accumulation that occurred due to low-cost electricity and cheap labour, and the close ties between the then Afrikaner political might, financial institutions, energy, and mining capital (Baker, Newell, & Phillips, 2014). The result was a country that became highly reliant on fossil fuels for power generation.

Despite these challenges as one of the most carbon-intensive economies, South Africa is currently optimistic about its ability to decarbonise the economy. As a signatory to the Paris Agreement it is committed to reduce its total emissions by achieving its nationally determined contributions (NDCs) target (National Planning Commission, 2018). Achieving the country's NDCs will be particularly challenging as its economy accounts for more than 1% of total greenhouse gas (GHG) emissions globally (McNicoll, Jachnik, Montmasson-Clair, & Mudombi, 2017).

1.3 The Significant Role of Companies

While the outcome of reducing emissions is a shared responsibility, large companies have a significant role to play due to their entrenchment in society and current rate of emissions. The state-owned enterprise Eskom and chemical company Sasol alone contribute toward more than half of the country's emissions (Strambo, Burton, & Atteridge, 2019), while other energy-intensive companies further contribute to the challenge with their large carbon footprints. Significantly, a key factor in limiting the adverse effects of climate change is to ensure that such large companies support decarbonisation targets through their own activities, investments, and strategies.

Despite the looming threat, the opportunity to limit the magnitude of damage remains, as vast improvements and falling costs in low-carbon technologies gathers momentum (Okunlola et al., 2019). This alone will not be enough, however. To achieve the Paris Agreement target, significant investment, and new forms of collaboration across continents are required over the next decade (Green Climate Fund, 2021; Morgado & Sedemund, 2018). The years leading up to 2030 have been labelled the ‘Decade of Action’, as time to achieve the Sustainable Development Goals (SDGs) is severely limited (Convergence, 2020).

This threat of climate change and the requirement for a rapid shift to a low-carbon economy creates significant risks and opportunities for companies. They contribute towards emissions directly through the production of fossil fuels or indirectly through the consumption of fossil fuels and electricity. On the other hand, they also experience the effects of climate change in their operating environments. The close link between companies and climate change has resulted in increased pressure to adapt climate risks and opportunities into business strategies (Gasbarro, Iraldo, & Daddi, 2017).

A failure to adapt and decrease carbon emissions will expose companies across industries to severe physical and transition risks related to climate change. The urgency to adapt business models and strategies has been recognized in the financial markets, and climate-related risks are increasingly priced into investment decisions (Johannesburg Stock Exchange [JSE], 2021).

While these risks are significant, companies also stand to benefit from opportunities such as new products and services required in the low-carbon economies of the future (O’Dwyer & Unerman, 2020). Attempts by cities and households to adapt to the worsening impact of climate change is likely to drive consumer spending on clean energy technologies (Financial Stability Board [FSB], 2021b) . This would open rapidly growing new markets for companies that invest wisely in developing climate-resilient products and services.

As investors begin to understand the material impact of climate-related risks and opportunities (CROs) on their portfolios, they have demanded high quality and consistent data from companies to assess these factors accurately (O’Dwyer & Unerman, 2020). Capital is increasingly allocated to companies that recognize the risks and opportunities of climate change, and investors assume that an absence of disclosures in this regard indicate that companies are not prepared to respond appropriately (JSE, 2022). As a result, shareholders have started to demand that companies integrate CROs in their annual reports (Myers, 2020). In addition, the recognition of CROs by companies enables them to appropriately plan for the physical and transitional changes that will impact their business models and value chains. For the South African government, the addition of these factors into integrated reports and risk management systems has been recognized as a critical aspect to create a resilient financial system (National Treasury, 2021).

A systematic and credible framework is required to accurately identify and price CROs (National Treasury, 2021). To address this challenge, the Group of 20 (G20) requested the FSB to analyse how companies can accurately identify and incorporate CROs (Myers, 2020). Following this request, the FSB established the Task Force on Climate-related Financial Disclosures (TCFD) and published recommendations that assist companies to align their disclosures with the needs of shareholders, and to ensure that CROs are accurately priced in company valuations (Achenbach, 2021).

1.4 Research Problem and Question

The South African Reserve Bank and National Treasury’s mandate of ensuring financial stability requires a comprehensive understanding of the risk factors affecting the financial sector. In a report released by National Treasury (2021) titled ‘Financing a Sustainable Economy’, the department recommended that regulators and companies should adopt standards to identify, monitor, report and mitigate climate-related risks. The department advised that this should include the integration of the TCFD recommendations. In this study, the terms 'TCFD reporting' and 'climate-related disclosures' are used interchangeably when referring to reports that align with these recommendations.

In the global context, it is apparent that many multinational companies currently disclose inadequate information related to CROs in their annual reports (Kouloukoui et al., 2019). While the impact of climate change such as rising sea levels and extreme weather events are recognized by many companies, these are often incorrectly considered as long-term impacts instead of current challenges. However, various countries have begun to encourage the disclosure of CROs, while some companies have voluntarily disclosed these risks and opportunities without regulatory requirements (Myers, 2020).

Although local companies have lagged in comparison to some international peers’ rates of CROs disclosures, South Africa is considered a global leader in integrated reporting and performs moderately well in disclosing CROs (Atleha-edu, 2021). Certainly, the uptake of the TCFD recommendations by publicly listed companies in South Africa has increased in recent years. This has particularly been observed in the banking and resource-extraction industries where the recent public pressure has been concentrated. While it is encouraging to see that some large companies are voluntarily publishing climate-related disclosures in line with the TCFD recommendations, the small number of companies doing so in line with the recommendations to date remains a concern (WWF, 2021b) as, according to the TCFD knowledge hub, there are only 36 South African companies that are listed as supporters of the TCFD (FSB, 2023).

The factors that drive climate-related disclosures in line with the TCFD recommendations vary greatly depending on location and sector. Client demand, stakeholder and media pressure and risk management have been identified as some of the major drivers of TCFD reporting in the South African context (WWF, 2021a). In contrast, a lack of skills, resources, time, as well as fear of public scrutiny, reporting fatigue and a narrow focus on short-term results have been identified as challenges that limit TCFD reporting by South African companies (Atleha-edu, 2021; National Treasury, 2021). However, research on TCFD reporting is limited due to the short period of time since the publication of the TCFD recommendations in 2017. In addition, few studies have been conducted on the drivers and challenges of TCFD reporting in emerging markets such as South Africa. As a result of the research problem discussed above, this study seeks to address the following research question:

- What are the drivers and challenges of TCFD reporting in South Africa?

1.5 Research Objective

The objective of this research is to understand the factors that drive, as well as the factors that limit the uptake of climate-related disclosures in line with the TCFD recommendations amongst South African companies. This will be established by a process of analysing the drivers and challenges of TCFD reporting as experienced by report preparers in South Africa. Based on the research question stated above, the purpose of this study is:

- To explore the drivers and challenges of TCFD reporting in South Africa.

1.6 Scope and Justification of this Study

Climate change is a global phenomenon that has material impacts on the wider community. Urban and rural settings across the world have started experiencing the devastating effects of more frequent and severe wildfires, floods, and droughts (WWF, 2021a). South Africa is the

13th largest GHG emitter in the world (Global Carbon Atlas, 2022), and therefore has a significant responsibility to reduce emissions and play its part in combating climate change. In a bid to support these efforts, South Africa ratified the Paris Agreement and submitted ambitious NDCs which expects emissions to decline from 2025 onwards.

As South African companies are both contributors to climate change as well as victims of its effects due to the environments that they operate in, it is critical for companies to understand CROs. This will enable them to adapt business strategies to mitigate risks in advance, while allowing them to seize opportunities such as the demand for new products and services.

The South African National Treasury's 'Financing a Sustainable Economy' report (2021) clearly recommends South African regulators and industry incorporate the TCFD recommendations in their risk management strategies. As a growing number of countries are requiring alignment with the TCFD recommendations, the likelihood of South Africa following suit increases. Therefore, understanding the drivers and challenges of TCFD reporting could be of significant practical value to policymakers and report preparers alike.

Furthermore, there is a gap in the literature regarding climate-related disclosures in emerging countries that necessitates further research (Kouloukoui et al., 2019). Other researchers have been encouraged to use their conceptual model as the starting point to develop new research questions related to the influences around integrated reporting (de Villiers et al., 2017). This study's contribution will be towards bridging the literature gap and to further develop the conceptual model to broaden the understanding of the drivers and challenges of TCFD reporting by South African companies.

1.7 Organisation of this Study

Chapter 1 introduces the study and consists of an explanation of the research area and background, problem statement, the purpose and significance of the research, as well as the research question and objective, and the scope and justification of the study. Chapter 2 consists of a thorough review of the available empirical literature and includes a justification for the conceptual model and theoretical framework utilised by this study. The research methodology is discussed in Chapter 3, including the research approach and design, qualitative sampling method, data collection and analysis, and the reliability and validity of the findings. Chapter 4 presents a description of the participants, an in-depth analysis of the study's findings, and the practical and policy-related recommendations made by participants. Chapter 5 concludes with the recommendations of the study, key findings and implications, suggested policy recommendations based on the findings, as well as the avenues for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The first section of this chapter defines sustainable development and examines the history and recent developments in the field of sustainability reporting. Thereafter, the TCFD framework is described, including CROs and their financial impacts, the four pillars of the framework, the challenges of conducting a scenario analysis, the similarities between the TCFD framework and International Financial Reporting Standards (IFRS) S2, as well as voluntary and mandatory reporting requirements. Subsequently, the South African sustainability reporting and TCFD landscape is detailed to provide additional context for the study. This is followed by a discussion of a conceptual model and theories relevant to the research question. In addition, a review is provided of the empirical literature related to the drivers and challenges of TCFD and other sustainability reports. The chapter concludes with an analysis of the current gap in the literature.

2.2 Defining Sustainable Development and Sustainability Reporting

The acclaimed Brundtland Report, also known as 'Our Common Future', introduced the concept of sustainable development. This Report defines sustainable development as the ability of humanity to meet present needs "without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Global awareness of sustainability issues increased dramatically following the publication of this Report, and the concept subsequently started to influence corporate decision-making, accounting, and reporting practices. As the prominence of sustainable development grew, investors increasingly demanded access to non-financial information for investment decision-making purposes (Dienes, Sassen, & Fischer, 2016).

The demand for non-financial information led to the publication of sustainability reports, which contain information related to sustainable corporate activities. Sustainability reporting is also referred to as corporate social responsibility (CSR) reporting, non-financial reporting, and environmental, social, and governance (ESG) reporting. Climate-related disclosures are reports that communicate the impact of climate change on organisations, as well as the impact that organisations have on the climate. There are multiple terms for sustainability reporting as it is an evolving field and there is no singular definition for the concept (Zrnić, Starčević, & Crnković, 2020). However, one study is comprehensive in defining sustainability reporting as ‘the activity of measuring and disclosing a company’s sustainable development achievements to internal and external stakeholders’ (Calabrese, Costa, Ghiron, & Menichini, 2017).

The publication of sustainability reports by companies enables greater transparency and employee motivation, as well as the improvement of the organisation’s legitimacy and brand value. While sustainability reporting could lead to positive outcomes for companies and their wide range of stakeholders, it remains voluntary in most jurisdictions and is therefore primarily company-driven (Hahn & Kühnen, 2013).

2.3 History of Sustainability Reporting

Although sustainability reporting is a relatively new field of academic study, Gibassier et al. (2016) identified four main phases of the historical development of sustainability reporting from the 1960s to the 2020s.

- Phase one refers to (i) the early emergence of social and environmental information in corporate contexts. In the 1960s, prior to the release of the Brundtland Report, companies realised that societal challenges impact corporate performance and recognized the demand for information from an array of stakeholders. This led to the initial inclusion of some ESG-related information in financial reports. (ii) In the 1970s, existing financial reports were accompanied by separate social reports in some instances (Dienes et al., 2016). (iii) In the 1980s, the initial focus on social issues expanded to include environmental factors such as carbon emissions and waste (Hahn & Kühnen, 2013). (iv) Furthermore, the concept of the “triple bottom line” was introduced in 1981. This concept argues that social and environmental reporting (SER) should complement reporting on corporate financial performance (Stancheva-Todorova, 2022).
- The second phase refers to the initiation of sustainability reporting. The 1990s saw the emergence of CSR reports (Dienes et al., 2016), and an increasing recognition that social and environmental issues should be considered simultaneously. This resulted in an increasing number of companies publishing joint social and environmental reports in addition to their financial reports (Hahn & Kühnen, 2013). This decade also saw the launch of the Global Reporting Initiative (GRI), which aims to advance global sustainability reporting practices (Stancheva-Todorova, 2022).
- Phase three refers to the widespread adoption of sustainability reporting. In the 2000s, the United Nations presented the Global Compact which included a set of principles covering social and environmental issues, as well as corruption. The Global Compact’s

aim was to obtain buy-in for corporate sustainability action at senior levels within companies. In addition, the GRI published the Sustainability Reporting Guidelines in 2000, which provided sustainability report preparers with the first widely-recognised standard for sustainability reporting (Hahn & Kühnen, 2013). The Global Compact and the GRI Guidelines helped bring it to a tipping point where an increasing number of global companies started to publish separate sustainability reports (Gibassier et al., 2016).

- The fourth phase of sustainability reporting refers to recent developments centred on the reporting of material issues (Gibassier et al., 2016). This phase was initiated by the United Nations announcement of the 17 SDGs in 2015, and the TCFD was established in the same year to provide guidance on climate-related disclosures. The International Integrated Reporting Council (IIRC) was also established during this phase to further develop and expand the understanding and uptake of integrated reporting (Stancheva-Todorova, 2022). More recently, the Taskforce on Nature-related Financial Disclosures was established in 2021 to integrate nature-related risks and opportunities into decision-making procedures (Mori & Mader, 2021).

Sustainability reporting is a rapidly evolving field, as depicted by the history of the four phases described above. Recent developments led to the publication of new reporting standards that aim to standardise and consolidate the various frameworks that have emerged since the second phase of sustainability reporting history in the early 1990s.

2.3.1 Recent Sustainability Reporting Developments

As the history of sustainable reporting indicates, the growing hunger for sustainability-related information has led to the establishment of multiple reporting frameworks. However, as there is currently no universal sustainability reporting framework, reporting standards vary from one country to another (Zrnić et al., 2020), and therefore the content and quality differ greatly in various geographies (Hahn & Kühnen, 2013). Stancheva-Todorova (2022) suggests that this phenomenon has led to the fifth phase of sustainability reporting; namely, the standardisation of reporting frameworks. This phase was initiated by the launch of the Sustainability Accounting Standards Board (SASB), which aims to create sustainability disclosure standards.

More recently, efforts to standardised sustainability reporting have accelerated with the establishment of the International Sustainability Standards Board (ISSB) by the IFRS

Foundation in 2021. The ISSB's establishment is in direct response to the need for comparable investor-focused corporate sustainability reporting. In an effort to consolidate reporting frameworks, the launch of the ISSB was announced in tandem with the merger of (i) the SASB, (ii) the Climate Disclosure Standards Board, and (iii) the Value Reporting Foundation (IFRS Foundation, 2021).

The IFRS Foundation created a Technical Readiness Working Group (TRWG) to facilitate the implementation of new ISSB frameworks. Members of the TRWG, which include representatives from the TCFD, were tasked with developing two prototype standards (Littan, 2022). After a period of consultation, the final standards were released in 2023 and will become effective for reporting periods that begin on or after 1 January 2024 (IFRS Foundation, 2023a). IFRS S1, the 'General Requirements for Disclosure of Sustainability-related Financial Information' standard, provides a general oversight of sustainability-related risks and opportunities disclosures, whereas IFRS S2, the 'Climate-related Disclosure' standard, establishes the requirements for CRO disclosures (IFRS Foundation, 2023b).

2.4 The TCFD Framework

The following section introduces the TCFD framework and provides an overview of CROs, the four pillars of the framework, the similarities identified between the ISSB and TCFD frameworks, as well as the challenges of conducting scenario analysis.

2.4.1 CROs and their Financial Impacts

The TCFD was established to develop recommendations that encourage more informed capital allocation decisions through accurate climate-related risk and opportunity disclosures (JSE, 2022). The recommendations advise companies to consider two types of risks; namely, transition risks and physical risks. Transition risks include (i) policy and legal risks, (ii) technology risks such as the emergence of renewable energy, (iii) market risk such as a change in the demand for products and services, and (iv) reputational risks related to an inadequate reaction to climate change. Physical risks consist of acute risks which are event-driven such as floods, and chronic risks which are longer-term shifts such as sustained increased temperatures (FSB, 2017).

Apart from the risks mentioned above, climate change could also lead to opportunities from which well-organized companies can benefit. This includes resource efficiency opportunities, energy source opportunities; product and services opportunities (such as an improved competitive position); market opportunities (such as benefitting from green finance); and resilience opportunities through showcasing adaptive capacity (FSB, 2017).

The goal of disclosing these risks and opportunities is to gain a greater understanding of their impact on a company's long-term financial position through its statement of comprehensive income, cash flow statement, and statement of financial position. Revenues included in a statement of comprehensive income could be affected by variations in demand, while expenditures could be impacted by changing cost structures. On the statement of financial position, the value of a company's assets and liabilities can be impacted by climate change, and the ability of companies to raise new debt or refinance existing debt could affect their capital structure and financing (FSB, 2017).

2.4.2 The Four Pillars of the TCFD Framework

The TCFD report includes recommendations regarding four key pillars; namely, (i) governance, (ii) strategy, (iii) risk management, and (iv) metrics and targets.

- Governance includes the disclosure of the organisation's governance structures in relation to CROs. The TCFD recommends that organisations should describe the board's oversight role, as well as the role of management in identifying and controlling these climate issues (FSB, 2017).
- The strategy pillar encompasses the disclosure of material current and future impacts of climate change on strategy and financial planning. The TCFD recommends that organisations should describe short, medium, and long-term CROs, the impact of these risks and opportunities on their business, strategy, and financial planning in relation to climate change as well as the resilience of the organisation's strategy when considering various possible climate scenarios (FSB, 2017).
- The risk management pillar includes the disclosure of the methods that an organisation uses to identify, assess, and manage climate-related risks. The recommendation of the TCFD here is that organisations should describe which of these processes it uses as well as how these processes are incorporated into the organisation's risk management approach (FSB, 2017).
- The final pillar refers to the disclosure of the metrics and targets that an organisation uses to analyse and manage material CROs. The TCFD recommends that organisations

should disclose the metrics used, their scope 1, 2 and 3 GHG emissions, as well as their performance against climate-related targets (FSB, 2017).

2.4.3 The Challenge of Conducting Scenario Analysis

The magnitude and timing of the effects of climate change are uncertain. Scenarios can be defined as hypothetical constructs that attempt to portray a vision of the future if certain trends are realised or conditions are met (JSE, 2022). Scenario analysis can be approached using a qualitative or quantitative method, and is based on defined assumptions and constraints.

The TCFD recommends that scenario analysis should include the selection of both favourable and unfavourable scenarios. Organisations that are in the initial stages of analysis are advised to use a qualitative method and indicate the directional resilience of their strategy and financial plans. Organisations that face material exposure to risks and that have more experience in scenario analysis are advised to use a quantitative method and to disclose key assumptions and time frames (FSB, 2017).

While scenario analysis results in benefits for organisations (such as raising management's awareness of CROs, the development of robust strategic plans, and the ability to assess uncertain issues), it is often the element of the TCFD recommendations that organisations find most challenging (JSE, 2022). This is because organisations accustomed to forecasting based on averages tend to struggle with the granularity of data required for scenario analysis (O'Dwyer & Unerman, 2020).

2.4.4 The Similarities Between the TCFD Framework and IFRS S2

The reporting requirements of IFRS S2 have been intentionally designed to incorporate the four pillars of the TCFD framework and its recommendations. While there are slight discrepancies between the TCFD framework and the IFRS S2 requirements, these distinctions stem from variations in the TCFD and IFRS S2 disclosure guidance, rather than the TCFD's key recommendations. The primary difference originates from the IFRS S2 requirements, which propose the use of more detailed information or additional disclosures in some cases compared to the TCFD's recommendations (IFRS Foundation, 2022). As a result of this close alignment between the TCFD framework and IFRS S2, companies that currently publish TCFD reports are likely to be early adopters of IFRS S2 (Petersen, Herbert, & Daniels, 2022) and may encounter similar reporting drivers and challenges in South Africa.

In fact, the FSB has announced that the TCFD's mandate has been fulfilled and have requested the IFRS Foundation to assume the primary monitoring role for companies' climate-related disclosures (IFRS Foundation, 2023c). Data collection for this study took place between September and November 2022, prior to the publication of the finalised ISSB standards. Consequently, data collection was conducted within the context of the TCFD framework's recommendations. However, given that the TCFD recommendations have been fully integrated into IFRS S2, the drivers and challenges of climate-related disclosures identified in this study are equally applicable to IFRS S2.

2.4.5 Voluntary and Mandatory Reporting Requirements

In most countries, companies are not obligated by mandatory requirements to disclose climate-related risks in accordance with the TCFD recommendations. Instead, they depend on companies to make such disclosures voluntarily, surpassing the scope of regulated reporting requirements (Achenbach, 2021), as seen in the case of South Africa. However, voluntary disclosure systems could lead to a scenario where companies choose only to disclose positive factors. Some argue that this challenge of voluntary disclosure systems prevents investors from avoiding severe financial losses due to climate-related risks (Griffin & Jaffe, 2022).

The 2022 TCFD status report indicates that a growing number of countries are implementing mandatory disclosure regulations (FSB, 2022) to join the 8 countries and regions already implementing TCFD-aligned reporting requirements. These countries and regions are Brazil, the European Union, Hong Kong, Japan, New Zealand, Singapore, Switzerland, and the United Kingdom (FSB, 2021a). As more countries implement mandatory TCFD reporting requirements, the likelihood of South Africa following suit increases.

2.5 South African Sustainability Reporting and TCFD Landscape

Understanding the South African sustainability reporting context is key to successfully answer this study's research question. Therefore, the section below describes the vital role that South Africa played in developing integrated reporting, the key policymakers in South Africa and the relevant climate change policies and regulations in the country. In addition, the progress made by South African companies in relation to the four pillars of the TCFD framework is examined.

2.5.1 The Origin of Integrated Reporting in South Africa

South Africa has historically been a leader in the field of sustainability reporting, and has contributed significantly to the development of integrated reporting. The origin of integrated reporting can be traced back to the release of the first King Report on Corporate Governance in South Africa in 1994 (Rossouw et al., 2002). This report was created to strengthen the credibility of the domestic capital market, and enabled stakeholders to hold companies accountable for their performance levels. The King II report was published in 2002 which encouraged the inclusion of social, environmental, and economic factors in reporting (Rossouw, 2005).

The King III report, later published in 2009, supported the preparation of an integrated report which provides a holistic overview of a company's financial and sustainability performance. South Africa, therefore, lead the way in 2010 by becoming the first country to require listed companies to provide integrated reports on a 'comply-or-explain' basis (De Villiers et al., 2017). The King IV report that followed in 2016 adapted this approach and requires companies to apply all the principles included in the report and explain how these principles have been applied (Dumay, Bernardi, Guthrie, & La Torre, 2017).

King IV requires four good governance outcomes consisting of ethical culture, good performance, effective control, and legitimacy. The report describes 17 key principles that must be applied by organisations to substantiate claims of good governance practice. These 17 principles can be categorized into five categories comprising leadership, ethics and corporate citizenship, strategy, performance and reporting, governing structure and delegation, governance functional areas, and stakeholder relationships. These 17 principles are therefore, underpinned by the integrated thinking philosophy of King IV, which advocates for the recognition of interdependencies between diverse elements that influence an organisation's capacity to generate value over time (Institute of Directors in Southern Africa [IoDSA], 2016).

A comparative analysis of integrated reporting amongst companies from 10 countries found South Africa to have high quality of disclosures along with Germany and the Netherlands. South African companies received the highest score for all five categories, namely materiality, risks and opportunities, strategy and resource allocation, performance, and outlook (Eccles, Krzus, & Solano, 2021). Owing to the historical linkage to the origins of integrated reporting and its continuous high quality of disclosure, South Africa is, therefore, an appropriate environment for studies on climate-related disclosures.

2.5.2 Policy and Regulation

Climate change is one of the core aspects of sustainability reporting. South Africa's climate change efforts are led by the Department of Environmental, Forestry and Fisheries, which oversaw the development of the National Climate Change Response White Paper and Strategy in 2011 (Cassim, Radmore, Dinham, & McCallum, 2021). This strategy sets out the country's response to climate change and has identified opportunities where the process of adaptation could assist national development goals (National Treasury, 2021).

In addition to this white paper, the decade of the 2010s saw various environmental policy and regulatory developments. In 2011, regulation 28 of the Pension Fund Act was amended to necessitate consideration of ESG factors when making pension fund investment decisions. In 2016, the country formally ratified the Paris Agreement on Climate Change and set initial targets for its NDCs. The Carbon Tax Act which came into effect in 2019 requires large emitters to report their GHG emissions and pay a tax accordingly. Shortly afterwards, regulations were amended to allow taxpayers to purchase carbon offsets (JSE, 2022; National Treasury, 2021).

The early years of the 2020s to date has seen a rapid development of climate change policies and regulations. In 2020, the Presidential Climate Commission was established to provide independent guidance on realising a climate resilient economy. This was followed by the 2021 'Financing a Sustainable Economy' report published by National Treasury that identified barriers to sustainable finance and gaps in the country's regulatory framework. In the same year, the National Climate Change Bill, which aims to coordinate the country's climate change response, was introduced to parliament. The submission of updated and more ambitious NDCs in 2021 stipulated that the country's emissions must decline from 2025 onwards (JSE, 2022; National Treasury, 2021). In 2022, another milestone was achieved with the publication of the South Africa Green Finance Taxonomy, which supports the identification of green investments (National Treasury, 2022).

Although the policy and regulatory space has developed substantially over recent years, the lack of a comprehensive national policy on achieving a climate-resilient economy and financial system has been identified as a barrier to the growth of green finance in South Africa. Therefore, industry remains the driving force of sustainable finance through its voluntary initiatives (National Treasury, 2021). In addition, while National Treasury has endorsed the incorporation of the TCFD recommendations, companies are not required to disclose CROs by law. Furthermore, the JSE's listing requirements do not oblige listed companies to adhere to the TCFD recommendations. However, the JSE published a climate change disclosure guidance in 2021 which advised companies in all sectors to follow a three-stage cyclical approach to disclosures which involves identifying current disclosure practices, integrating CROs, and lastly disclosing climate-related data and practices (JSE, 2022).

2.5.3 Progress on the TCFD Recommendations by South African Companies

In 2021, Atleha-edu conducted a United Kingdom Partnering for Accelerated Climate Transitions funded study to analyse South Africa's TCFD progress in comparison to international best practice. The study considered the disclosures of the 55 largest JSE-listed companies by market capitalisation in comparison to the TCFD recommendations. The study found that while 47% of companies analysed had either reported, or intended to report, in line with the TCFD recommendations, 53% of companies had made no progress on reporting in line with the TCFD recommendations (Atleha-edu, 2021).

Considering the four pillars of the TCFD framework, the companies that had disclosed in line with the TCFD recommendations performed best in relation to (i) the 'governance' pillar with a disclosure rate of close to 80%. Nearly all companies reported that there was board-level oversight of CROs, and most companies had disclosed their management's responsibility in the management of these risks as well as the incentives offered for performance against climate-related targets. (ii) Disclosure under the 'strategy' pillar was slightly weaker with a disclosure rate of only 62%. Encouragingly, most companies reported that they identified CROs and assessed how these had altered their strategy. As expected, the companies performed weakest on the scenario analysis recommendation due to its complexity and advanced skills requirement. Less than a third of companies had analysed future scenarios under different levels of climate change. (iv) However, companies generally performed well in relation to the 'risk management' pillar as most companies disclosed their methods for identifying, assessing, and managing climate-related risks, as well as how these were integrated into their overall risk management strategy and practices. (v) Lastly, companies performed relatively well in relation to the 'metrics and targets' pillar. Nearly all companies disclosed their scope 1, 2, and 3 emissions where relevant, while most companies had set targets related to climate risks (Atleha-edu, 2021).

Another study conducted by the WWF, which included stakeholder engagements with TCFD report preparers, resulted in slightly different findings. In line with the findings of Atleha-edu (2021), this study found that companies identified governance and strategy as the least challenging pillars with which to comply due to their qualitative nature. In contrast to the Atleha-edu study, the WWF found that report prepares identified risk management and metrics and targets as the more challenging pillars for compliance due to their quantitative nature. The report preparers particularly recognised the challenges in creating climate-related key performance indicators, as well as the difficulty in conducting scenario analysis due to the number of assumptions required (WWF, 2021b).

2.6 Conceptual Model

To assess the research question, this study uses the conceptual model of influences around integrated reporting developed by de Villiers et al. (2017). The section below describes (i) the linkages between integrated reporting and the TCFD recommendations; (ii) the elements of the conceptual model; (iii) the direction of causal effects, and (iv) examines how the conceptual model was adapted to TCFD reporting by Achenbach (2021).

2.6.1 The Linkages Between Integrated Reporting and the TCFD Recommendations

The IIRC is a global coalition that aims to mainstream integrated thinking and reporting within business practice. There are some practitioners that argue that the IIRC's International Integrated Reporting (<IR>) Framework and the TCFD recommendations "speak the same language" (van der Lugt, 2017). This is due to the linkages between the disclosures recommended by the TCFD and how these feed into the requirements of integrated reporting. In instances where climate change is judged to be of significant relevance to a company, the <IR> Framework can be used to meet many of the TCFD's governance, strategy, and risk management disclosure requirements (Corporate Reporting Dialogue, 2019).

Other researchers have opposed the notion of similarity between integrated reporting and the TCFD framework; there is agreement that both approaches share a common investor audience, but the aims and focus of the two approaches are debated. O'Dwyer and Unerman (2020) argue that integrated reporting focuses on the impacts of sustainability, while the TCFD framework focuses on sustainability dependencies. The authors suggest that the TCFD focus is more valuable to financial stakeholders whose needs are related to the risks created by these sustainability dependencies. Despite this, however, there is a recognition that the research conducted in the field of integrated reporting could inform studies related to climate-related disclosures in the context of the TCFD framework.

2.6.2 Influences on Integrated Reporting

The conceptual model developed by de Villiers et al. (2017) identifies the determinants of integrated reporting and their consequences. The model (i) includes the determinants of integrated reporting that are organisational features and those that are external factors, (ii) recognizes the influence of the IIRC; (iii) indicates the processes followed by report preparers and report users, and (iv) identifies the potential consequences of integrated reporting. The conceptual model has been developed to be general in nature, and follows accounting research precedents by focussing on the determinants of decisions and their resulting consequences.

The authors also recognise that integrated reporting is a developing field of research, and that the model will evolve as new empirical evidence is found. The conceptual model provides an effective lens through which the various determinants of integrated reporting can be analysed, and can be used to develop new research questions to present additional empirical evidence (De Villiers et al., 2017).

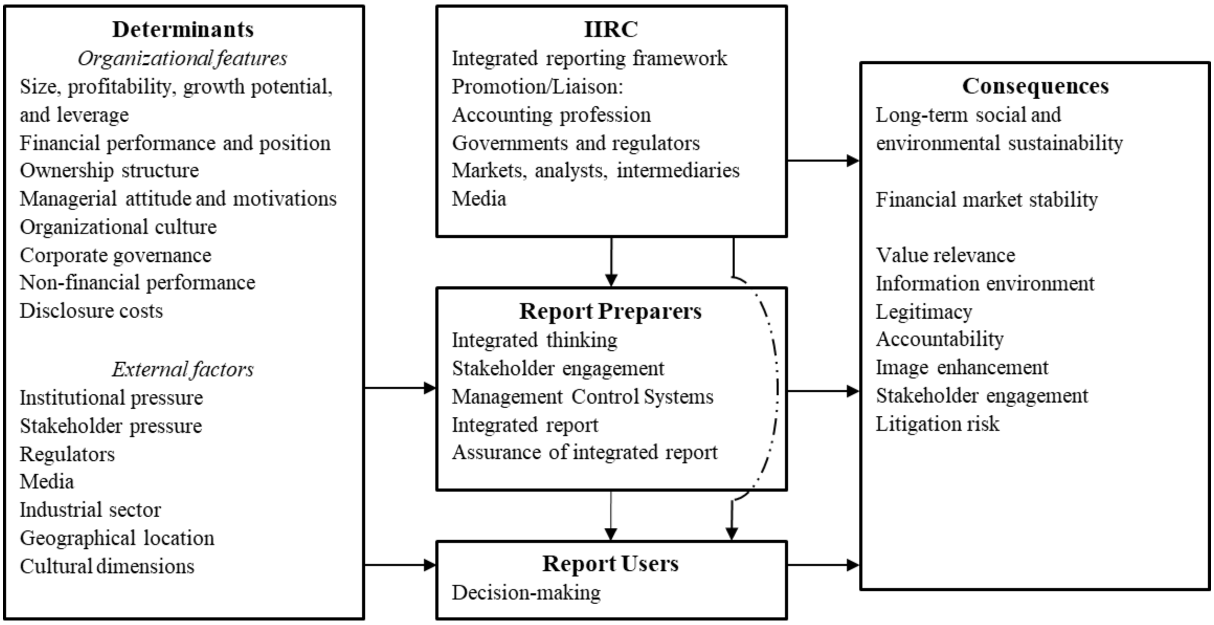

Figure 1: Conceptual model of influences around integrated reporting (De Villiers et al., 2017)

2.6.3 The Sections of the Model and the Direction of Causal Effects

The arrows in Figure 1 above indicate the flow of causal effects. These effects are reversible in some instances (such as the ability of report users to affect report preparers), and are therefore bi-directional. Furthermore, the concepts within a category can be influenced by one another, such as the potential for integrated thinking that results in greater stakeholder engagement within the report preparers category (De Villiers et al., 2017).

The conceptual model splits determinants into two distinct categories. Organisational features consist of determinants such as managerial motivations that include the potential of an improved reputation, as well as deterrents such as the cost of reporting. It also includes variables that can impact the decision to publish an integrated report such as size, profitability, growth potential, and leverage. On the other hand, external factors include common themes studied in integrated reporting literature such as the pressure that institutions and other stakeholders apply on report preparers to publish integrated reports. In addition, cultural dimensions such as societal and legal expectations can influence report preparers (De Villiers et al., 2017). The direction of the arrows flowing from the determinants section indicates that this category has a causal effect on report preparers and report users.

The IIRC section examines the activities undertaken by the IIRC to endorse and institutionalise integrated reporting. This includes the integrated reporting framework and promotion activities. The arrows flowing from the IIRC section indicate that this category affects report preparers, report users, as well as the consequences of integrated reporting.

The report preparers and report users sections describe internal processes related to integrated reporting. The literature indicates that report prepares tend to improve internal communications as blockages between teams are eased once integrated reporting is implemented (De Villiers et al., 2017). Report users, on the other hand, make use of published integrated reports for decision-making purposes. While report preparers have a causal effect on report users, both report prepares and users affect the consequences of integrated reporting.

The suggestion is that the consequences of integrated reporting result in organisations achieving legitimacy as well as long-term social and environmental sustainability which attracts a greater number of investors. In addition, litigation risk is noted as a potential consequence of integrated reporting (De Villiers et al., 2017). The direction of the arrows in the model suggest that the consequences of integrated reporting are affected threefold: by the IIRC, report prepares, and report users.

2.6.4 Applying the Conceptual Model to TCFD Reporting

The King IV Report on Corporate Governance advocates for report preparers to publish integrated reports that offer insight into a company's financial as well as its sustainability performance (IoDSA, 2016). This integration of financial and environmental factors in a reporting context can be likened to the four pillars of the TCFD framework. A clear linkage can therefore be made between the conceptual model of influences around integrated reporting and TCFD reporting.

Achenbach (2021) explored this linkage by adapting the conceptual model to study the determinants influencing TCFD reporting. The author revised a selection of factors in the determinants, IIRC, report preparers and consequences sections with the aim of aligning the adapted conceptual model to the TCFD framework.

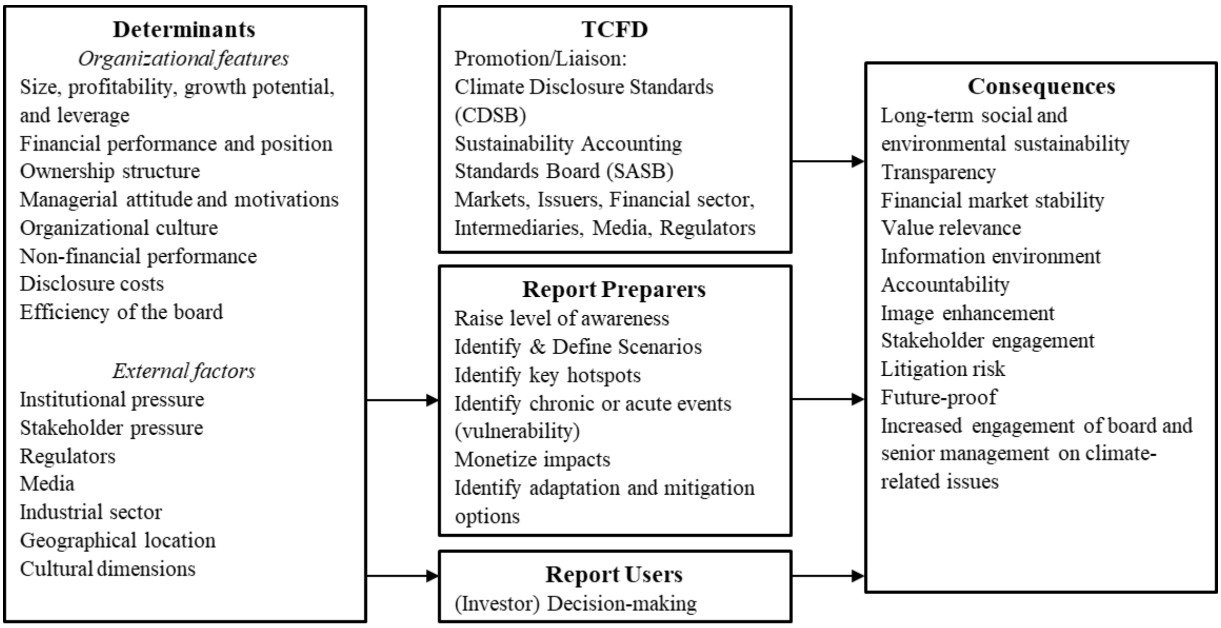

Figure 2: Conceptual model on TCFD reporting (Achenbach, 2021)

The adapted conceptual model on TCFD reporting eliminates corporate governance as an organisational feature within the determinants section, while including the efficiency of the board as an additional organisational feature. The IIRC section in the original conceptual model has been adapted to showcase the promotion and liaison activities undertaken by climate-related reporting industry bodies and other market actors to encourage the adoption of the TCFD framework. The report preparers section has been modified to provide an outline of the steps involved in preparing a TCFD-aligned report, while the report users section has remained unchanged. Finally, the consequences section has been adapted to contain the additional elements of transparency, future-proof, and increased engagement on climate-related issues. The author removed ‘legitimacy’ as a consequence of TCFD-aligned reporting, albeit without a motivation to explain the reasoning for this absence in the adapted model.

2.6.5 Using the Conceptual Model to Examine Drivers and Challenges

Both the conceptual model developed by de Villiers et al. (2017) as well as the adapted model by Achenbach (2021) consider the determinants of integrated reporting and TCFD reporting. In this context, determinants refer to the factors that influence an organisation to report in line with the respective frameworks. This study adapts this perspective by separating determinants into the drivers and challenges of TCFD reporting, which results in a more granular level of analysis in that it (i) enables the identification of factors that motivate companies to publish TCFD reports, (ii) as well as factors that limit a company’s ability to do so. Using a more granular level of analysis also allows this study to provide recommendations that would leverage the drivers and reduce the challenges of reporting, which then results in a greater uptake of TCFD reporting in South Africa.

2.7 Theoretical Framework

A theoretical framework can be described as a set of related concepts developed from theory that is used to conduct a study (Varpio, Paradis, Uijtdehaage, & Young, 2020). This study answers the research question through the lens of the legitimacy and stakeholder theories. The legitimacy theory suggests that companies strive to achieve legitimacy as they are dependent on support from society to continue operating (Suchman, 1995), while the stakeholder theory suggests that balancing the demands of a wide range of stakeholders is a key objective of companies (Ansoff, 1965). The overlapping nature of the legitimacy and stakeholder theories, therefore, enables the development of a theoretical framework that is used to analyse the drivers and challenges of TCFD reporting in South Africa.

2.7.1 The Legitimacy Theory

Suchman (1995) defines legitimacy as a widespread assumption that an organisation’s actions are acceptable within a socially constructed system of values and beliefs. This assumption is developed through the history of an organisation’s actions, and is therefore resilient to specific events. As legitimacy is socially constructed, it can be understood as a social agreement between a company and its stakeholders in a corporate context (Dube & Maroun, 2017).

The need for legitimacy exists due to a company's dependence on a social agreement to conduct its operations in a society. As companies are embedded within society, their existence and continued growth depends on the general acceptance and support (that includes the supply of resources and labour) that they receive from society (Alrazi, De Villiers, & Van Staden, 2015; Shocker & Sethi, 1973). Suchman (1995) further argues that legitimacy improves the stability of companies by ensuring a consistent supply of resources, as well as the comprehensibility of activities as society advances their understanding of companies and therefore perceive legitimate companies as more trustworthy.

Consequently, if organisations act outside of the boundaries of this agreement, society could retract the organisation's right to operate. An organisation's continuation depends on having their operations perceived as legitimate by meeting society's expectations. Therefore, the legitimacy theory supports the notion that organisations could be driven to publish climate-related disclosures to establish its legitimacy within society (Kouloukoui et al., 2019).

There are two distinct approaches to legitimacy. The strategic approach describes legitimacy as an operational tactic that companies can leverage from their cultural environment to pursue their goals. The institutional approach differs in that external organisations are seen to affect a company's operations and how it is culturally defined and evaluated. This latter approach highlights the collective structure of entire sectors and industries (Suchman, 1995).

Suchman (1995) further expands the theory of legitimacy by identifying three different types of legitimacy: (i) pragmatic legitimacy is based on the self-interests of a company's closest stakeholders, while (ii) moral legitimacy is based on the evaluation of an activity's ethical nature, and (iii) cognitive legitimacy is a passive acceptance of a company where its existence is taken for granted by the public.

A clear distinction exists between legitimacy and legitimising. The former is a status that occurs when a company's actions are in line with society's expectations, while the latter is the process aimed at obtaining legitimacy (Alrazi et al., 2015). Gaining legitimacy involves the company winning the general acceptance of the public, or receiving support when undertaking unique activities with few precedents. Once legitimacy has been obtained, maintaining this status is a comparatively modest task as a company's legitimacy is taken for granted. However, when a crisis occurs that damages a company's reputation, repairing legitimacy is a challenging task that requires a reactive response to unexpected circumstances (Suchman, 1995).

A legitimacy gap exists in scenarios where the actions of a company do not align with the expectations of society. This may be caused by a divergence in a company's performance or by shifting public expectations, or a combination of the two. Once a legitimacy gap exists, a company faces the prospects of societal sanctions such as judicial action, product boycotts, and difficulties accessing labour (Deegan, 2002).

Bansal and Clelland (2004) further developed the theory of legitimacy by adding an environmental element which states that environmental legitimacy is the widespread assumption that an organisation's environmental actions are acceptable. These non-financial factors in relation to a company's actions in environmental and social issues are becoming increasingly vital to society (Dube & Maroun, 2017). Subsequently, effective communication is needed for companies to showcase their performance on these issues. Disclosure in public reports, such as those recommended by the TCFD framework, provide companies with an ideal platform to communicate their environmental performance (Deegan, 2002) and gain environmental legitimacy.

2.7.2 The Stakeholder Theory

The stakeholder theory was first referenced by Ansoff (1965), who proposed that maintaining a state of equilibrium between the diverse requirements of various stakeholders is a major objective of companies. A stakeholder is defined as an actor that affects, or is affected by the pursuit of a company's objectives and they consist of shareholders, personnel, clients, suppliers, public interest groups and state institutions (Roberts, 1992). Therefore, the stakeholder theory expands a company's point of view to consider the demands of a range of stakeholders, and not solely the demands of their shareholders (An, Davey, & Eggleton, 2011).

Freeman (2010) suggests that a key responsibility of companies' leadership teams is to analyse the value of complying with stakeholder demands to attain strategic objectives. Since the pressure that each stakeholder applies on a company differs, there is potential for conflicting demands from various stakeholders. As a stakeholder's power increases relative to a company, so does the importance of meeting each stakeholder's demands.

Roberts (1992) notes that the stakeholder theory can also be used as a basis to study the impact of stakeholder power on the level of company disclosures. Therefore, the theory provides a valuable lens to examine the influence of various stakeholders on TCFD reporting alongside the legitimacy theory to answer this study's research question.

2.7.3 The Overlapping Nature of the Legitimacy and Stakeholder Theories

Both the legitimacy and stakeholder theories are prominent in the field of environmental accounting research and should be seen as overlapping rather than competing theories due to their shared ontological perspective which sees reality as continually developed, replicated, and reorientated. In addition, both theories are system-oriented and explain the bi-directional influences between organisations and the society in which they are embedded (Chen & Roberts, 2010).

Chen and Roberts (2010) further expand on the appropriate use of these theories by proposing which types of social and environmental studies are applicable. These authors argue that the legitimacy theory is applicable to studies that focus on the methods that companies use to manage their image when societal expectation is implicit and the target audience is not identified, such as voluntary environmental disclosures. The stakeholder theory, however, is applicable to studies that focus on the unanticipated activities undertaken by companies, such as voluntary actions that benefit the environment without explicit self-promotion. Therefore, both theories are applicable to this study due to the voluntary nature of TCFD reporting in South Africa.

2.8 Empirical Literature on the Drivers and Challenges of Reporting

The Paris Agreement has brought increased pressure on companies to collect and report on climate change mitigation activities related to each country's NDCs. Consequently, the disclosure of CROs has become a prominent area of corporate strategic risk management (Foerster, Peel, Osofsky, & Mcdonnell, 2017). There are, however, only few studies on the drivers and challenges of TCFD reporting but understanding the importance of climate-related disclosures is growing since the publication of the recommendations in 2017. The scope of analysis in the following review includes studies conducted on the drivers and challenges of related sustainability reports.

2.8.1 The Drivers and Challenges of TCFD Reporting

Achenbach's (2021) cross-sectional exploratory study using a mixed methods approach determined the factors influencing the disclosure of CROs in line with the TCFD framework. The study encompassed publicly listed companies in six countries across various sectors to identify ten key determinants that can be driven by intrinsic and extrinsic motivation, as well as corporate characteristics. The three intrinsic factors identified are (i) strategic adaption, (ii) opportunity recognition, and (iii) the desire to engage more with stakeholders. The five extrinsic factors identified are (i) investor decision-making, (ii) policy and regulatory reforms, (iii) litigation risks, (iv) alignment with sustainability benchmarks, and (v) the availability of data. The two corporate characteristics identified are (i) the complexity of the organisation's supply chain and (ii) the availability of financial and human resources. A notable output of this study is the adapted conceptual model on TCFD reporting as discussed above.

Eccles and Krzus (2018) considered the drivers and challenges that would affect companies' ability to align with the TCFD recommendations. They identified pressure from investors to obtain CRO related information, a lack of desire from investors to invest in companies that do not align with the TCFD recommendations, the self-interest of companies to develop strategies to adapt to the risks and opportunities of climate change, and the likelihood of regulations that require mandatory TCFD reporting as factors that drive companies to align with the TCFD recommendations. They further found that companies expressed litigation risk as a challenge of TCFD disclosures, as companies feared that the information provided for scenario analyses could be incorrectly understood as a forecast that could lead to legal action by investors if the analyses prove to be inaccurate. This finding supports the extrinsic factor identified by Achenbach (2021).

In a thesis focussing on TCFD reporting by Finnish companies, Dyakova (2021) studied the challenges of TCFD reporting as well as the factors that drive companies to voluntarily comply with the TCFD recommendations. The findings suggest that companies publish TCFD reports in a bid to secure legitimacy. Stakeholder pressure is identified as the primary factor driving TCFD reporting, but the confidentiality of information disclosed and the absence of trustworthy data were also identified as significant challenges to TCFD reporting.

A WWF (2021) report describes the rising importance of the TCFD framework for companies and investors based in South Africa. The research with South African companies and investors identifies client demand and risk management as the core drivers of the adoption of the TCFD framework in the country while stakeholder pressure is identified as a key driver of disclosures in support of findings of numerous other studies that highlight the importance of this driver (Achenbach, 2021; Dyakova, 2021; Eccles & Krzus, 2018; Spence, 2007). Although these three factors above (client demand, risk management, and stakeholder pressure) are identified as the core drivers of TCFD reporting, the report notes that drivers vary across sectors and the location of operations.

The study conducted by DNA Economics (2021) to assess progress on the state of TCFD reporting in South Africa also examined the public and private sector drivers and challenges. Public sector drivers include policies such as (i) South Africa’s Low Emissions Development Strategy 2050 which argues that the TCFD recommendations should be implemented in the country, and includes (ii) Regulation 28 of the Pension Funds Act which stipulates that trustees must consider ESG issues when making investments. Private sector drivers include, (i) industry associations which have made public commitments to support the TCFD such as the South African Institute of Chartered Accountants; and (ii) civil society members or organisations such as activist shareholders which apply pressure on companies to publish TCFD reporting. However, while this study did not identify client demand as a key driver in South Africa, in contrast to the findings of the WWF (2021), the research also identified several challenges that limit the uptake of TCFD reporting in the country. These challenges include (i) a lack of understanding of the material impact of CROs; (ii) the absence of standardised methodologies and metrics used to conduct scenario analysis; (iii) the availability of data; (iv) experiencing reporting fatigue due to the large number of reporting frameworks, and (v) a shortage of resources and skills at smaller companies.

An earlier study analysing the CRO reporting practices by insurance companies and pension schemes in the United Kingdom (Klumpes, Acharyya, Kakar, & Sturgess, 2019) revealed the prominent financial risk and organisational characteristics that were most closely related to the level of reporting aligned with the four pillars of the TCFD framework. The findings were that insurance companies are motivated to disclose information in a bid to manage reputation risk, while pension schemes are motivated by the goal of decreasing information asymmetry.

Bingler et al. (2022) used a deep neural language model to study the disclosures of TCFD-aligned companies in various sectors and regions. Their findings suggest that companies that publicly announced their support for the TCFD framework did not result in those companies increasing their rate of disclosure, but rather caused them to restructure information that they had previously reported to align with the TCFD recommendations. In addition, they found that companies tend to disclose information on non-material categories such as strategy as well as metrics and targets. This study then questions the strength of voluntary TCFD reporting as a mechanism to advance climate-related disclosures, and uses France as an example to showcase how mandatory climate-related disclosure regulations can increase the overall rate of disclosures.

2.8.2 The Drivers and Challenges of Other Sustainability Reports

In the South African context, Dube and Maroun (2017) studied the impact of one driver; namely, the change in the frequency of CSR disclosures by mining companies following the lethal results of the labour strike at Marikana in 2012. The findings show mixed results, with some companies increasing their rate of disclosures while others decreased their rate of disclosures after the strike. Overall, however, the industry increased their frequency of CSR disclosures. The mining company that employed the workers present at the incident increased their frequency of CSR disclosures soon afterwards. These findings are in line with the legitimacy theory, which proposes that companies will react to significant events by disclosing additional information to the public to maintain or repair their legitimacy.

Spence (2007) studied the factors that motivate companies to disclose information through SER by interviewing report preparers and found that the overarching motivation was related to the concept of the business case, where decisions are made from a commercial perspective. Socio-environmental factors were not considered important by the study's participants, and in cases where these factors were mentioned, they were linked back to the business case perspective. The study identified several business case factors that motivated companies to disclose such information. Firstly, strategic considerations such as the desire to be transparent featured as a motivator. Secondly, companies were also motivated to manage their reputation with the responsible investment community, which supports the finding that insurance companies in the UK disclose information to manage reputation risk (Klumpes et al., 2019). Thirdly, the pressure from stakeholders also motivated companies to disclose information; and finally, isomorphic pressure to replicate the actions of competitors was identified as another motivating factor of SER.

Haque et al.'s (2016) survey and interviews with climate change managers in Australia identified the challenges that hinder the disclosure of climate-related corporate governance information. The study acknowledged the cost-benefit perspective as a material consideration for companies, similar to the business case perspective suggested by Spence (2007). The perspective included the (i) cost of data collection and dissemination; (ii) the impact of disclosure on a company's competitive advantage; and (iii) the potential for disclosures to be misinterpreted and damaging to the company's reputation as barriers to disclosure. The second perspective relates to the concept of accountability, with some interviewees suggesting that the primary concern of a company is maximising commercial returns, and disclosing sensitive information could harm a company's profitability. The third perception is the lack of demand for disclosures from influential stakeholders such as investors and government. Lastly, the study identified the desire to limit the length of annual reports as an information overload for report users, and a scepticism for using reports as a channel for communicating climate-related disclosures as challenges that prevent companies from publishing information.

An earlier study focussing on companies in the United Kingdom by Okereke (2007) examined the motivations, drivers, and barriers to carbon management. The author identified five motivations, five drivers, and three barriers that influence carbon management. The author defines motivations as factors that arise out of a company's goal to maximise profit. The first key motivation identified is (i) the business case of carbon management, which aligns with the findings of Spence (2007) and Haque et al. (2016) (ii) a second motivator is identified as the competition for credibility amongst companies, which can be linked to the goal of achieving legitimacy. Other motivations include (iii) the 'fiduciary obligation' arising out of climate change; (iv) the risk of inaction; and (v) ethical factors. Drivers are defined as factors that can force companies to take climate action such as (i) changes in energy prices; (ii) shifting market demand; (iii) policy and regulation; (iv) pressure applied by investors; and (v) rapidly changing technology. Lastly, the author identifies barriers to carbon management in (i) the absence of a robust policy framework; (ii) uncertainty about the government's climate change strategy; and (iii) uncertainty regarding the market response in the United Kingdom.

A recent study reviewed the climate risk disclosure practices of Australian companies to identify the determinants that impact the rate of disclosure. Findings suggest that uncertainties in the Australian regulatory framework have created a barrier to climate risk disclosures. This finding is closely aligned with the policy framework barrier to carbon management identified by Okereke (2007). The study further suggests that the nature of annual financial reports leaves little room for the discussion of CROs which span over a longer timeframe than traditional reporting frameworks entail (Foerster et al., 2017).

Reyers et al. (2011) explored the drivers of corporate climate change mitigation investments in South Africa. While this study does not focus on corporate disclosures, the findings indicate that the drivers of climate change mitigation investments are closely tied to the drivers of environmental disclosures. The authors identified the goal of (i) achieving legitimacy; (ii) the business case; and (iii) moral responsibility as key motivational drivers which closely align with the motivations of carbon accounting in the United Kingdom as identified by Okereke (2007). Furthermore, the study identified a range of sub-drivers of climate change mitigation investments within each key motivational driver. Those (i) in legitimacy include stakeholder pressure, regulation, and reputation; (ii) those sub-drivers related to the business case include cost savings, managing risks, and competitiveness. (iii) Finally, the sub-drivers related to moral responsibility include values, culture, and the role of the company in society.

Gasbarro et al., (2017) conducted a quantitative analysis to understand the drivers of multinational companies' climate change strategies based on risks and opportunities identified in previous studies. The analysis is based on data collected from nearly 1 900 companies for the Carbon Disclosure Project's 2015 climate survey. The study findings are that (i) physical risks pose a threat to business continuity; (ii) that market change drivers are affected by the demand for new goods and service; (iii) that reputational drivers are related to market valuation variations, and (iv) that regulatory drivers are related to variations in operating costs and investment opportunities.

Kouloukoui et al., (2019) similarly used a quantitative approach to complete a content analysis of the sustainability reports of 67 Brazilian Stock Exchange-listed companies to understand the factors influencing climate risk disclosure. Firstly, the study's findings show the level of climate-related disclosures amongst Brazilian companies remains low. Secondly, the results indicate that firm size, financial performance, and country of origin have significant positive correlation with the level of climate-related disclosures. Lastly, a company's level of indebtedness was found to have a negative correlation with the level of climate-related disclosures.

Giannarakis et al.'s (2016) survey of 92 multinational companies to identify the determinants of environmental disclosures, however, considered four variables; namely, (i) country risk, (ii) analyst stock recommendations, (iii) firm value, and (iv) environmental performance. Country risk is the ability of a country to fulfil its capital payment requirements and serves as a proxy for political stability. Country risk was found to increase the level of environmental disclosures beyond regulatory requirements. This study also found that companies that received low ratings from stock analysts tended to increase their disclosure of environmental information in a bid to increase their rating. Furthermore, firm value was found to have no effect on the level of environmental disclosures. This is in stark contrast to the findings of Kouloukoui et al., (2019) that suggest that firm size and financial performance are positively correlated to the level of disclosure. Lastly, companies that undertook actions to improve their environmental performance were found to be more likely to disclose environmental information as a strategy to differentiate themselves from competitors. The finding in relation to environmental performance therefore contradicts the legitimacy theory, which supposes an inverse relationship between performance and disclosure as companies are wary of pressure from stakeholders.

2.8.3 Literature Gap

Despite the clear need for research in this field, the TCFD recommendations have yet to be comprehensively explored within the financial literature (O'Dwyer & Unerman, 2020). More specifically, academics have identified a gap in the literature in relation to climate-related disclosures in emerging market countries (Kouloukoui et al., 2019). Based on this literature review, South Africa is an example of an emerging market country with a dearth of research in this field. While there is some understanding of the progress that companies in South Africa have made with TCFD reporting (DNA Economics, 2021; WWF, 2021b), the drivers and challenges influencing report preparers is yet to be explored. However, it is of note that in a review of TCFD-related studies published worldwide, Ngo et al. (2022) found a gap in the literature related to the drivers and challenges of TCFD reporting. This indicates that the lack of understanding of the drivers and challenges of TCFD reporting is not specific to South Africa. Lastly, the lack of research on the difference between the drivers and challenges in voluntary reporting markets in comparison with mandatory TCFD reporting markets needs to be bridged. This study therefore aims to bridge some of these identified gaps by focussing on the drivers and challenges of TCFD reporting in South Africa and using the conceptual model of influences around integrated reporting as the foundation for the thematic analysis.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This section outlines the research methodology used to conduct this study. Firstly, the research approach is discussed, including the philosophical assumptions that provide a basis for this study. Secondly, the research design is described including the population analysed, as well as the sampling, data collection, and data analysis methods used to conduct the study. The chapter concludes with a description of the approach used to ensure the trustworthiness of findings.

3.2 Research Approach

This study was undertaken using a qualitative research approach. Qualitative research aims to understand the meaning that social actors have constructed (Merriam & Tisdell, 2016). This approach enables the researcher to explore the drivers and challenges that influence the uptake of the TCFD recommendations in South Africa through the subjective opinions and experiences of report preparers.

A constructivist philosophical worldview assumes that phenomena are continuously created through interactions between individuals and collectives (Creswell, 2014). This study, therefore, aims to explore the subjective experiences of report preparers that have interacted with the TCFD framework by collating relevant information for reporting purposes. It assumes that there are multiple realities experienced by report preparers from companies operating in various sectors. As such, this study is undertaken using a constructivist philosophical assumption (Bryman et al., 2017).

A phenomenology research design explores how a phenomenon is experienced by groups or individuals (Leacock, Warrican, & Rose, 2009). As such, it focuses on understanding the phenomena as described by the participants that are involved (Groenewald, 2004). The descriptions of multiple individuals are then collated and lead to a greater understanding of the key nature of the phenomenon (Creswell, 2014). The objective of this study, therefore, is to gather data from the perspective of report preparers regarding the phenomenon of the drivers and challenges of TCFD reporting in South Africa to expand the understanding of this topic. Therefore, a phenomenological research design is most appropriate for this study.

An exploratory study involves preliminary research on a topic which has not been extensively studied before. This enables researchers to lay out the themes and methods for further analysis of the topic (Bryman et al., 2017). As few previous studies exist on the drivers and challenges of TCFD reporting in South Africa, this study can be classified as exploratory in nature. The findings of this study should establish a baseline understanding of this phenomenon in the South African context, which allows other researchers to replicate this research approach for similar studies and further expand the body of knowledge of this topic.

3.3 Research Design

The sub-section below details the unit of analysis used for this study, the method used to determine an appropriate sample size, as well as the type of sampling used to select the study participants.

3.3.1 Population and Sampling

The unit of analysis is companies, as the research studies the drivers and challenges of TCFD reporting by South African companies. South African companies aligned with TCFD recommendations are, therefore, best placed to provide data relevant to the research questions. Therefore, the potential sample population consists of South African companies that have published reports aligned with the TCFD recommendations. At the time of writing, the TCFD website lists 37 South African companies as supporters of the TCFD recommendations (FSB, 2023).

One method of determining sample size is the rule of thumb, which is based on research methodology considerations and knowledge gained from previous studies in similar fields (Sim, Saunders, Waterfield, & Kingstone, 2018). A clear pattern emerges when examining sample size recommendations from previously conducted phenomenology studies. Dukes (1984) recommended a sample size of between 3 and 10 participants, Morse (1994) suggests at least 6 participants, and Ray (1994) proposes that phenomenological studies usually include between 8 and 12 participants.

Another study proposes that a sample size should be constructed by determining at which point other similar studies reached saturation (Onwuegbuzie & Leech, 2007). On other similar studies conducted on the drivers and challenges of TCFD reporting, Dyakova (2021) interviewed 10 company representatives and Achenbach (2021) conducted 8 interviews.

Using the rule of thumb method to consider sample sizes of other phenomenological studies and studies conducted on the drivers and challenges of TCFD reporting, this study aimed to collect data until a point of saturation was reached. The point of saturation was reached after conducting semi-structured interviews with 7 highly knowledgeable and experienced participants.

This study made use of purposive and snowball sampling techniques. Purposive sampling involves strategically sampling research participants to identify those most relevant to the research question (Bryman et al., 2017). Purposive sampling is the most relevant to this study's small group of potential research participants with sufficient knowledge of the research question, and they needed to be strategically approached to request their participation. As this is a non-probability form of sampling, findings cannot be generalised to populations.

Snowball sampling is the selection of new participants connected to existing participants. This type of sampling is acceptable if the selection of connected participants is purposeful and not undertaken due to convenience (Yin, 2011). There is a high likelihood that sustainability and environmental practitioners in South Africa are connected to employees at other companies with similar roles due to their professional experience or attending related industry events. Therefore, snowball sampling was used to expand the sample size by requesting study participants to introduce the researcher to other relevant practitioners in similar roles.

3.4 Data Collection

Primary and secondary data was collected for this study. The sub-section below describes the types of primary and secondary data collected, as well as the framework used to develop the data collection instrument.

3.4.1 Primary Data Collection

Primary data is new data that the researcher collects specifically for a study, while secondary data has been collected by someone other than the researcher (Farquhar, 2012). While some secondary data is available in public reports such as companies' annual sustainability reports, further information regarding the specific drivers and challenges of TCFD reporting in South Africa is lacking. This study therefore requires primary data in addition to secondary data.

Primary data consists of semi-structured interviews with TCFD report preparers in South Africa. Senior staff members such as climate risk and sustainability managers were targeted for data collection due to their relevant knowledge and experience. Semi-structured interviews follow an overall guide with a list of topics relevant to the research objectives, while also enabling the researcher to adapt to the context and be flexible with their approach to interviewees' responses (Farquhar, 2012). This approach allowed the researcher to structure the interview in relation to the drivers and challenges of TCFD reporting, while the interviewees had the freedom to express their subjective opinions.

3.4.2 Data Collection Instrument Development

The interview protocol refinement (IPR) framework was used to develop the interview structure for this study. The IPR framework developed by Castillo-Montoya (2016) consists of four phases that assisted the researcher to systemically create and refine the structure and content of interviews. This framework enabled the development of robust interview procedures that improved the quality of data collected and increased the understanding of the participant's perspective of past experiences (Rubin & Rubin, 2012). The four phases of the IPR framework supported systematic development of the data collection instrument that participants easily understood and that was aligned to the research objectives of this study (Jones, Torres, & Arminio, 2013).

The first phase of the IPR framework ensured that the questions asked in the interview were aligned with the study's research objective. This phase assisted the researcher to validate the purpose of each question and removed unnecessary questions. Practically, this involved the creation of a matrix to map the linkages between interview questions and the research objective (Castillo-Montoya, 2016) to obtain relevant answers that extracted participants' understanding of subjective experiences (Patton, 2015).

The following phase of the IPR framework enabled the development of an inquiry-based discussion that maintained an equilibrium between inquiry and discussion. This involved an interview protocol with questions that were conversational in nature but that included a range of diverse questions from a pre-planned script which guided follow-up and prompted extra questions (Castillo-Montoya, 2016).

Additionally, the second phase of the IPR framework suggested the organisation of questions into introductory, transition, key, and closing categories. (i) Introductory questions seeked to obtain narrative answers by initiating interviews with easy and informal questions. (ii) Transition questions shifted the discussion to key questions while maintaining a conversational tone. (iii) Key questions extracted information that was most relevant to the research objectives. (iv) Lastly, interviews ended with closing questions that were easy to answer and which allowed participants to discuss additional points not yet discussed while also signalling the conclusion of the interview process (Castillo-Montoya, 2016).

The IPR framework's third phase aimed to obtain feedback on the interview protocol to improve its trustworthiness as a data collection instrument. This feedback enabled the researcher to understand whether the participant's interview experience and comprehension of questions was aligned to the researcher's expectations (Patton, 2015). Practically, this phase involved a close reading of interview questions and a think-aloud exercise. The close reading entailed an independent review of the interview protocol's structure and style by a third party, while the think-aloud exercise involved the comparison of an interview protocol to a checklist containing aspects related to structure, writing style, length, and comprehension (Castillo-Montoya, 2016).

Lastly, the fourth phase of the IPR framework involved piloting the interview protocol with interviewees that had similar characteristics to the study's participants (Maxwell, 2013). During this phase, the researcher simulated the interview protocol to improve the process from the interviewer's perspective. This phase enabled the researcher to improve their understanding of the length of the interview and participants' ability to answer questions. Following this simulation, the researcher refined the interview protocol based on observations and prepared for the interviews with the study's participants (Castillo-Montoya, 2016).

This semi-structured interview protocol for this study was developed using the four phases of the IPR framework. The researcher's initial creation of a matrix to link interview questions to the research objective was refined to ensure that the questions were conversational in nature and organized into introductory, transition, key, and closing categories. Follow-up and prompt questions were prepared to develop a complete interview script. Once the interview script was finalised, a close reading and an independent review of the interview questions were undertaken by a third party with characteristics akin to the study's participants. The interview questions were refined based on the feedback received from the third party to improve the flow of questions and to ensure that the they would be understood as intended.

This framework ensured that the data collected for this study was reliable and that the interview questions can be replicated by future studies with similar research objectives. Furthermore, it confirmed that the interview protocol had been systemically developed so that participants could easily understand the questions asked and ensures that the data collected was aligned to the research objective of this study.

3.5 Data Analysis

This study used a thematic data analysis to identify, research, and explain the themes originating from the collected data. This method of data analysis is appropriate for analysing the meaning of a phenomenon in a specific context (Bryman et al., 2017). As this study focused on companies in South Africa, a thematic analysis using the process of coding was used to identify consistent themes regarding the drivers and challenges of TCFD reporting in South Africa.

The researcher implemented coding techniques to categorize data according to identified themes, which created a platform for the development of theories and constructs (Williams & Moser, 2019). A code is a word or phrase that allocates qualities to written or visual data (Saldaña, 2013). It is essential that coding processes are robust and consistently followed to ensure that a study complies with validity and reliability standards. The process of coding data involves three stages, namely open, axial, and selective coding. The coding process is non-linear, as researchers continuously consolidate data to identify and interpret themes in search of meaning (Williams & Moser, 2019).

This study followed a coding process that consisted of three stages. Open coding is described as the first stage of coding and comprises the process of identifying and categorizing initially broad and prominent themes. Practically, this requires the researcher to analyse data collected either manually or by using qualitative software to collate related words and phrases (Williams & Moser, 2019). This stage of coding results in a list of categorized codes that are associated with the data collected (Flick, 2009).

Once the first stage of coding is complete, the researcher continues to axial coding. This second stage of coding further refines themes by categorizing associations between codes. The relationships between themes are clearly stated and analysed. This process aims to develop core codes that are comprised of elements with overlapping characteristics (Strauss, 1987).

Axial coding consists of three refinement activities. Firstly, researchers must develop a robust understanding of the data refinement process and the development of categories. The second activity, the constant comparison method, involves continuously creating and comparing coding categories. Finally, when conducting line-by-line coding, a researcher closely analyses each item of data collected to identify nuances and thematic linkages (Williams & Moser, 2019).

The third stage of coding is referred to as ‘selective coding’. This process allows researchers to connect the categories identified by axial coding into logical expressions. This further refinement of data permits the development of cohesive stories that align the central theme to other categories. This enables researchers to continuously refine themes and ultimately leads to theory creation (Williams & Moser, 2019).

This study applied the three stages of coding as defined by Williams and Moser (2019) to undertake a thematic analysis. The semi-structured interviews were transcribed by the researcher and coded using the NVivo qualitative data analysis software. Firstly, the researcher identified broad themes within the data and collated codes in numerous categories. Thereafter, the researcher further refined the themes by identifying overlapping characteristics between codes, and categorizing codes according to the drivers and challenges of TCFD reporting. Finally, the researcher analysed the overlapping and opposing characteristics of codes related to the drivers and challenges of TCFD reporting to further refine the core themes and develop the findings of this study.

3.6 Trustworthiness

Lincoln and Guba (1985) developed a set of criteria to analyse the trustworthiness of qualitative research that ensures findings are robust and reliable. The trustworthiness criteria include the credibility, dependability, confirmability, transferability, and authenticity of qualitative research.

To ensure the credibility of findings, researchers should identify and describe a study’s participants (Elo et al., 2014). In this study the researcher identified the sectors that participants are employed in, as well as the participants' roles within their companies. Furthermore, their experience and practical involvement in the publication of TCFD reports is described to establish the credibility of the participants and the findings of this study. In addition, the credibility of findings was established through a process of triangulation with the findings of other academic articles and theses related to the drivers and challenges of TCFD reporting.

The consistency of data over time and in different contexts establishes the dependability of a study's findings (Elo et al., 2014). This study's participants are experienced TCFD report preparers that work for companies in various sectors, and companies that are at different stages of TCFD maturity. Although a future study could verify or reject the findings of this study over a different time period, the varying contexts that the participants operate in establishes the dependability of this study's findings. In addition, complete records of the research process and interview transcripts have been kept to enable confirmation of the study's dependability (Bryman et al., 2017).

The conformability criterion refers to the agreement of two or more independent parties in relation to the accuracy of findings (Elo et al., 2014). To establish the conformability of this study, the findings were discussed with two independent parties with experience in the financial services and academic fields to corroborate the accuracy of the data collected as well as the interpretation of results.

Transferability relates to the potential to extrapolate the findings of a study to other contexts (Elo et al., 2014). The context of this study, which examines the drivers and challenges of TCFD reporting in the South African geography, therefore, may be extrapolated to other emerging markets with a similar voluntary climate-related disclosure environment and level of reporting maturity.

The authenticity of qualitative research relies on the extent to which a researcher demonstrates a range of possible realities (Elo et al., 2014). In this study, the researcher compared the data collected from participants to demonstrate the similar and opposing viewpoints of different TCFD report preparers. These similarities and contradictions are highlighted in the findings discussed in Chapter 4 below.

CHAPTER 4: DISCUSSION OF FINDINGS

4.1 Introduction

The following chapter firstly describes the profile of the study participants. Thereafter, the key drivers of TCFD reporting in South Africa are examined, followed by an exploration of TCFD reporting challenges in the country. The drivers and challenges identified are structured according to organisational features and external factors, based on the conceptual model of integrated reporting (De Villiers et al., 2017) that was further adapted to apply to the TCFD reporting framework by Achenbach (2021). The findings from this analysis are used to further refine the conceptual model to apply to the drivers and challenges of TCFD reporting. The chapter concludes with the participants' recommendations to drive the adoption of TCFD reporting in South Africa and suggested approaches for companies that have not yet undertaken TCFD reporting.

4.2 Description of Sample

The data collection process for this study consists of seven semi-structured interviews with participants with relevant TCFD report writing and publishing experience. The characteristics of the sample are described in Table 1, and discussed in greater detail below.

Table 1: Sample and population representation characteristics

Sample Characteristics	
Sample size	7 participants
Number of middle managers	3 participants
Number of senior managers	4 participants
Total years of experience	77 years
Average years of experience	11 years
Population Representation Characteristics	
Number of representative sectors	2 sectors
Number of companies listed on the JSE	7 companies
Number of companies in the JSE Top 40 index at the time of writing	4 companies
Cumulative number of TCFD reports published	16 reports
Average number of TCFD reports published	2.3 reports

Source: Author's design

The sample consisted of seven participants with a total of 77 years of sustainability and risk management experience, with an average of 11 years' experience per participant. Three of the participants are employed in middle-management roles, while four participants are senior managers. The participants represent seven companies that conduct business operations in South Africa. These companies operate in two sectors; namely, financial services and the retail industry. All seven companies are listed on the JSE, while four of the companies are also included in the JSE Top 40 index at the time of writing. The representative companies have all published at least one TCFD report to ensure that robust data was collected from report preparers with practical experience related to the drivers and challenges of TCFD reporting in South Africa. The representative companies have published 16 TCFD reports to date, with an average of 2,3 reports per company.

4.3 The Drivers of TCFD Reporting in South Africa

The leading motivations that drive TCFD reporting in South Africa are the organisational features and external factors described in the sub-sections below. These drivers are ordered according to the number of related codes identified from the interviews with this study's participants.

4.3.1 Organisational Features

Organisational features refer to internal drivers that affect TCFD reporting within a company. From the thematic analysis of the interview data, shareholders, the board, public commitments, and a younger generation of employees were identified as the organisational features that could impact TCFD reporting in South Africa. The overview of the first order concepts, second order themes, and aggregate outcomes extracted from the interviews in relation to the organisational features that drive TCFD reporting in South Africa is shown in Figure 3.

4.3.1.1 Shareholders

The Companies Act of 2008 defines a shareholder as the "holder of a share issued by a company" (Code for Responsible Investing in South Africa, 2022). The term "shareholders" can refer to a variety of institutions or individuals. Institutional investors are large entities such as financial institutions, pension funds, and insurance firms that manage sizeable sums of capital on behalf of other investors (Ivanova, 2017), while activist shareholders aim to leverage their ownership to affect the actions and strategies of companies (Sjöström, 2020). Although

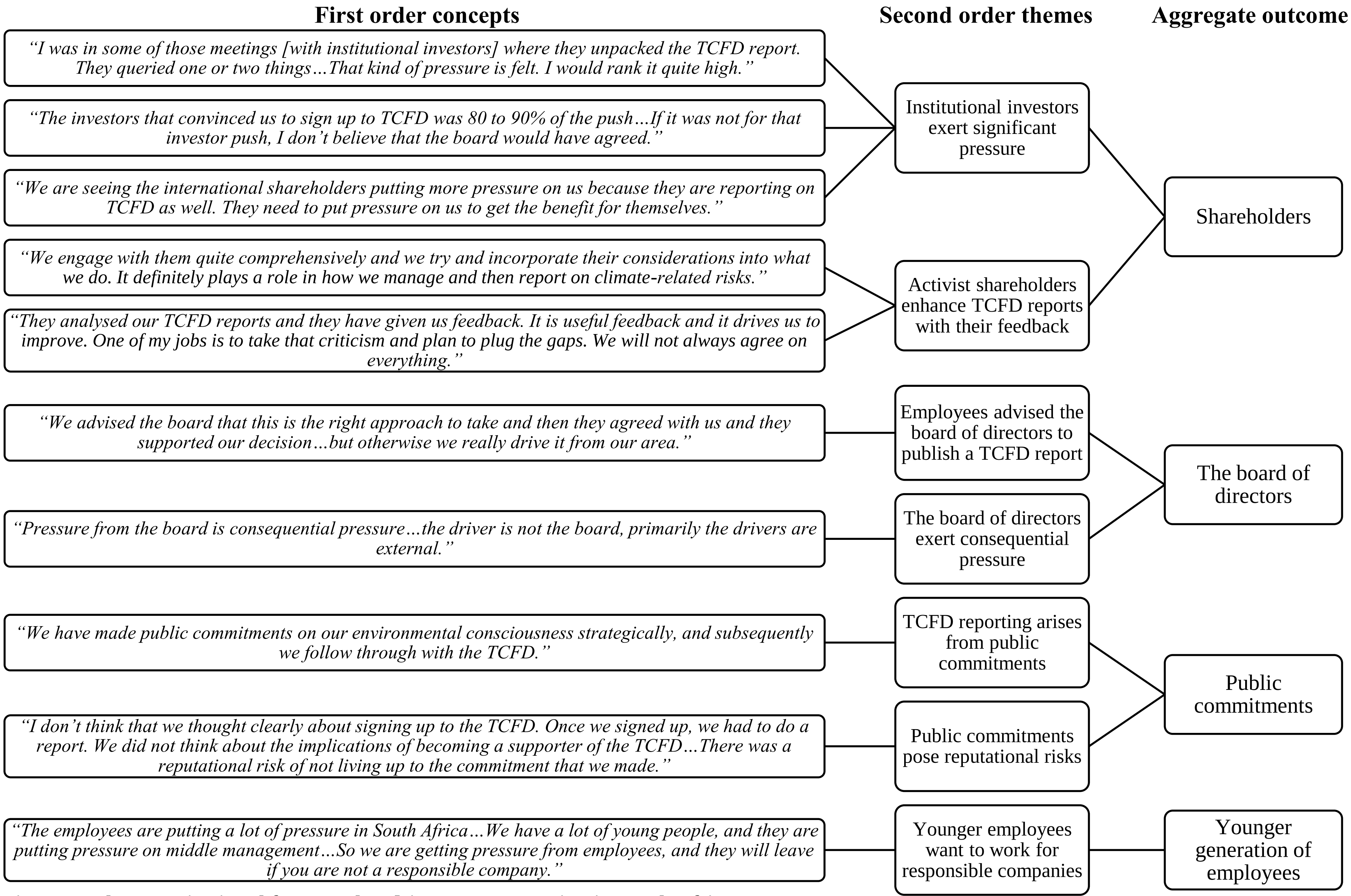

Figure 3: The organisational features that drive TCFD reporting in South Africa

both institutional investors and activist shareholders are categorised as shareholders, and while some institutional investors can be classified as activist shareholders, this study's participants clearly refer to these as separate entities in relation to their influence on TCFD reporting. Therefore, in the context of this study, the influence of institutional investors and shareholder activists are discussed in the separate sub-sections below.

4.3.1.1.1 Institutional Investors

Institutional investors have the power to apply considerable pressure on companies due to their large ownership stake (Flammer, Toffel, & Viswanathan, 2021). If a company implements a strategy that an institutional investor disagrees with, then that investor could decide to withdraw their capital and look for an alternative opportunity that is more aligned with their objectives. Most participants agreed that institutional investors add substantial pressure on their companies to publish TCFD reports. In fact, one participant noted that their investors arranged meetings specifically to discuss their TCFD report, and suggested that this type of pressure from investors was one of the primary drivers of TCFD reporting.

"*I was in some of those meetings [with institutional investors] where they unpacked the TCFD report. They queried one or two things…That kind of pressure is felt. I would rank it quite high*." Participant 3

Another participant believed that without pressure from their institutional investors, their company would not have published a TCFD report at the time.

"*The investors that convinced us to sign up to TCFD was 80 to 90% of the push…If it was not for that investor push, I don't believe that the board would have agreed*." Participant 5

Another participant mentioned that they experienced more pressure to publish a TCFD report from their international investors in comparison to their South African investors, and suggested that this was due to the international investors' requirements for their own TCFD report publishing process. This indicates that companies that publish their own TCFD reports put pressure on other companies to do the same. This could create an enabling environment where companies that publish TCFD reports drive other companies to follow in their footsteps.

“We are seeing the international shareholders putting more pressure on us because they are reporting on TCFD as well. They need to put pressure on us to get the benefit for themselves.” Participant 4

In contrast, one participant noted negligible pressure from institutional investors to publish a TCFD report. This is likely due to the sector in which the participant’s company operates, which generally emits less than companies operating in other sectors.

“There were a few requests [from institutional investors], but not in the sense of the sort of pressure that you refer to.” Participant 2

In summary, it is clear that institutional investors are a primary driver of TCFD reporting in South Africa. This is particularly true for companies operating in high-emitting sectors. In some instances, particular companies would not have published TCFD reports if it were not for pressure from investors. Furthermore, companies that publish their own TCFD reports put pressure on their investees to do the same, which drives additional companies to publish TCFD reports. While one participant noted that their company did not experience significant pressure from their institutional investors, this was likely due to the relatively low-emitting nature of the sector in which they operate.

4.3.1.1.2 Activist Shareholders

Shareholder activism can be defined as an investor’s response to its dissatisfaction of a company’s activities and performance. Such an investor uses their role as a shareholder to put pressure on a company to change course (Fisher & Nasrin, 2021). A prominent activist shareholder in South Africa focuses specifically on climate change issues, and applies pressure on companies to improve the standard of their TCFD reports. This activist shareholder was named by all the study participants and therefore clearly has a significant impact on the South African TCFD reporting landscape. Some participants noted that they had numerous conversations with this activist shareholder, and used the feedback that they received to enhance their TCFD report.

“We engage with them quite comprehensively and we try and incorporate their considerations into what we do. It definitely plays a role in how we manage and then report on climate-related risks.” Participant 1

The participants also noted that they have developed good relationships with the activist shareholder over time, and that the opportunity to engage to do so enabled them to proactively explain their position and address concerns.

"The benefit of the proactive relationship with them is that you can have engagements about specific details where they would ask specific questions. We have an opportunity to contextualise that for them. Because there is trust, they do not take us as trying to avoid the work." Participant 7

While some participants acknowledged that they do not always see eye-to-eye with the activist shareholder and that the organisation adds additional pressure on their work, the participants recognized the value that the activist shareholder adds to the South African landscape. There was widespread support amongst the participants for the work that the activist shareholder undertakes.

"They analysed our TCFD reports and they have given us feedback. It is useful feedback and it drives us to improve. One of my jobs is to take that criticism and plan to plug the gaps. We will not always agree on everything." Participant 3

This activist shareholder can therefore be identified as a major driver of TCFD reporting in South Africa. While they added additional pressure on the participants, their willingness to engage allowed the activist shareholder to build trustworthy relationships with the participants. These engagements enabled the activist shareholder to improve their understanding of the representative companies' position, and their subsequent feedback was used to enhance the quality of TCFD reports. The widespread support of the activist shareholder's work, even by those that it seeks to pressurize, is a testament to its ability to drive TCFD reporting in South Africa.

4.3.1.2 The Board of Directors

A board of directors' main tasks involve setting a company's strategy and monitoring the execution of that strategy (Hillman & Dalziel, 2003). The board of directors' decisions can therefore have a significant impact on a company's day-to-day operations. However, all participants noted that their company's board of directors was not an initial driver of TCFD reporting. Rather, some participants suggested that the increasing importance of the TCFD recommendations put pressure on their board of directors to react by establishing committees to address CROs. Following the establishment of such committees, the board of directors played a greater role in the publication of the TCFD report.

"The TCFD recommendations gave the motivation to establish the required board-level subcommittee on climate…they approve the TCFD report before publication …they are very involved." Participant 7

Participants suggested that the involvement of their board of directors in TCFD reporting was mostly in response to pressure from other stakeholders. This pressure originates from both internal and external stakeholders. Such bottom-up pressure results from direct involvement of internal teams in the compilation and publication of the TCFD report.

"We advised the board that this is the right approach to take and then they agreed with us and they supported our decision…but otherwise we really drive it from our area." Participant 6

In cases where participants stated that there was pressure from the board of directors, this mostly originated from pressure applied by external stakeholders to publish a TCFD report.

"Pressure from the board is consequential pressure…the driver is not the board, primarily the drivers are external." Participant 3

Several participants recognized that, although the board of directors is not a significant driver of TCFD reporting, the presence of individuals that are TCFD champions and supporters on the board of directors helped to bring the topic to the forefront of discussions.

"Since those two individuals came onto our board the [TCFD] discussion is happening every single time at a board meeting" Participant 4

It is, therefore, clear that the board of directors is not a significant initial driver of TCFD reporting in South Africa. Instead, the board of directors is generally reactive in nature and drives the quality of TCFD reporting after internal and external stakeholders have convinced the board that a report is necessary. Lastly, the presence of individual TCFD advocators on the board of directors can help to prioritise the adoption of TCFD reporting.

4.3.1.3 Public Commitments

Making a public commitment to achieve an objective signals a company's serious intent (Littlewood, Decelis, Hillenbrand, & Holt, 2018), but it also invites criticism in circumstances where the objectives are not achieved (Ramus & Montiel, 2005). Companies can signal their intent to publish a TCFD report by making public commitments to support the TCFD and its recommendations. To do this, companies submit a statement of support form to the TCFD, and the representative company's name would subsequently be published on the official TCFD website (FSB, 2023). Alternatively, companies can make unofficial public commitments to support the TCFD recommendations through press releases or by making a commitment to comply with the TCFD requirements in a publicly available report. Once a company has a public commitment, it faces additional pressure from external stakeholders to publish a TCFD report, as noted by one participant.

"We have made public commitments on our environmental consciousness strategically, and subsequently we follow through with the TCFD." Participant 7

Another participant noted that they made a public commitment to publish a TCFD report without understanding the process or requirements of publishing such a report. Once they had made this public commitment however, they were forced to publish a TCFD report to avoid damage to their reputation. The participant stated that they would do a full cost-benefit analysis in the future before making another similar public commitment.

"I don't think that we thought clearly about signing up to the TCFD. Once we signed up, we had to do a report. We did not think about the implications of becoming a supporter of the TCFD…There was a reputational risk of not living up to the commitment that we made." Participant 5

One participant noted the duality of making a public commitment. While it leads to necessary change, it also opens a company to further scrutiny which it would not have faced otherwise.

"On the one hand I like [public commitments] because it forces you to implement the changes in your organisation you need to do to get an TCFD report published. On the other hand, there is a risk of undue public scrutiny and standing out from the crowd." Participant 3

These perspectives raised by participants indicate that making a public commitment is a clear driver of TCFD reporting. While companies that make public commitments already have the ambition to publish TCFD reports, a public commitment adds additional pressure to make this ambition a reality.

4.3.1.4 A Younger Generation of Employees

A company's employees are essential to its success as they can wield influence within a company by applying bottom-up pressure to drive certain actions or abstain from others (Morrison, 2014). Although not often mentioned, some participants noted that they experienced internal pressure from employees, and that the company would struggle to retain their labour force if they did not adhere to sustainability principles. This pressure was especially applied by the current younger generation entering the workforce.

"The employees are putting a lot of pressure in South Africa…We have a lot of young people, and they are putting pressure on middle management…So we are getting pressure from employees, and they will leave if you are not a responsible company." Participant 4

However, the above employee's concerns were mainly related to the general sustainability of a company's actions, and not necessarily related to TCFD reporting. Therefore, the pressure from employees and the younger generation entering the workforce is not regarded as a current driver of TCFD reporting in South Africa.

4.3.2 External Factors

External factors refer to drivers in TCFD reporting that originate from outside a company. From the thematic analysis of the interview data, policy and regulation, competitors, physical and transition risks, the media, working groups, and clients were identified as the external factors that could impact TCFD reporting in South Africa. The overview of the first order concepts, second order themes, and aggregate outcomes extracted from the interviews in relation to the external factors that drive TCFD reporting in South Africa is shown in Figure 4.

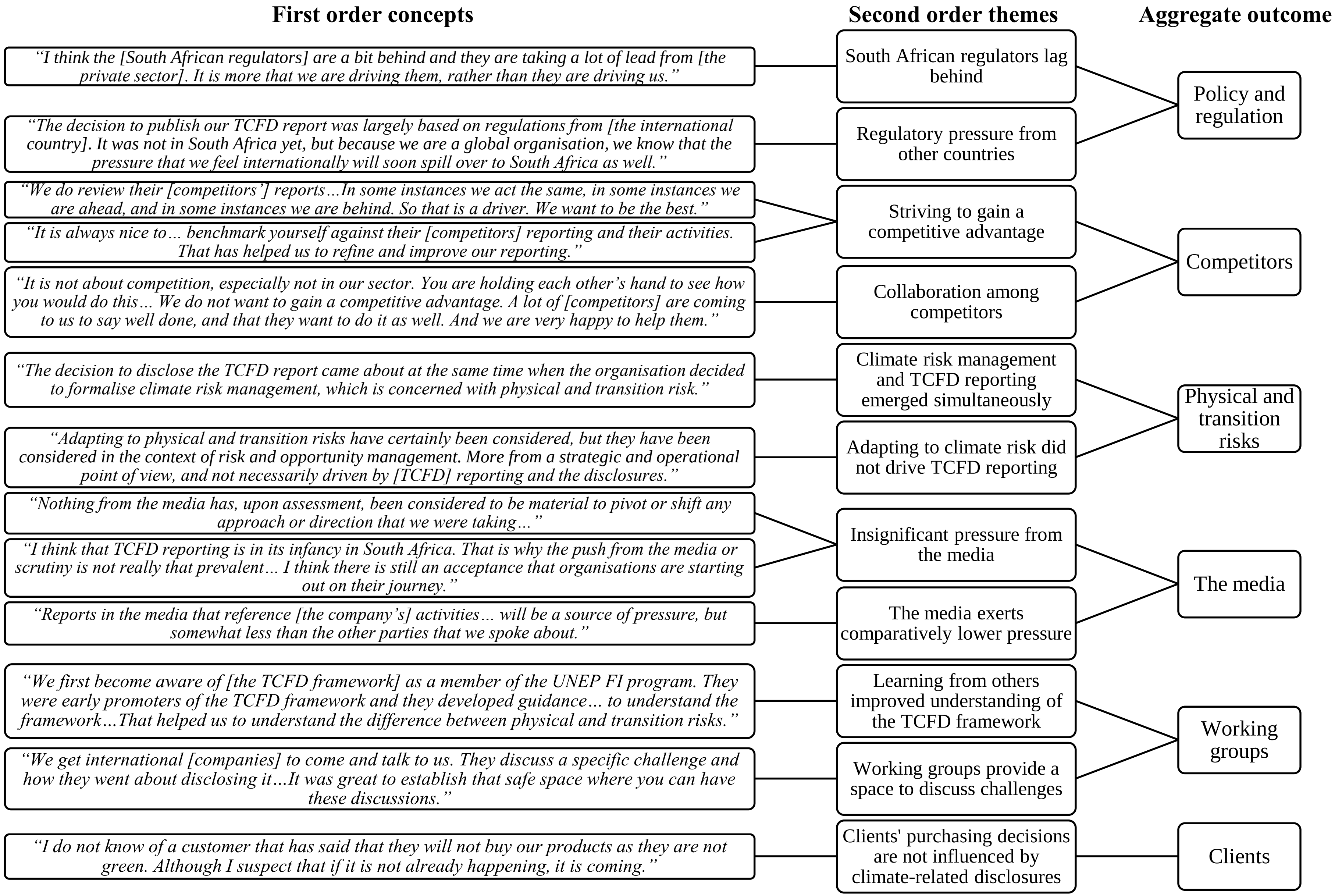

Figure 4: The external factors that drive TCFD reporting in South Africa

4.3.2.1 Policy and Regulation

The role of regulators is to monitor a company's compliance with policies and regulations (Alexander, 2006). As climate-related disclosures are not currently a mandatory requirement in South Africa, regulators are not tasked with monitoring compliance with the TCFD recommendations. However, the South African regulators have actively engaged with companies in South Africa to improve their understanding of TCFD due to the likelihood that climate-related disclosures will become mandatory in the country in future.

None of the participants stated that their representative company experienced pressure from regulators in South Africa to publish a TCFD report. This is likely due to the voluntary nature of TCFD reporting in the country at this stage. Several participants noted that regulators were regularly engaging with companies on climate risk to improve their understanding of the related issues. This indicates that regulators are increasingly concerned with TCFD-related issues.

"[The regulators] are upskilling themselves and we have a good relationship with them. They hold meetings throughout the year on various topics…and climate risk is starting to become more prominent." Participant 3

Furthermore, some participants supported the consultative nature of the regulators and the progress that has been made on TCFD-related issues.

"The [regulator] is definitely doing a lot of good work in this space. They are moving ahead on it." Participant 6

The consultative actions of the regulators included engaging with companies to receive feedback on upcoming regulations. Several participants were involved in such conversations with the regulators, and used the opportunity to raise issues that could hinder TCFD reporting in the South African context.

"We were able to feed into the [regulators'] conversations that you need something that is more regionally context-specific. It actually needs to make sense for South African [companies]." Participant 1

However, not all participants were supportive of the South African regulators’ approach. One participant shared their frustration about the lack of progress made on TCFD regulations in South Africa, and was of the opinion that the private sector was a more significant driver of TCFD reporting than the regulators.

“I think the [South African regulators] are a bit behind and they are taking a lot of lead from [the private sector]. It is more that we are driving them, rather than they are driving us.” Participant 4

While there was no pressure from South African regulators due to the current voluntary nature of TCFD reporting in the country, one participant whose representative company operates in multiple countries indicated that they did receive pressure from an international regulator to publish TCFD reports. This can be explained by the mandatory nature of TCFD reporting in the country in which this company operates. The participant noted that this regulation was a primary driver of their company’s TCFD report.

“The decision to publish our TCFD report was largely based on regulations from [the international country]. It was not in South Africa yet, but because we are a global organisation, we know that the pressure that we feel internationally will soon spill over to South Africa as well.” Participant 4

The feedback from participants suggests that companies in South Africa, even large publicly listed companies, do not experience pressure from local regulators to publish TCFD reports. Instead, the regulators are currently engaging with the private sector to improve their understanding of TCFD reports and all local context-specific requirements likely to impact upcoming mandatory regulations. Not all participants were supportive of the regulators’ approach, and were of the opinion that the private sector was a more effective driver of TCFD reporting. While South African regulators are therefore not currently drivers of TCFD reporting in the country, one participant noted that the pressure that they received from international regulators was one of the key reasons that their company first published a TCFD report. This indicates that the role of regulators as a driver of TCFD reporting increases considerably in the context of mandatory regulatory requirements.

4.3.2.2 Competitors

Companies' strategies are often impacted by their competitors (Gnyawali & Madhavan, 2001). This could be in the form of a reactionary strategy to address the actions taken by competitors, or a proactive strategy to gain a position as a market leader. Several participants noted that they benchmark their TCFD report against their competitors to gain a better understanding of the quality of their report, and that the desire to be a market leader drives them to improve their TCFD report.

"We do review their [competitors'] reports…In some instances we act the same, in some instances we are ahead, and in some instances we are behind. So that is a driver. We want to be the best." Participant 6

Conversely, multiple participants suggested that they were actively collaborating with their competitors to improve their understanding of the TCFD requirements and the quality of their reports. Some participants were of the view that knowledge sharing was mutually beneficial to collaborators, and that this increases their preparedness for a scenario in which TCFD reporting is mandatory in South Africa.

"It is not about competition, especially not in our sector. You are holding each other's hand to see how you would do this… We do not want to gain a competitive advantage. A lot of [competitors] are coming to us to say well done, and that they want to do it as well. And we are very happy to help them." Participant 4

One way in which collaboration assisted companies to improve their TCFD reports was by benchmarking the quality of their own reports against their competitors' reports to identify areas that require improvement.

"It is always nice to… benchmark yourself against their [competitors] reporting and their activities. That has helped us to refine and improve our reporting." Participant 1

The actions of competitors can therefore be categorized as a major driver of TCFD reporting. On the one hand, the quality of competitors' TCFD reports drives companies to improve their own reports in a bid to gain market leadership. On the other hand, some companies take a more collaborative approach when interacting with their competitors. The ability to collaborate with their competitors was deemed to be mutually beneficial, as both parties could benchmark their own progress and share knowledge and expertise in areas that require improvement.

4.3.2.3 Physical and Transition Risks

Physical risks from climate change consist of event-driven or long-term changes in climate patterns, while transition risks refer to the risk that companies face as the world shifts to a low-carbon economy through addressing climate change mitigation and adaptation requirements (FSB, 2017). As the effects of climate change become more pertinent over time, companies are responding by implementing more physical and transition risk mitigation measures.

Some participants noted that their companies' need to respond to physical and transition risks did not necessarily drive TCFD reporting. Rather, physical and transition risk management measures were explored at the same time as their first published TCFD report.

"The decision to disclose the TCFD report came about at the same time when the organisation decided to formalise climate risk management, which is concerned with physical and transition risk." Participant 7

Another participant noted that their company's climate risk management is integrated into the broader risk management strategy, and that their approach to climate risk management was not driven by the TCFD requirements.

"Adapting to physical and transition risks have certainly been considered, but they have been considered in the context of risk and opportunity management. More from a strategic and operational point of view, and not necessarily driven by [TCFD] reporting and the disclosures." Participant 1

It is, therefore, clear that the need to respond to physical and transition risks did not drive companies in South Africa to publish TCFD reports. Rather, evidence suggests that companies undertook physical and transition risk management practices and TCFD reporting concurrently.

4.3.2.4 The Media

Broadcasting, publishing, and online media can place scrutiny on companies by sharing reports of their actions, or lack thereof, with the wider public (Tavakolifar, Omar, Lemma, & Samkin, 2021). The majority of participants indicated that they experienced little or no pressure from the media in South Africa. One participant indicated that while there was some media reporting on the company's TCFD report, this did not result in pressure that consequently drove TCFD reporting.

"Nothing from the media has, upon assessment, been considered to be material to pivot or shift any approach or direction that we were taking…" Participant 7

Another participant suggested that they did not face pressure from the media as their company operates in a comparatively low-emitting sector.

"It could be that we were on the radar, but… we are not a big emitter. They probably started with the mining industry first." Participant 2

Another suggestion for the low levels of pressure that companies experienced from the media was the fact that TCFD reporting is relatively new in South Africa and that companies are not yet expected to comply with the TCFD recommendations.

"I think that TCFD reporting is in its infancy in South Africa. That is why the push from the media or scrutiny is not really that prevalent… I think there is still an acceptance that organisations are starting out on their journey." Participant 5

In contrast, one participant noted that they were experiencing more pressure from the media in South Africa in comparison to other regions that the company operates in as TCFD reporting is a more recent development in South Africa.

"Not so much internationally because it has been there for quite a while and it is not a new thing. In South Africa it was a new thing, so we had the media on our backs." Participant 4

Lastly, another participant noted that while there were articles published in relation to the company's TCFD reporting, the resulting pressure was not significant in comparison to other stakeholders.

"Reports in the media that reference [the company's] activities… will be a source of pressure, but somewhat less than the other parties that we spoke about." Participant 3

Overall, the pressure from media has not been identified as a major driver of TCFD reporting amongst the participants. Participants suggested that this could be due to the industry in which they operate, or the fact that TCFD reporting has only recently gained importance in South Africa. While one participant disagreed with this view and stated that they experienced more pressure from the media in South Africa in comparison to their international operations, the majority of participants noted that they experienced no pressure from the media. In cases where there were media reports related to a company's TCFD report, this pressure was not deemed to be material in comparison to the pressure experienced from other stakeholders.

4.3.2.5 Working Groups

Working groups enable people that work in similar fields to collaborate and share knowledge that can foster skills development (d'Armagnac, Geraudel, & Salvetat, 2019). Several participants noted the benefits of actively participating in TCFD-related working groups. One particular working group lead by the United Nations Environment Programme Finance Initiative (UNEP FI) was identified as a prominent role player that informed companies of the TCFD framework and developed guidance that assisted newcomers with TCFD reporting.

"We first become aware of [the TCFD framework] as a member of the UNEP FI program. They were early promoters of the TCFD framework and they developed guidance… to understand the framework…That helped us to understand the difference between physical and transition risks." Participant 1

Participants noted the willingness of others, even competitors, to share knowledge through working groups. This was a mutually beneficial exercise, with all parties gaining knowledge to further develop TCFD reporting skills. One participant noted that they were exposed to TCFD challenges and solutions in other contexts from international companies participating in working groups.

"We get international [companies] to come and talk to us. They discuss a specific challenge and how they went about disclosing it…It was great to establish that safe space where you can have these discussions." Participant 4

It is therefore clear that participation in a working group was a major driver of TCFD reporting for participants. Working groups successfully raised awareness of TCFD reporting and developed useful guidance that helped participants to improve their own reports. Furthermore, working groups provided an opportunity for companies to collaborate, develop skills, and foster their understanding of international challenges applicable to the South African context in the future.

4.3.2.6 Clients

A company's clients are its main source of revenue, and meeting or exceeding their requirements is therefore critical to the company's success (Zeithaml, 2000). Participants noted the impact of both large corporate clients and individual retail clients on their TCFD reporting activities. One participant noted that large corporate clients are aware of TCFD reporting as these clients generally publish TCFD reports themselves, and are therefore not surprised by the accompanying data collection requests. However, none of the participants suggested that large corporate clients drive TCFD reporting on any level.

"If you look at engagements with our top clients and those that are in carbon-intensive industries, they are getting this from all sides. So, I do not think that it is a surprise." Participant 3

Participants had mixed responses, however, regarding retail clients as a driver of TCFD reporting. One participant mentioned that they have not experienced any circumstance in which a retail client has not supported a company due to their sustainability practices. As mentioned in the literature review above, the publication of a TCFD report is an indication that a company is earnestly considering the impact of CROs (Eccles & Krzus, 2018), and such disclosures can therefore be linked to a company's sustainability practices. This participant is, however, of the view that retail clients will increasingly make purchasing decisions based on a company's sustainability practices going forward.

"I do not know of a customer that has said that they will not buy our products as they are not green. Although I suspect that if it is not already happening, it is coming." Participant 3

Another participant was of the view that retail clients are already responding to these matters, and stated that their company had already seen clients threatening to move to other service providers due to the company's sustainability practices. However, this participant noted that this was mainly experienced in international markets, although there was some evidence of this phenomenon taking hold in the South African market.

"In the [international market] we are seeing a lot of pressure coming from our clients. They want to invest in a responsible company, and a company that is taking climate action seriously. We have queries from our clients that want to guarantee that their money is not going to fossil fuels. We started to see that in South Africa too." Participant 4

As the evidence shows, clients are not currently major drivers of TCFD reporting in South Africa. While large corporate clients are aware of the TCFD reporting requirements, they are not a source of pressure, however, while retail clients are exerting some pressure on companies to address climate change, including the publication of TCFD reports. This is more prevalent in international markets than in South Africa. Nonetheless, the feedback from participants suggests that pressure from retail clients is likely to become a greater driver of TCFD reporting in South Africa in the years ahead.

4.4 The Challenges of TCFD Reporting in South Africa

The challenges of TCFD reporting in South Africa are the leading factors that limit a company's motivation or capacity to publish such a report. Challenges within the organisational features and external factors sub-sections below are ordered according to the number of related codes identified from the interviews with the study participants.

4.4.1 Organisational Features

Organisational features refer to internal challenges that affect TCFD reporting within a company. From the thematic analysis of the interviews, data collection, cost and time, skills, and confidentiality and security were identified as organisational challenges of TCFD reporting in South Africa. The overview of the first order concepts, second order themes, and aggregate outcomes extracted from the interviews in relation to the organisational features that are challenges of TCFD reporting in South Africa is shown in Figure 5.

4.4.1.1 Data Collection

Robust data collection is a critical aspect of TCFD reporting, as many of the disclosures included in a report are based on information that is gathered from various internal and external

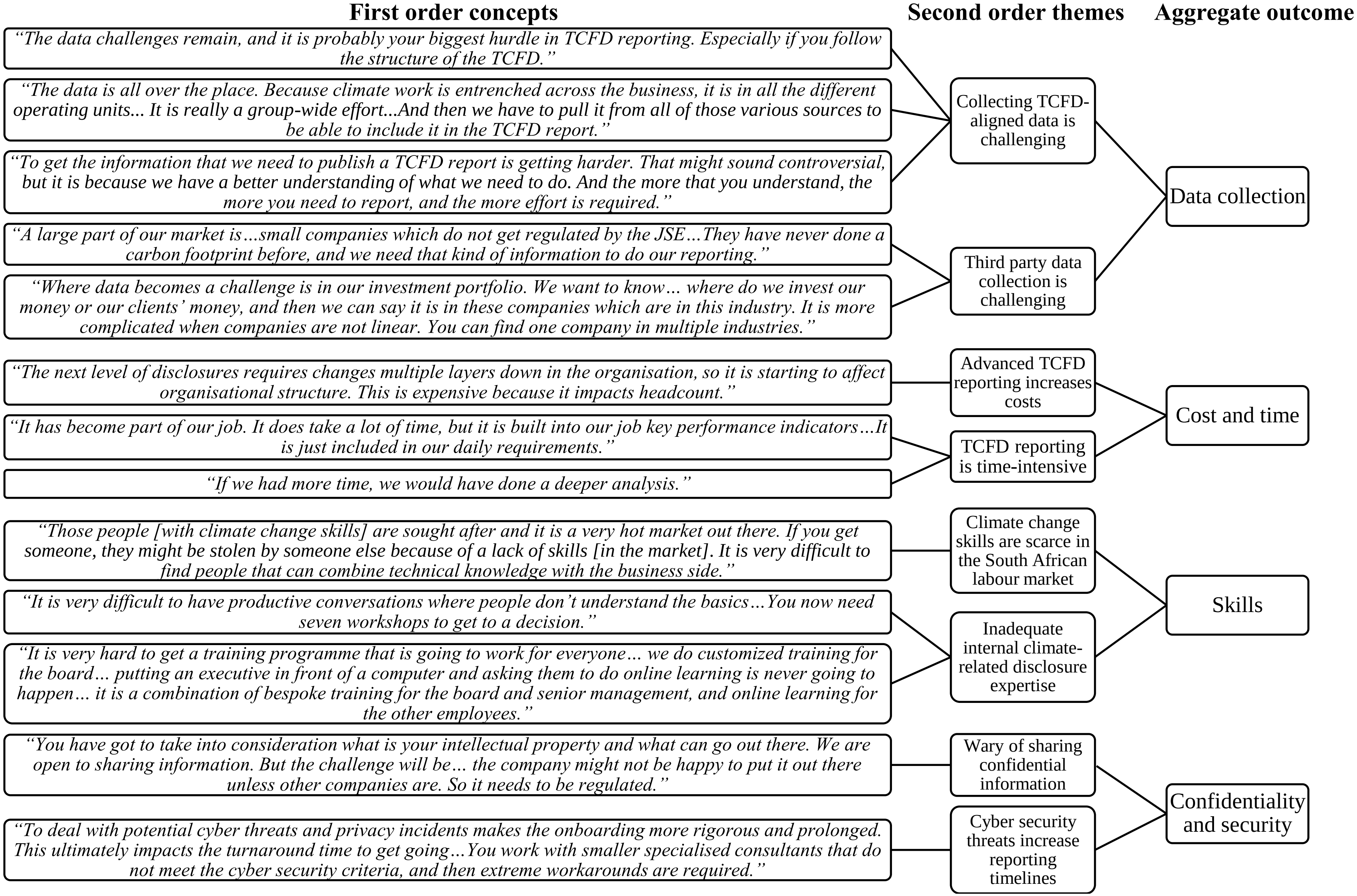

Figure 5: The organisational features identified as challenges of TCFD reporting in South Africa

sources (O'Dwyer & Unerman, 2020). Any setbacks to the data collection process can therefore extend the reporting timeframe and thereby pose one of the most challenging aspects of TCFD reporting. In fact, some participants ranked data collection as the greatest challenge that their companies faced when publishing TCFD reports.

"The data challenges remain, and it is probably your biggest hurdle in TCFD reporting. Especially if you follow the structure of the TCFD." Participant 1

Participants mentioned various aspects of data collection that they found to be challenging. Firstly, this was owing to the large size of their business in the collection of data and secondly, to the challenge of collaborating with a diverse selection of teams to obtain the data needed.

"The data is all over the place. Because climate work is entrenched across the business, it is in all the different operating units... It is really a group-wide effort...And then we have to pull it from all of those various sources to be able to include it in the TCFD report." Participant 1

Thirdly, one participant noted an interesting phenomenon by stating that data collection becomes more challenging as their TCFD reporting experience matures. One would expect that it should become less challenging over time as systems and processes are put in place and experience is gained by repeating the report collation activities. However, the participant stated that data collection has become more challenging for their company over time as they improve their understanding of what information should be disclosed in the report.

"To get the information that we need to publish a TCFD report is getting harder. That might sound controversial, but it is because we have a better understanding of what we need to do. And the more that you understand, the more you need to report, and the more effort is required." Participant 3

Fourthly, one participant noted the challenge of collecting data from external stakeholders. This was especially challenging when collecting data from smaller companies that had little experience with climate change and TCFD-related activities. The participant suggested that this challenge could be addressed by providing additional education to smaller companies, and by developing tools that estimate the carbon footprint of smaller companies based on their operating activities.

"A large part of our market is…small companies which do not get regulated by the JSE…They have never done a carbon footprint before, and we need that kind of information to do our reporting." Participant 4

Lastly, a participant employed by a financial institution stated that the greatest data collection challenge that they faced was the task of obtaining investment portfolio information. As the representative company operate in multiple sectors, the participant noted that they could not easily determine where their company's or their clients' capital was invested. This increases the difficulty of disclosing which investments could be affected by climate change risks and opportunities.

"Where data becomes a challenge is in our investment portfolio. We want to know… where do we invest our money or our clients' money, and then we can say it is in these companies which are in this industry. It is more complicated when companies are not linear. You can find one company in multiple industries." Participant 6

From the feedback provided by participants, data collection is undoubtedly one of the most challenging aspects of TCFD reporting. The task of obtaining data from various internal teams, the increasing data requirements as TCFD reporting matures, the difficulties of collecting data from smaller external stakeholders, and the formidable activity of collecting accurate data regarding an investment portfolio were all identified as significant challenges of data collection in South Africa.

4.4.1.2 Cost and Time

Companies strive to optimize their resource allocation to achieve their long-term strategic objectives (Barney, 1991). A key part of this resource allocation decision is how companies plan to spend their capital as well as their employees' time. The feedback obtained from participants indicates that companies had various approaches to allocating capital and time. Some participants noted that their companies hired new employees specifically to address climate change issues, including TCFD reporting. Hiring new employees increases a company's labour costs, which also requires additional capital to address.

"In terms of climate change risk and opportunity management, a lot of that capacity was brought in… and specifically added." Participant 1

On the contrary, some participants noted that their companies opted to absorb the additional burden of TCFD reporting and allocated the responsibility of publishing the report to their existing employees. This requires a time commitment from employees, which diminishes their availability to contribute to other objectives.

"It has become part of our job. It does take a lot of time, but it is built into our job key performance indicators…It is just included in our daily requirements." Participant 1

One participant noted that their TCFD reporting had matured after publishing reports for several years. The company has therefore reached a point where they believe that they have successfully complied with the basic TCFD requirements, and would like to further advance the scope of their disclosures. A broader scope adds further complexities, which requires additional new employees.

"The next level of disclosures requires changes multiple layers down in the organisation, so it is starting to affect organisational structure. This is expensive because it impacts headcount." Participant 7

However, increasing costs were not a challenge for all companies. One participant noted that they could easily obtain the necessary capital allocation within their company's budget to publish a TCFD report, as long as they could rationalize the capital requirement.

"If we justify the reasoning for [TCFD reporting], we will get the budget to do it." Participant 6

One participant noted that time availability posed a challenge to the quality of their TCFD report. Owing to time constraints, the company could only publish high-level disclosures without more granular detail.
"If we had more time, we would have done a deeper analysis." Participant 5

Another participant noted that their company was investing in software solutions to decrease the time required to publish a TCFD report. While this requires a capital outlay in the short-term, a successfully implemented solution should reap benefits in the long-term by the reducing capital and time requirements of annual TCFD reporting.

"There has been a lot of automation and digitization of metrics and data in terms of how we gather this information from across [the company] and bring it on to a data platform so that is more readily available and cuts down on time." Participant 1

The additional capital and time required to publish an impactful TCFD report is clearly a challenge for all companies to address. Evidence suggests that this challenge is addressed using a diverse range of approaches. While some companies hired additional employees specifically to contribute to TCFD reporting, others simply absorbed the additional responsibilities within their current teams. As companies mature their TCFD reporting skills, they are likely to face increasing costs due to greater complexities. However, increasing costs are not a challenge for all companies, and additional budget for TCFD reporting can easily be obtained if the cost can be justified. Although time constraints pose a challenge to some, the use of software solutions could be a solution in this regard. Ultimately, the challenge of capital and time requirements will be a constant, while the approach to address this challenge remains variable.

4.4.1.3 Skills

A thriving business requires employees with relevant skills for the tasks that they are expected to perform. As the impact of climate change is increasingly affecting the bottom line of many companies, employees may need to adapt their skills to address these new challenges (Martinez-Fernandez, Hinojosa, & Miranda, 2010). This is not only applicable to employees that work in climate change-related roles, but other teams also need to have a basic understanding of climate change fundamentals.

Several participants stated that finding people with the right combination climate change and business skills was a significant challenge to TCFD reporting as it was difficult to translate information effectively into a robust TCFD report. Various participants noted that their companies decided to hire external consultants to assist with TCFD reporting as they lacked internal skills in specialised areas such as scenario analysis. However, hiring external consultants is a costly exercise and significantly increases the overall capital requirements of publishing a TCFD report.

"Those people [with climate change skills] are sought after and it is a very hot market out there. If you get someone, they might be stolen by someone else because of a lack of skills [in

the market]. It is very difficult to find people that can combine technical knowledge with the business side." Participant 4

Considering this challenge, companies have taken it upon themselves to train their staff in a bid to broadly enhance climate change skills. Participants noted that this was a critical element of their engagements with other teams as part of the TCFD reporting process. If other team members did not have the necessary background and skills, the process of collating information for a TCFD report would likely be delayed.

"It is very difficult to have productive conversations where people don't understand the basics…You now need seven workshops to get to a decision." Participant 7

Training staff on the basics of climate change poses a challenge in itself. One participant noted that a one-size-fits-all solution for all levels within the company was not possible, as senior employees required different training material in comparison to junior employees. The company therefore had to develop bespoke training solutions for different levels of employees.

"It is very hard to get a training programme that is going to work for everyone… we do customized training for the board… putting an executive in front of a computer and asking them to do online learning is never going to happen… it is a combination of bespoke training for the board and senior management, and online learning for the other employees." Participant 4

The skills required to publish a TCFD report, therefore, create various challenges for companies. Firstly, the task of hiring employees with the necessary combination of climate change and business skills is a difficult prospect in the current job market. Secondly, companies are required to use resources to train their employees on climate change issues to ensure productive discussions internally that accelerate TCFD reporting. Lastly, companies cannot apply a one-size-fits-all approach to training employees, and are required to develop bespoke training material for different levels of employees.

4.4.1.4 Confidentiality and Security

The task of ensuring the confidentiality of personal information is becoming increasingly important for companies as the threat of cyber security breaches grow (Hepfer & Powell, 2020). Bolstering cyber security requires specialised employees and secure systems. Participants noted the extra burden that confidentiality requirements add to their TCFD reporting process as the extra security concerns prolong the report collation period. This was especially true for companies that appointed smaller specialised consulting firms to assist with the report writing process because securely onboarding the consultants to the company's internal systems consumes valuable time.

"To deal with potential cyber threats and privacy incidents makes the onboarding more rigorous and prolonged. This ultimately impacts the turnaround time to get going…You work with smaller specialised consultants that do not meet the cyber security criteria, and then extreme workarounds are required." Participant 7

The confidentiality of information also relates to the business-connected content that companies include in their TCFD reports. A company that openly discloses their forward-looking strategy runs the risk of losing a competitive advantage to those that study their report. One participant noted that while their company is open to sharing information with others, they are not likely to publicly disclose information that could hamper their business growth if it was not a regulatory requirement.

"You have got to take into consideration what is your intellectual property and what can go out there. We are open to sharing information. But the challenge will be… the company might not be happy to put it out there unless other companies are [doing so]. So it needs to be regulated." Participant 6

Based on this feedback from participants, therefore, the confidentiality of information triggers various challenges throughout the TCFD reporting process. Companies that make use of consultants are likely to require a longer timeframe to publish a TCFD report due to the extra time required for hiring them. A company is less likely to share information related to their intellectual property or a potential competitive advantage unless the disclosure of such information is a regulatory requirement. Therefore, companies must navigate the challenge of carefully deciding what information to disclose in their TCFD report without enabling their competitors.

4.4.2 External Factors

External factors refer to TCFD reporting challenges that originate from outside a company. From the thematic analysis of the interview data, scenario analysis and greenwashing were identified as external challenges of TCFD reporting in South Africa. The overview of the first order concepts, second order themes, and aggregate outcomes extracted from the interviews in relation to the external factors that are challenges of TCFD reporting in South Africa is shown in Figure 6.

4.4.2.1 Scenario Analysis

Companies undertake forward-looking scenario analyses to project the potential impact on operations under various conditions in order to identify CROs well in advance (FSB, 2022). To conduct a scenario analysis that is comparable with the results of other companies, clear industry guidance and context-specific scenarios are required (UNEP FI, 2019). One participant noted that the lack of clear guidance from the South African government has posed a challenge to conducting a scenario analysis, as this increases uncertainty regarding the appropriate projections that should be used.

"There is unclear guidance relating to where industry pathways are going…Is everyone happy with the pathways? This might contradict what the government is saying. No clear guidance from industry pathways is a challenge." Participant 4

Furthermore, several participants noted the challenge of projecting CROs without region-specific scenarios that are applicable to South Africa. This was particularly challenging for smaller companies that exclusively operate in specific regions and that, therefore, cannot utilise global scenarios for projections.

"The reference scenarios are usually not regionalised enough to be meaningful for a smaller regional operation like ourselves. If you are a truly global organisation, you can use global scenarios. The big challenge is to get regional granularity on reference scenarios." Participant 7

Another participant recognized a similar challenge, and stated that their company was actively advocating the South African government to develop regional-specific scenarios.

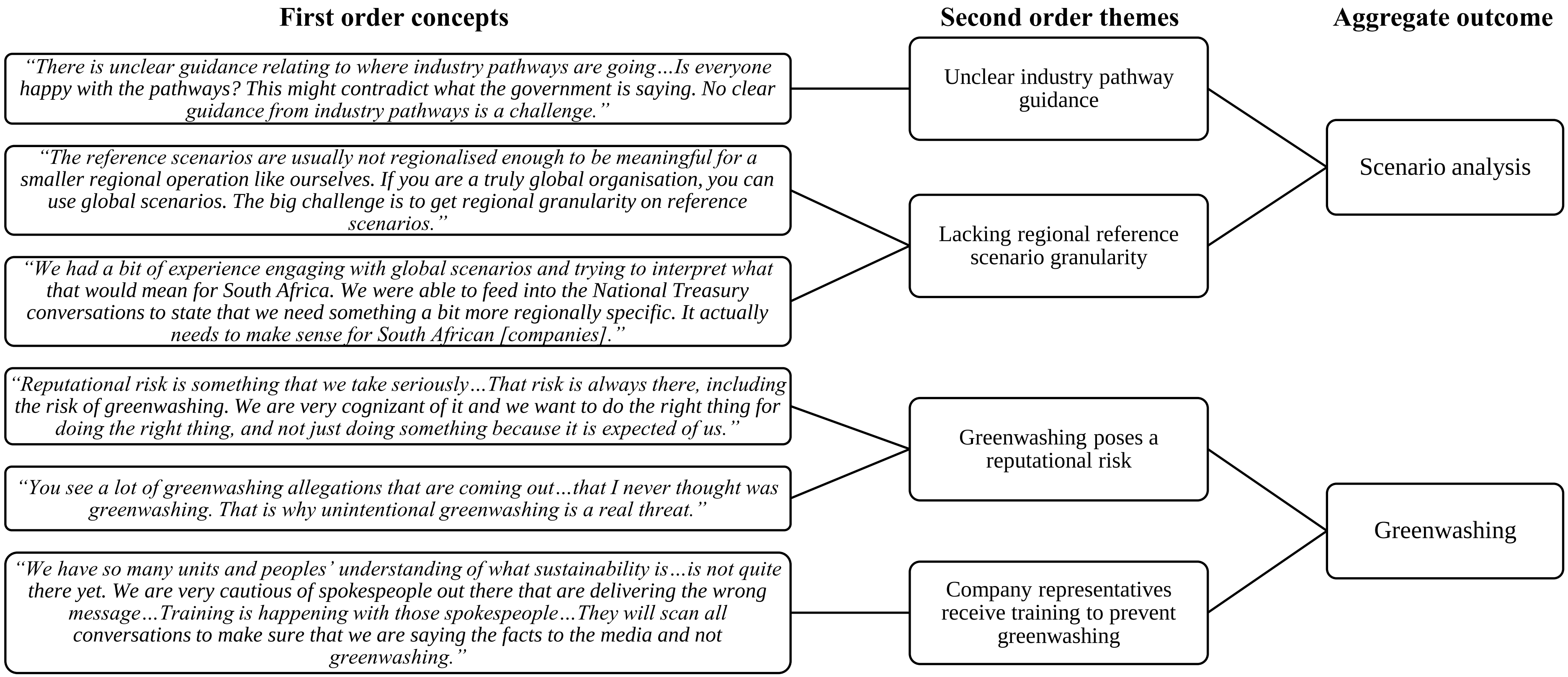

Figure 6: The external factors identified as challenges of TCFD reporting in South Africa

"We had a bit of experience engaging with global scenarios and trying to interpret what that would mean for South Africa. We were able to feed into the National Treasury conversations to state that we need something a bit more regionally specific. It actually needs to make sense for South African [companies]." Participant 1

In summary, scenario analysis remains a notable challenge for South African companies that publish TCFD reports. The lack of clear guidance from the South African government is identified as a barrier to undertaking scenario analysis. In addition, while global companies can use global scenarios for scenario analysis, this is not applicable to smaller companies that operate in specific regions. However, the evidence also indicates that some companies in South Africa have proactively engaged with government entities to encourage the development of region-specific scenarios to address this gap. Nevertheless, it is clear that further action is required from the South African government and regulators to fulfil the needs of companies wishing to undertake scenario analysis.

4.4.2.2 Greenwashing

A company's reputation and public acceptance is critical to its legitimacy, and ultimately to its long-term success (Suchman, 1995). Companies hire specialised public relations employees with the specific goal of enhancing their reputation with clients and the general public. One significant threat to a company's reputation in the age of climate change is the phenomenon of 'greenwashing'. This trend encompasses the dissemination of false claims or intentional omissions of material information regarding a company's sustainability practices (Santos, Coelho, & Marques, 2023). The threat of presenting a misleading sustainability strategy is exacerbated by the sheer volume of information that is disclosed in a TCFD report. Several participants noted that companies consider the potential of greenwashing as a serious threat to their reputation.

"Reputational risk is something that we take seriously…That risk is always there, including the risk of greenwashing. We are very cognizant of it and we want to do the right thing for doing the right thing, and not just doing something because it is expected of us." Participant 1

One participant noted that they faced the risk of greenwashing due to their large size and the challenge of establishing a broad understanding of sustainability fundamentals across diverse teams. To address this challenge, they specifically train the company's spokespeople to improve their understanding of sustainability and ensure that misleading messages are not presented to the public.

"We have so many units and peoples' understanding of what sustainability is…is not quite there yet. We are very cautious of spokespeople out there that are delivering the wrong message…Training is happening with those spokespeople…They will scan all conversations to make sure that we are saying the facts to the media and not greenwashing." Participant 4

In addition, the potential of unintentional greenwashing poses a serious threat. One participant pointed out their surprise regarding a greenwashing allegation made against another company that the participant did not initially believe could cause reputational harm.

"You see a lot of greenwashing allegations that are coming out…that I never thought was greenwashing. That is why unintentional greenwashing is a real threat." Participant 4

The feedback from participants, therefore, clearly indicates that greenwashing can pose a threat to a company's reparation. This external factor can therefore be considered a challenge to TCFD reporting, as the reporting requirements include the disclosure of a wide array of information. Furthermore, companies could unintentionally disclose information that could lead to unexpected reputational damage. To address this challenge, some companies in South Africa are providing additional training to their spokespeople to ensure that they increase their understanding of sustainability issues and thereby minimize the threat of greenwashing.

4.5 Discussion of findings

As described above, the legitimacy theory argues that a companies' actions are judged to be acceptable within a system of values and beliefs constructed by the society in which it operates (Suchman, 1995). The stakeholder theory, on the other hand, argues that one of a company's key objectives is to maintain a balance between the opposing requirements of various stakeholders (Ansoff, 1965). Owing to the overlapping nature of both these theories, therefore, the combined theoretical framework can be applied to the findings of this study to answer the research question. The sub-sections below discuss the major drivers and challenges of TCFD reporting identified by the thematic analysis in the context of the overlapping theoretical framework, and further refines the conceptual framework based on the findings of this study.

4.5.1 Drivers of TCFD Reporting in South Africa

The drivers of TCFD reporting in South Africa, as identified above, can be linked to the theoretical framework. Firstly, institutional investors are key stakeholders due to their large ownership stake in companies (Flammer et al., 2021). If a company does not publish a TCFD report, this could indicate that the company is not concerned with the risks and opportunities that result from climate change. The perceptions are likely to be that investments in this scenario will result in a less favourable risk-return profile for investors as this would diminish a company's ability to mitigate the risks and maximise the opportunities of climate change (Flammer et al., 2021). Therefore, institutional investors' interests would be disregarded and the legitimacy of the company could be negatively impacted. On the other hand, if a company does publish a TCFD report, this indicates that the company is taking considerable steps to identify and communicate the risks and opportunities of climate change. Such a company then would be well-placed to mitigate the risks and maximise the opportunities presented by climate change, and investments in this scenario are likely to result in a more favourable risk-return profile for investors. Therefore, the interests of institutional investors' as key stakeholders would be prioritized (Roberts, 1992) while the legitimacy of the company would be enhanced. This finding is aligned with the outcomes of the studies conducted by Kouloukoui et al. (2019), Achenbach (2021), and Eccles and Krzus (2018).

Secondly, activist shareholders can be considered as key stakeholders as they own shares in companies. However, their main objective is to influence the actions of companies on specific issues such as climate change by analysing the actions taken by the company and disseminating their opinion of these actions in the public domain (Fisher & Nasrin, 2021). Therefore, activist shareholders can influence other stakeholders such as the public and other investors. If a company does not publish a TCFD report, their activist shareholders focussing on climate change issues would deem this to be a failure to address their interests. In such a negative scenario, the activist shareholders would disseminate their pessimistic opinion of this action in the public domain and damage the reputation and legitimacy of a company. However, in a positive scenario, the activist shareholders would disseminate their constructive opinion of this action in the public domain and therefore enhance the reputation and legitimacy of the company. This finding confirms the pragmatic legitimisation strategy identified by Suchman (1995) in the context of South African companies' responses to the demands of activist stakeholders.

Thirdly, a public commitment can be seen as a pledge made by a company to its stakeholders to achieve a certain objective (Tavakolifar et al., 2021). In the context of this study, that commitment relates to the publication of a TCFD report whereby an attempt by a company to establish and maintain their legitimacy is done by publicly outlining their intention to address the risks and opportunities of climate change (Tavakolifar et al., 2021). The non-publication of a TCFD report within the committed deadline would betray the expectations of its stakeholders, and it therefore faces the risk of reputational damage and a loss of legitimacy. On the contrary, if the company does publish a TCFD report within the committed deadline, this can be considered to be a proactive legitimising action that would satisfy its stakeholders' expectations and therefore enhance its reputation and legitimacy (Suchman, 1995).

The final linkage between the drivers of TCFD reporting and the legitimacy theory is related to policy and regulation. While policy and regulation have not been identified as a current driver of TCFD reporting in South Africa, evidence shows that this pressure does exist in international markets where TCFD reporting is a regulatory requirement. Therefore, logic dictates that policy and regulation would drive TCFD reporting in South Africa if such reporting becomes mandatory, as identified by several studies in the literature review above (Achenbach, 2021; Foerster et al., 2017). Once mandatory, companies impacted by the regulation would be required to publish a TCFD report to satisfy the expectations of the regulators (FSB, 2022). If such companies fail to do so, they would not meet regulatory requirements and the expectations of key stakeholders. This would likely lead to significant reputational damage and loss of legitimacy, as other stakeholders would view the company to be non-compliant with the expectations of society. However, if companies that are required to publish TCFD reports comply with this expectation to meet regulatory requirements this would enhance their reputation and legitimacy, as stakeholders would view the company as compliant with the expectations of society (Roberts, 1992; Suchman, 1995).

4.5.2 Challenges of TCFD Reporting in South Africa

The challenges of TCFD reporting in South Africa identified above and categorized as organisational features consist of: (i) data collection, (ii) cost and time, (iii) skills, and (iv) confidentiality and security. These are challenges that could prevent a company from publishing a TCFD report since TCFD reporting is currently voluntary in South Africa, and a failure to publish a report would not necessarily lead to a loss of legitimacy. However, there are exceptions whereby failing to publish a TCFD report in a voluntary regulatory environment could lead to a loss of legitimacy. For example, if a company has made a public commitment to publish a TCFD report, or if a company's industry peers have published TCFD reports, then that company's stakeholders would expect the company to publish a TCFD report and failure to do so could lead to a loss of legitimacy (Ramus & Montiel, 2005). Similarly, if a company is unable to overcome these challenges in a mandatory regulatory environment, it faces the potential of an even greater loss of legitimacy, as it would not comply with society's expectations (Kouloukoui et al., 2019).

The challenges that are categorized as external factors of TCFD reporting in South Africa include (i) scenario analysis and (ii) greenwashing. While these challenges would not prevent a company from publishing a TCFD report, it could impact the quality of a report's contents. If a company fails to conduct scenario analysis and does not publish the results of such an analysis in a TCFD report, it could indicate that the company has not considered how CROs could evolve over time and how the implications could vary under different conditions (UNEP FI, 2019). In terms of greenwashing, a company that includes false claims about its sustainability practices or intentionally omits material information in its sustainability reports, or TCFD report in the context of this study, could lead to reputational damage (Santos et al., 2023). The inadequate or misleading content of the report that is disseminated to stakeholders could also lead to a loss of legitimacy as society's trust in the organisation deteriorates (Suchman, 1995).

4.5.3 Refining the Conceptual Model

The findings above identify a range of drivers and challenges of TCFD reporting that affect report prepares in South Africa. The conceptual model of influences around integrated reporting that was developed by de Villiers et al. (2017) and later adapted for TCFD reporting by Achenbach (2021) can be further refined based on these findings.

Based on the discussion of the findings above, institutional investors, activist shareholders, public commitments, competitors, and working groups have been identified as significant drivers of TCFD reporting in South Africa. Despite some evolution over time those not identified as significant drivers of TCFD reporting were: the board of directors, a younger generation of employees, policy and regulation, physical and transition risks, the media, and clients. Data collection, cost and time, skills, confidentiality and security, scenario analysis, and greenwashing have all been identified as challenges of TCFD reporting in South Africa. While challenges that are categorised as organisational features can prevent companies from publishing TCFD reports, external factors can impact the quality or the outcome of published TCFD reports.

The refined conceptual model in Figure 7 below can be used for future studies to develop new research questions relevant to climate-related disclosures, or to conduct in-depth studies that examine each driver and challenge of TCFD reporting.

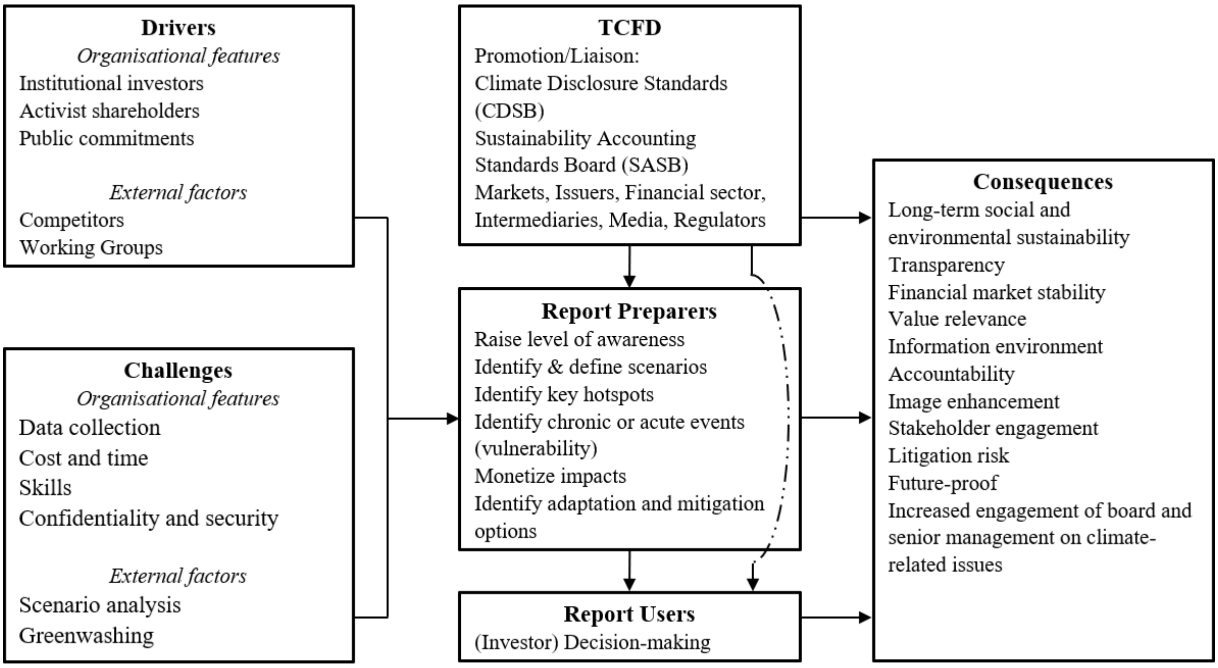

Figure 7: Conceptual model of the drivers and challenges of TCFD reporting in South Africa

4.6 Participants' Recommendations to Drive TCFD Reporting in South Africa

The findings above indicate that currently, policy and regulation are not a major driver of TCFD reporting in South Africa. In fact, the evidence suggests that the private sector, rather than the public sector, is the main driver of TCFD reporting policies and regulation in the country. The participants' response to share their recommendations regarding the best approach for regulators in South Africa for the adoption of TCFD reporting included improved TCFD reporting guidance as well as ensuring a level playing field for companies.

Firstly, in terms of the development of clear guidance and documentation regarding the requirements of TCFD reporting in the country it was noted that this would be especially valuable for companies that have not yet faced the challenge of collecting data and publishing a TCFD report.

"To give clear guidance on [the regulators'] requirements and their recommendations and to provide enough support for companies who would be first time adopters and new to the process." Participant 2

In particular, one participant noted that there was some conflict between the various regulators in the country which led to a lack of accountability and inconsistent guidance.

"There is a lot of strife between [the regulators]… There is no consolidation and agreement on that level as to what they actually want to do. It causes confusion." Participant 4

Secondly, participants' recommendations regarding the practical requirements of enforcing mandatory TCFD reporting in South Africa included a clear motivation for the objective of TCFD reporting, minimising the bureaucracy of reporting, and ensuring that companies can realistically comply with regulatory requirements.

"If you are going to make it mandatory, make it relevant. Make it achievable and streamlined…You do not want to jump through hoops to meet regulatory requirements…Keep the end objective in mind." Participant 1

Multiple participants referenced the Carbon Tax Act in South Africa as an example of legislation that is failing in its objective of reducing carbon emissions. The failures of the approach taken to implement the Carbon Tax can therefore serve as a lesson for regulators that are considering implementing mandatory TCFD reporting.

"If you look at the bigger companies and the high emitters, they are still fighting against [the Carbon Tax Act] and they are not transitioning. It is not achieving the desired effect." Participant 1

Lastly, some participants argued that the regulators should ensure that mandatory TCFD reporting requirements lead to a level playing field for all the companies that are required to comply with the regulation. One participant noted that this requires clear guidance on the assumptions contained in a TCFD report, so that report readers can directly compare one company to another. The participant suggested that this can be achieved by having auditable standards published by IFRS. This challenge could be overcome with the launch of IFRS S1

‘General Requirements for Disclosure of Sustainability-related Financial Information’ and IFRS S2 ‘Climate-related Disclosures’ in 2023, which are aligned with the TCFD framework and aim to standardise corporate sustainability reporting (IFRS Foundation, 2021).

“They must make sure that we have a level playing field…so that it does not look like [their competitors’] portfolio is greener than ours because of our classification…It also has to be auditable, like the financial statements where you know that it is going to be aligned with the IFRS framework.” Participant 6

The above evidence suggests that companies in South Africa struggle with inconsistent and inadequate TCFD reporting guidance, and that recently promulgated climate change legislation has not led to the intended outcome. However, the participants provided several suggestions to approach these challenges that could make mandatory TCFD reporting in South Africa more impactful. Although some of these suggestions might not be appropriate or relevant in the South African context, there is great potential for the regulators with policy expertise and private companies with practical experience to further collaborate on solutions to these challenges.

4.7 Participants’ Recommendations for TCFD Reporting in other Companies

In addition to the approaches to drive the adoption of TCFD reporting in South Africa, participants were also asked to share recommendations that could assist other companies that have not yet started with TCFD reporting. Again, participants made various recommendations. This included developing relevant skills within the company, utilising support networks, setting a target, and understanding the value of TCFD reporting.

The findings above suggest that TCFD reporting skills are rare in South Africa, and recruiting and retaining employees with the appropriate knowledge and experience is a significant challenge for companies. One participant recommended that this challenge can be addressed by obtaining the services of external consultants with the necessary skills, or developing the skills internally. While the former would likely lead to a quicker delivery of outputs initially, the latter would be more cost effective and result in long-term benefits for the company by retaining and developing these skills internally.

“I would get help…Get expertise where it is available, or build it internally. That might take some time and it is going to require training.” Participant 3

Another participant recommended that companies should capitalise on their existing support networks. This includes collaboration through working groups, which are identified as drivers of TCFD reporting above. Furthermore, another participant suggested that collaborating with other companies also undertaking the TCFD reporting process can result in mutually beneficial lessons, despite these collaborators being considered competitors.

"Look at what others are doing. We all talk to each other and that is good, because there is a common risk that we are facing. We might as well be friends and talk to each other and share information." Participant 3

Although one participant was cautious in making public commitments due to the added external scrutiny, another participant recommended that companies should set internal targets related to TCFD reporting. This could be seen to increase the motivation for the company to achieve the target, and could lead to a dedicated allocation of resources to achieve the target.

"As soon as you put a target on something in the company, then you have to achieve this target. They are going to start putting resources towards it." Participant 6

Furthermore, one participant highlighted the critical importance of understanding the reason and objectives of TCFD reporting. The participant suggested that this would increase the employees' motivation to undertake the arduous task of collecting data and publishing a report. This is also likely to improve the quality of the report by ensuring that the report prepares are fully committed to the reporting requirements.

"It also helps to understand why we are doing this and what the objectives are… It is no just because you have to report it then, because you are doing it for the right reasons… I think that helps drive the work throughout your organisation and to get buy-in from everybody." Participant 1

Finally, several participants suggested that the best approach to first-time TCFD reporting is simply to take the first step and embark on the process. Although a company's first TCFD report might not be perfect and could be a relatively short document, participants suggested that getting started and clearly outlining the assumptions made should create a platform for companies to improve the quality of their reports in subsequent iterations.

"As long as you disclose what assumptions you have made and you are transparent it does not matter. They can see that we have made a start and it is not going to be perfect. If you are going to wait for perfection you are never going to do it." Participant 4

Although it is a daunting task to undertake the TCFD reporting process for the first time, the recommendations above from experienced report-preparers in South Africa should provide a starting point for other companies. Developing relevant skills, capitalising on support networks, setting an internal target, and understanding the value of TCFD reporting will assist first-time report-preparers to successfully deliver the required outcomes. The most important factor, however, is that newcomers should simply get started.

4.8 Conclusion

The participant interviews offer deeper insights into the drivers and challenges encountered by South African companies when engaging in TCFD reporting. While some aspects align with the experiences of companies in other regions, as indicated in the literature, certain elements are distinctive to the South African setting. The influence of institutional investors, activist shareholders, public commitments, competitors and working groups are significant drivers of TCFD reporting in South Africa. However, the impact of the board of directors has not been identified as an initial driver, while policy and regulation only drive organisations facing international regulatory pressure. Also not currently drivers of TCFD reporting in South Africa are the younger generation of employees, physical and transition risks, the media, and clients. What did emerge as significant challenges for TCFD reporting in South Africa were: data collection, cost and time, skills, confidentiality and security, scenario analysis and greenwashing. Lastly, the participants recommended that clear guidance and mandatory requirements be implemented to drive TCFD reporting in South Africa. They further suggested that novice report preparers should prioritise skills development, establish support networks, set internal targets, and comprehend the value of TCFD reporting.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The final chapter provides a conclusion to this study which explores the drivers and challenges of TCFD reporting in South Africa. The sub-sections below focus on the study's key findings and implications, policy recommendations based on the findings, the limitations of the study, recommendations for future research, and concludes with a summary of the study.

5.2 Summary of the Study

The impacts of climate change are far-reaching and are increasingly impacting life as we know it (IPCC, 2022). It is imperative that significant changes are made to the global economy in the coming years to mitigate the damage caused by this phenomenon. Large companies, which bear a significant responsibility for global emissions, have a crucial role to play in combating climate change. One approach that companies can adopt to control their contribution to climate change involves identifying and managing the CROs most pertinent to their business operations and publishing climate-related financial disclosures. The TCFD report, published in 2017, is a widely-accepted framework comprising 17 recommendations for companies to effectively disclose CROs to their stakeholders. These recommendations are categorized into four core pillars encompassing governance, strategy, risk management, and metrics and targets.

Although TCFD reporting is a voluntary market-led initiative in South Africa, the number of countries implementing TCFD reporting requirements is increasing (FSB, 2022), and this should encourage the South African government to follow suit. A growing number of South African companies have published TCFD reports in recent years either voluntarily or as mandatory. It is vital to comprehend the motivations behind any company's decision to publish TCFD reports and the barriers that they encounter in this process to facilitate broader adoption of high-quality reporting among companies. Therefore, the objective of this study is to explore the drivers and challenges of TCFD reporting in South Africa.

The study includes a thorough review of literature related to sustainability reporting, the TCFD framework, and the global as well as South African TCFD landscape. Subsequently, the study examines the conceptual model of influences around integrated reporting developed by de Villiers et al. (2017) which identifies the determinants of integrated reporting and their consequences. The authors note that this conceptual model can be used to develop new research questions related to integrated reporting. Integrated reporting should offer insight into a company's financial and sustainability performance according to the King IV Report on Corporate Governance (IoDSA, 2016). As the TCFD framework includes the identification of CROs and their impact on a company's financial performance, a clear linkage can be made between integrated reporting and TCFD reporting. Achenbach (2021) explored this linkage by adapting the conceptual model to study the determinants of TCFD reporting. The conceptual model is further adapted by this study to explore the drivers and challenges of TCFD reporting in South Africa.

The theoretical framework underlying this study consist of the legitimacy theory and the stakeholder theory. The legitimacy theory argues that a companies' actions are judged to be acceptable within a society's system of values and beliefs (Suchman, 1995), while the stakeholder theory argues that a key objective of companies is to maintain an equilibrium between the various requirements of its different stakeholders (Ansoff, 1965). These theories should be seen as overlapping rather than competing theories due to their shared ontological perspective and explanation of the bi-directional influences between organisations and society (Chen & Roberts, 2010).

The empirical literature on the drivers and challenges of TCFD reporting includes a small number of studies since the short timeframe of the release of the TCFD recommendations in 2017. Therefore, the empirical literature review is expanded to include studies conducted on the drivers and challenges of other sustainability reports. The review identified several gaps in the literature including a lack studies on TCFD reporting in general, as well as studies specifically related to the drivers and challenges of TCFD reporting. Few studies exist with a focus on TCFD reporting in South Africa or other similar emerging markets. Therefore, this study aims to address some of these gaps identified in the literature.

The research approach employed in this study was guided by various factors, including the type of data collected from report preparers, the philosophical assumptions underpinning the research, and the exploratory nature of the study within the South African context. Firstly, qualitative research proved to be the most suitable as it allowed the researcher to delve into the subjective opinions and experiences of TCFD report preparers in South Africa. Secondly, this study adopts an interpretive philosophical assumption, acknowledging the presence of multiple realities experienced by TCFD report preparers. Lastly, the exploratory nature of this study is evident in its preliminary investigation of the drivers and challenges of TCFD reporting in South Africa, while also paving the way for future research avenues on this topic.

A combination of purposive and snowball sampling was used to identify research participants with knowledge and experience that is applicable to the research question. The sample size of seven participants is aligned with other similar studies, and data collection consists of both primary and secondary data. Primary data was collected by conducting semi-structured interviews with report preparers, and secondary data was obtained from publicly available reports published by companies. The IPR framework was used to systematically create and refine the structure and contents of the interviews. The data was then analysed using the open, axial, and selective stages of coding. This enabled the researcher to categorize data according to themes related to the drivers and challenges of TCFD reporting, and ultimately led to the key findings and implications of the study.

5.3 Findings and Implications of the Study

The study's findings resulted in the identification of five drivers and six challenges associated with TCFD reporting in South Africa. Furthermore, the conceptual model of influences around integrated reporting developed by de Villiers et al. (2017) was adapted for the determinants of TCFD reporting by Achenbach(2021), and was further refined by this study to describe the drivers and challenges of TCFD reporting in South Africa. The findings support the overlapping legitimacy and stakeholder theories within the context of TCFD reporting, and their implications are discussed in more depth in the subsequent sub-sections.

5.3.1 Key Drivers of TCFD Reporting in South Africa

The comprehensive data collected from seven subject matter experts in South Africa facilitated the identification of the key drivers and challenges of TCFD reporting in the country. Five organisational features and external factors emerged as significant drivers of TCFD reporting in South Africa. These drivers include institutional investors, activist shareholders, public commitments, competitors, and working groups. On the other hand, evidence suggests that a company’s board of directors, a younger generation of employees, policy and regulation, physical and transition risks, the media, and clients are not currently recognised as significant drivers of TCFD reporting in South Africa.

Institutional investors were identified as one of the foremost drivers of TCFD reporting, and the evidence indicates that they apply substantial pressure on companies to publish TCFD reports. Given their status as key stakeholders, institutional investors' requirements hold significant importance but the level of pressure exerted by these investors varies based on the company's geographic location and sector of operations. Notably, international investors exerted more pressure compared to local investors, while companies within the financial sector faced greater expectations compared to those in the retail sector. Moreover, investors who publish their own TCFD reports are inclined to anticipate that their investees will follow suit.

Activist shareholders were also identified as influential stakeholders that exert substantial pressure on the companies in which they invest by pressuring them to disclose TCFD reports. Despite the significant pressure exerted by activist shareholders, participants expressed support for their efforts and acknowledged the constructive working relationships and feedback opportunities they provide. These findings suggest that the strategies employed by activist shareholders in South Africa are effective in driving TCFD reporting. Consequently, other organizations seeking to influence companies' behaviour should consider adopting a similar approach.

Companies make public commitments to communicate their goals and strategies to a wide range of stakeholders. Once a company publicly commits to a specific goal, there is increased pressure from stakeholders for the company to fulfil that commitment. Failing to achieve such a commitment can result in reputational damage and undermine the company's legitimacy. This suggests that public commitments serve as catalysts for TCFD reporting, and therefore, an effort to push companies to make public commitments would further drive TCFD reporting.

Evidence suggests that the actions of competitors are a significant driver of TCFD reporting in South Africa. The driving force of competitors can be explained by a duality of factors. On the one hand, companies seek to attain market leadership which drives them to publish TCFD reports of superior quality compared to their competitors. On the other hand, some companies opt to foster collaboration with their competitors, facilitating mutually beneficial knowledge sharing and benchmarking opportunities.

Another instance of collaborative efforts among peers to publish TCFD reports is exemplified by the prominence of working groups. These working groups have demonstrated their significance in driving TCFD reporting by effectively raising awareness and disseminating guidance. These working groups contribute to the advancement of TCFD reporting by creating a platform for report preparers to enhance their TCFD reporting skills and gain insights into reporting challenges faced in international contexts. The recognition of competitors and working groups underscores the importance of collaboration and knowledge sharing in further enhancing awareness, fostering skill development, and ultimately promoting increased adoption of TCFD reporting in South Africa.

5.3.2 Key Challenges of TCFD Driving in South Africa

In contrast to the drivers identified above, six organisational features and external factors were identified as significant challenges of TCFD reporting in South Africa. The challenges encompass data collection; cost and time; skills; confidentiality and security; scenario analysis; and greenwashing.

Data collection emerged as one of the most challenging aspects of TCFD reporting in South Africa with participants. The intricate nature of the participants' companies, characterized by large and diverse teams often compounds the difficulty of obtaining accurate data. Data collection from external stakeholders also proved to be particularly challenging for report-preparers. These findings, along with the recommendations put forth by the participants, indicate the pressing need for enhanced guidance and documentation to support report-preparers in navigating the complexities of data collection. Should TCFD reporting become mandatory in South Africa, the challenge of data collection is expected to diminish as more companies are obliged to gather and report data, consequently facilitating greater accessibility to external stakeholder data.

Participants also noted the challenges of cost and time in relation to the additional expense and resourcing requirements of TCFD reporting. While some companies opted to hire new employees to strengthen their internal capacity, thereby incurring additional costs, others distributed the added responsibilities among their existing teams, consequently reducing resource availability. Although most companies struggled with this challenge, others were able to readily justify and secure the necessary additional budget. Software solutions were identified as one potential solution to decrease the cost and time requirements of TCFD reporting.

Finding employees with appropriate TCFD reporting skills in South Africa was also identified as a significant challenge. Participants emphasized the difficulty of finding individuals with a combined proficiency in climate change and business acumen. While external consultants can be hired to bridge the skills gaps, their services come at a cost and this approach fails to build internal capacity. Although the development of climate change skills within a corporate context is expected to improve over time as more companies publish TCFD reports, a targeted effort is necessary to address this challenge. The development of tailored TCFD training sessions, coupled with the establishment of additional working groups and support networks, could foster skills growth in this domain.

Although the confidentiality and security of data was not identified as a key challenge, participants noted that its importance is likely to increase over time. Companies will require more cyber security personnel and greater expertise over time to effectively mitigate full disclosure of their strategies in public reports that threaten the loss of competitive advantage. Furthermore, the need to protect personal identities necessitates the implementation of stringent data sharing protocols, ultimately extending the duration of data collection and reporting.

Evidence also suggests that South African companies encounter difficulties in conducting scenario analysis, which is a key aspect of TCFD reporting. This challenge is compounded by the absence of comprehensive guidance to aid report preparers who undertake scenario analysis, along with the lack of region-specific scenarios tailored to the South African context. Consequently, regulatory bodies and other pertinent public stakeholders are urged to develop prompt scenario analysis guidance and release region-specific datasets to accelerate the adoption of climate-related disclosures in South Africa.

Lastly, a notable challenge highlighted by several participants was that of greenwashing. Companies that inadvertently or intentionally misrepresent their sustainability claims face the risk of reputational damage and diminished legitimacy among stakeholders. The task of establishing a broad understanding of sustainability fundamentals across diverse teams proved to be particularly challenging. Therefore, companies should prioritise the implementation of suitable climate change and sustainability training programmes that target all levels within the organization as an approach to mitigate the risk of greenwashing and safeguard against the erosion of legitimacy.

5.4 Contributions of the Study

The findings of this study contribute significantly to the academic understanding of the drivers and challenges of TCFD reporting in South Africa. A comprehensive literature review conducted as part of this research revealed gaps in climate-related financial disclosure research in general, and in the South African and emerging market context specifically.

Data for this study was collected from a select group of highly skilled and experienced TCFD report preparers employed by prominent financial institutions and a retailer. This data was subjected to a structured analysis through the lens of the legitimacy and stakeholder theories. This rigorous approach facilitated the identification of key drivers and challenges associated with TCFD reporting in the South African context.

The study's findings were used to further refine the existing conceptual model of influences around integrated reporting. This adapted conceptual model holds potential for future studies, enabling exploration of research questions pertaining to TCFD reporting and other similar climate-related disclosure standards such as IFRS S2. Furthermore, the study proposes a set of recommendations aimed at driving TCFD reporting in South Africa, while also providing practical suggestions for inexperienced report preparers.

In conclusion, this study adds value by expanding the literature on TCFD reporting in South Africa by adapting a conceptual model for future research avenues in climate-related financial disclosures, and by providing practical recommendations to increase the uptake of TCFD reporting in South Africa.

5.5 Policy Recommendations

The recommendations put forth by the participants serve as a foundation for shaping policies aimed at fostering an enabling environment for TCFD reporting in South Africa. A prominent concern raised by multiple participants is the lack of clear guidance and documentation within the country. Although the JSE (2022) has published informative climate disclosure guidance, it remains preliminary in nature and encompasses multiple reporting frameworks. To address this gap, regulators in South Africa should issue additional guidance that specifically focuses on TCFD reporting to outline forthcoming TCFD reporting requirements and establish standard assumptions to employ for scenario analysis in the South African context.

Furthermore, the confusion arising from conflicting perspectives among different regulators in South Africa was highlighted by participants. The recommendations are that a singular organisation is designated as the primary regulator of climate-related disclosures in the country. This designation would empower the organisation to develop and disseminate clear and widely applicable guidance, while also holding it accountable for driving the adoption of TCFD reporting countrywide. In addition, participants emphasized that potential mandatory requirements for TCFD reporting are both attainable and free from unnecessary bureaucracy. The primary regulator of TCFD reporting in South Africa should, therefore, streamline the reporting process, which better allows companies with varying levels of resource availability to meet the requirements effectively.

The lack of TCFD reporting skills in South Africa were identified as a significant challenge by participants. Companies face difficulties in attracting individuals who possess the necessary expertise to effectively integrate and communicate climate science within a commercial context. Consequently, companies often resort to acquiring the services of external consultants, incurring high costs without fostering internal capacity building. Although TCFD reporting skills in the country are expected to evolve naturally over time, specific policies can accelerate this development process as follows:

- Firstly, the establishment of sectoral and geographical diverse working groups can provide a platform for members to engage in discussions regarding the challenges they encounter, as well as to facilitate the identification and development of potential solutions. These working groups could be established by a central government entity, which would oversee their functioning and consolidate the challenges reported by members to inform the implementation of suitable interventions.
- Secondly, the establishment of a TCFD and CRO skills development programme could effectively enhance capacity-building within the country. This programme should primarily target smaller companies that may lack the financial resources to acquire the services of external consultants.
- Thirdly, the challenge of conducting internal TCFD training was identified as different levels of staff have varying learning and development requirements. To address this, a central government entity should develop training material that can provide companies with standardised content and structure for conducting internal training sessions. The skills development programme and the training materials should be made available and

disseminated through the aforementioned working groups, to create a collaborative and accessible platform for sharing knowledge and resources.

- Lastly, tertiary education institutions should incorporate CRO identification and management courses into their curriculum for students pursuing commerce-related qualifications. This initiative would cultivate the necessary skills within the emerging labour force entering the market. Additionally, a programme should be established to encourage companies that undertake CRO management activities to offer internships and practical training opportunities to students. This integration of theoretical education with hands-on experience will foster a comprehensive understanding of climate-related financial issues and enhance the practical skills of future professionals.

5.6 Limitations of the Study

While this study expands the knowledge of the drivers and challenges of TCFD reporting in South Africa, it is important to acknowledge three limitations identified in the study.

- Firstly, this study was conducted in the South African context which operates in a voluntary TCFD reporting environment. The drivers and challenges of TCFD reporting in a mandatory TCFD reporting environment may differ, thus limiting the generalizability of the study's findings to countries with mandatory TCFD reporting requirements.
- Secondly, the study’s participants are employed by publicly listed companies that primarily operate in the financial services sector. The inclusion of participants from non-listed companies across various sectors could yield more diverse findings.
- Lastly, although the number of participants aligns with similar studies, conducting a greater number of interviews could have unveiled additional drivers and challenges pertaining to TCFD reporting.

5.7 Recommendations for Future Research

Future studies can explore several research questions to further advance the understanding of this topic. A notable gap in the existing literature is as follows:

- Firstly, that this study concentrated on companies within South Africa, but the replication of research in other emerging markets would gain further insights into drivers and challenges across different geographic locations.

- Secondly, the study’s participants are employed by large companies, with the majority being publicly listed. There is potential for future studies to specifically examine the drivers and challenges experienced by report preparers employed at smaller non-listed companies. This would enable an examination of whether the drivers and challenges of TCFD reporting differ based on listing requirements or company size.
- Thirdly, the study’s participants exclusively represent companies that operate in the financial services and retail sectors. Future studies can, therefore, enhance the scope by incorporating a broader range of sectors to understand the drivers and challenges across diverse industries. As financial institutions play a crucial role in providing capital for numerous market activities and are responsible for substantial value chain carbon footprints, they therefore face significant pressure from stakeholders to act decisively on climate change issues. Conversely, companies operating in different sectors with smaller value chain carbon footprints may encounter a different set of drivers and challenges.
- Furthermore, future studies can conduct in-depth research on each significant driver and challenge identified in this study. This approach would facilitate the development of strategies to foster an enabling environment for TCFD reporting by capitalising on drivers and effectively addressing challenges.
- Lastly, as climate-related disclosures evolve and new standards such as IFRS S2 emerge, it would be invaluable to analyse the drivers and challenges associated with these similar standards in comparison to the findings of this study.

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APPENDIX 1: CONSENT FORM AND LIST OF INTERVIEW QUESTIONS

UNIVERSITY OF CAPE TOWN

GSB DEFIC DEVELOPMENT FINANCE CENTRE

EQUIS ACCREDITED   ASSOCIATION AMBA ACCREDITED   AACSB ACCREDITED

Master of Commerce in Development Finance
INTERVIEW/SURVEY CONSENT FORM

Participant name: ……………………………………………………………………

I volunteer to participate in a research project conducted by Rupert Vermaas as partial fulfilment of the requirements for the Master of Commerce in Development Finance Degree at the UCT Graduate School of Business. I understand that the research is designed to gather information about the drivers and challenges of TCFD reports published by South African companies and that I will be one of approximately 10 people interviewed for this research.

<u>Objective(s) of the research</u>
The effects of climate change are increasingly impacting the operations and valuation of companies. In recognition of this, the Task Force on Climate-related Financial Disclosures (TCFD) recommends that companies disclose information on four pillars, namely climate-related governance, strategy, risk management metrics and targets. While 8 countries have implemented mandatory TCFD reporting requirements, South Africa is yet to do so and companies therefore disclose information on a voluntary basis. This research seeks to explore the drivers and challenges of TCFD reporting in South Africa.

<u>Ethics approval</u>
The ethical clearance for this study was approved by the UCT GSB Research and Ethics Committee on 10 July 2022.

<u>Participation and confidentiality</u>
I understand that my participation in this research is voluntary, that I will not be compensated and that I may withdraw at any time. The interview will take approximately 60 minutes to complete and will be audio recorded.

I understand that I will not be identified by name in any reports using information obtained from this interview and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions. Should you have any questions or concerns please contact me (vrmrup001@myuct.ac.za) or my supervisor Latif Alhassan (latif.alhassan@uct.ac.za).

<u>Consent</u>
I consent to participate in this interview, based on the terms outlined above and subject to the following additional condition of my own (if any).

-------------------------------------	**--------------------------------**
Signed by interviewee	**Date**
………………………………..	**……………………………**
Signed by Student	**Date**

Section 1: Background information

1. Can you describe your position and role within your organisation?
2. Can you briefly describe your involvement in the process of compiling and publishing your organisation's TCFD report?

Section 2: Key questions

3. How have considerations to adapt to physical and transition risks and opportunities of climate change driven your organisation to publish TCFD reports?
4. How has the desire to engage more with stakeholders and decrease information asymmetry driven your organisation to publish TCFD reports?
5. How has organisational culture driven TCFD reporting?
6. How has pressure from your board of directors driven your organisation to publish TCFD reports?
7. How has pressure from investors driven your organisation to publish TCFD reports?
8. How has pressure from the media driven your organisation to publish TCFD reports?
9. How have policy and regulatory reforms driven your organisation to publish TCFD reports?
10. How have actions from competitors driven your organisation to publish TCFD reports?
11. Are there any other drivers of TCFD reporting that have impacted your organisation?
12. How has the availability of trustworthy data posed a challenge to publishing TCFD reports?
13. How has the cost and time required to collect and disseminate data posed a challenge to publishing TCFD reports?
14. How has the confidentiality of data and the impact on competitive advantage posed a challenge to publishing TCFD reports?
15. Are there any other challenges of TCFD reporting that have impacted your organisation?

Section 3: Closing questions

16. Do you believe that TCFD reporting should be voluntary or mandatory in South Africa?
17. What practical impact will mandatory TCFD reporting in South Africa have on organisations?
18. If you could give advice to the regulatory bodies in South Africa to drive the adoption of TCFD- reporting, what would it be?
19. If you could give advice to others that would like to start reporting in line with the TCFD recommendations, what would it be?