



Renewable energy disclosure in South African listed companies' corporate reports: An impression management analysis

A research report submitted by: Jessica Schaller

Student number: 1617971

Contact number: 082 521 4822

Email: jessschaller4@gmail.com

Submission Date: 31 March 2023

Ethics clearance number: WSOA-2022-09-11W

Supervisors: Zakiyyah Varachia and Dannielle Cerbone

In partial fulfilment of the requirements for the degree of a Master of Commerce in
Accountancy

Declaration

I hereby declare that this research report is my own unaided work. It is submitted in partial fulfilment of the degree of Master of Commerce by Coursework and Research Report at the University of the Witwatersrand, Johannesburg. It has not been submitted elsewhere for the purpose of being awarded another degree or for examination purposes at any other university.

Signature:

Jessica Schaller

Jessica Schaller

21 March 2023

Acknowledgements

I have received an overwhelming amount of support throughout the writing of my thesis, and I would like to thank everyone who has played a role in this accomplishment.

First and foremost, I would like to sincerely thank my supervisors, Zakiyyah Varachia and Dannielle Cerbone, for their continuous support, guidance, and insightful feedback. I am fortunate to have had supervisors who cared so much about my work, challenged me and were always there to provide prompt responses to every query and question. I truly could not have asked for better supervisors and mentors.

I would also like to thank my parents, Cedric and Lorna Schaller, for teaching me the value of hard work and education. I am thankful for your unwavering love, support and encouragement throughout my studies and for all the sacrifices that you have made. I would never have accomplished what I have, without you.

To my sister, Samantha, and friends, thank you for being my biggest cheerleaders. Thank you for always being there to listen and for bearing with me during this long journey. Thank you to my fellow academic trainees for the many stimulating discussions, entertaining moments and words of encouragement. I am privileged to have worked with such a lovely group of people whom I am lucky to call some of my closest friends.

Special thanks to Professor Nirupa Padia and the School of Accountancy, for providing me with the opportunity and support to complete my Masters. This extends to Jennifer Croll for editing my thesis.

Finally, I would like to thank my boyfriend, Timothy. I am inspired by your work ethic and am endlessly grateful for all your love and consistent motivation. I appreciate the many weekends we spent working together and I am exceptionally proud of you, for all your achievements. I am so lucky to have shared this experience with you.

I am eternally blessed with the wonderful group of individuals in my life and no words could adequately express my gratitude.

Abstract

The emphasis on renewable energy is especially relevant in a South African context. The poor electricity stability has resulted in many businesses incorporating renewable energy into their business model and subsequent disclosures. The disclosures provided by companies are intended to address stakeholders' information needs regarding the sustainability of a company. The disclosure may, however, contain elements of impression management to reduce agency costs. The report investigates the informativeness of renewable energy disclosures, questioning whether companies adopt impression management strategies by manipulating the disclosures provided in their reports. A content analysis was performed on the disclosures by 60 listed companies. Analysis was performed using descriptive and multivariate statistical analysis to assess the extent of impression management depending on the type of industry, market capitalisation and corporate report used. It was found that companies engage in impression management when disclosing the transition. The findings support that there were mainly similarities noted across industries and market capitalisation in terms of the techniques used, with some differences in terms of the impression management methods used. There were, however, significant differences noted in the overall level of impression management within different industries, market capitalisations and corporate reports. This evidence has relevant implications for both accounting scholars and practitioners since it questions the role of voluntary disclosures and the intended purpose of the disclosures in different reporting media.

Key words: Renewable energy, impression management, legitimacy, corporate reporting

CONTENTS

Declaration.....	i
Acknowledgements.....	ii
Abstract.....	iii
LIST OF TABLES.....	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS/ ACRONYMS	viii
CHAPTER 1: INTRODUCTION.....	1
1.1. Statement of the problem.....	2
1.2. Purpose of the study.....	2
1.3. Significance and contributions of the study.....	3
1.4. Research questions	3
1.5. Assumptions, limitations, delimitations	4
CHAPTER 2: LITERATURE REVIEW.....	5
2.1. The shift from fossil fuels to renewable energy	5
2.2. Corporate reporting.....	7
2.3. The legitimacy theory.....	9
2.4. Impression management.....	11
2.5. Impression management techniques	13
2.5.1. Attribution	14
2.5.2. Visual emphasis	15
2.5.3. Comparisons.....	16
2.5.4. Sentiment	17
CHAPTER 3: METHODOLOGY.....	19
3.1. Research design.....	19
3.2. Population and sampling.....	19
3.3. Data sources.....	20
3.4. Analysis plan.....	20
3.5. Content analysis.....	21
3.6. Data analysis.....	22
3.7. Ethical consideration.....	23
3.8. Validity and reliability	23

CHAPTER 4: RESULTS AND DISCUSSION	24
4.1: Overall descriptive statistics	24
4.1.1: Types of corporate reports issued.....	24
4.1.2: Types of renewable energy disclosed.	25
4.1.3: Industry	26
4.1.4: Market capitalisation	29
4.2: RQ1- Overall impression management	31
4.2.1: Attribution	33
4.2.2: Visual emphasis	37
4.2.3: Sentiment	42
4.2.4: Comparisons.....	43
4.2.5: Answering research question 1.....	46
4.3: RQ2 - Difference in impression management within different industries and market capitalisations	46
4.3.1: Industry	46
4.3.2: Market capitalisation	54
4.4: RQ3 – Impression management between corporate reports	60
4.4.1: Attribution	61
4.4.2: Visual Emphasis.....	62
4.4.3: Sentiment	64
4.4.4: Comparisons.....	64
4.4.5: Answering research question 3.....	65
CHAPTER 5: Conclusion and recommendations	67
5.2: Contribution of the report.....	68
5.3: Limitations and areas for future research	69
REFERENCES:	70
APPENDICES:.....	75
Appendix 1	75
Appendix 2	76

LIST OF TABLES

Table 1: Number of disclosures per industry	26
Table 2: Number of disclosures per corporate report based on industry.....	27
Table 3: Disclosure of renewable energy per industry	28
Table 4: Number of disclosures per market capitalisation	29
Table 5: Number of disclosures per corporate report based on market capitalisation.....	30
Table 6: Renewable energy per market capitalisation	31
Table 7: Impression management techniques per industry	46
Table 8: Attributional elements per industry	47
Table 9: Visual Emphasis elements per industry	49
Table 10: Location per industry	50
Table 11: Sentiment per industry	51
Table 12: Comparison elements per industry	52
Table 13: Nature of comparisons per industry	53
Table 14: Impression management techniques per market capitalisation.....	54
Table 15: Attributional elements per market capitalisation.....	55
Table 16: Visual emphasis elements per market capitalisation.....	56
Table 17: Prominence per market capitalisation.....	56
Table 18: Sentiment per market capitalisation.....	57
Table 19: Comparison elements per market capitalisations.....	58
Table 20: Nature of comparisons per market capitalisation	59
Table 21: Attributional elements per corporate report.....	61
Table 22: Visual emphasis elements per corporate report.....	62
Table 23: Location per corporate report	63
Table 24: Sentiment per corporate report.....	64
Table 25: Comparisons per corporate report	65

LIST OF FIGURES

Figure 1: Breakdown of corporate reports used.....	24
Figure 2: Types of Renewable Energy Disclosed	25
Figure 3: Breakdown of impression management techniques	32
Figure 4: Breakdown of attributional elements used.....	33
Figure 5: Breakdown of internal attribution	34
Figure 6: Breakdown of external attribution	35
Figure 7: Breakdown of neutralisation	36
Figure 8: Breakdown of the elements of visual emphasis.....	37
Figure 9: Breakdown of special characters.....	38
Figure 10: Breakdown of icons/pictures and tables/graphs	38
Figure 11: Breakdown of font formats	39
Figure 12: Breakdown of prominence.....	40
Figure 13: Breakdown of location	41
Figure 14: Breakdown of sentiment.....	42
Figure 15: Breakdown of the elements of comparisons	43
Figure 16: Breakdown of internal referents.....	44
Figure 17: Breakdown of external referents.....	45
Figure 18: Breakdown of the nature of comparisons	45

LIST OF ABBREVIATIONS/ ACRONYMS

JSE	Johannesburg Stock Exchange
CSR	Corporate Social Responsibility
SDGs	Sustainable Development Goals
MDGs	Millennium Development Goals
GHG	Greenhouse Gas
ESG	Environmental, Social, and Governance
CER	Corporate Environmental Reporting

CHAPTER 1: INTRODUCTION

The corporate reporting practices of listed companies have shifted from traditional financial reporting to corporate social responsibility (CSR) reporting to integrated reporting (Dumay et al., 2016). Integrated reporting provides stakeholders with information about how a company performs on financial, social, environmental and governance activities in a concise and clear format (Marx and Mohammadali-Haji, 2014). According to the IIRC (2021, p.10),

“An integrated report is a concise communication about how an organisation’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation, preservation or erosion of value over the short, medium and long term.”

However, integrated reporting is not regulated by law in the manner that financial reporting is and companies have considerable freedom to decide both the content of what to include in integrated reports and how to present this content (Cho et al., 2012). Merkl-Davies and Brennan (2007) state that corporate reporting beyond the requirements of the law can be viewed in two different ways, either as the company giving incremental information to support stakeholders’ decision-making, or as organisational impression management and opportunistic behaviour designed to benefit the company. There has been criticism that corporate reporting is used to manipulate stakeholders. For example, Beattie and Jones (2000) and Brennan et al. (2009) found that management utilises impression management techniques and frames the disclosure to benefit the company. Methods such as attribution (Brennan et al., 2009, Aerts, 2005), use of visual emphasis (Brennan et al., 2009), the sentiment of the disclosure (Mućko, 2021), and use of comparisons (Melloni et al., 2016, Brennan et al., 2009) are methods used to repair, maintain, or enhance the legitimacy of the company (Brennan et al., 2009, Jugnandan and Willows, 2021).

Disclosures made in voluntary reporting vary from background about the company to corporate social disclosure (Hossain and Hammami, 2009). Climate change is often noted in disclosures due to rising greenhouse gas emissions and damage to the environment (Amusan and Olutola, 2016, Urry, 2015, Hahn et al., 2015). As climate change and global warming become more pressing issues in a societal and business context, there has been an increase in climate change and carbon emissions disclosures in integrated reports (Hahn et al., 2015, Harrast and Olsen, 2016). Many businesses are shifting from fossil fuels to renewable energy and incorporating renewables into their business model (Igogo et al., 2021, Garcia-Casarejos et al., 2018). In addition to the impact of climate change, South African companies’ movement to renewables is also influenced by the current circumstances facing the country.

In particular, South Africa is known for its unreliable national electricity grid and recurring load shedding (Akpeji et al., 2020, Sarkodie and Adams, 2018, Amusan and Olutola, 2016). This has hindered economic growth by increasing costs which negatively affect the performance of businesses and investment plans (Ateba et al., 2019). From a South African perspective, the move to renewables may be seen as more than merely addressing environmental concerns but also addressing the need for a more stable electricity supply (Akpeji et al., 2020).

As companies transition to renewables, it is important to communicate such changes to stakeholders in order to legitimise their actions as good corporate citizens and to retain and attract clients and stakeholders (Rupley et al., 2017). This is usually done through disclosures in corporate reports (Rupley et al., 2017, Hamza and Jarboui, 2021). Following the climate change rhetoric, disclosures by companies detailing their shift from fossil fuels to renewable energy are often received in a 'good light' by stakeholders (Stacchezzini et al., 2016). The reason for the shift is often not investigated. Although there are environmental benefits, alternative reasons could exist such as managing impressions (Sarkodie and Adams, 2018). As there is no specific standard on how the implementation or movement to renewables should be disclosed, the disclosure is usually voluntary and qualitative in nature which leaves room for discretion and bias (Ahmad and Hossain, 2015, Bansal and Kistruck, 2006). The disclosure of this shift to renewables in reports can therefore be used by management for more than merely meeting mandatory listing requirements as per the Johannesburg Stock Exchange (JSE) (Setia et al., 2015). It can be used as a tool to portray the company in the most favourable light and bolster shareholder confidence through the use of impression management (Beattie and Jones, 2000, Brennan et al., 2009).

1.1. Statement of the problem

The local electricity grid in South Africa has become exceedingly unreliable (Akpeji et al., 2020). South African companies must therefore make alternative arrangements to overcome the electricity crisis in South Africa (shift from fossil fuels to renewables). It is important to understand how the transition is reported to stakeholders. Of particular concern is whether the use of impression management techniques is present when companies communicate the change to allow a better perception of the company to be created. It is also not known where the information surrounding this shift is disclosed (for example, is the information in the integrated reports or separate reports, such as the sustainability report).

1.2. Purpose of the study

The purpose of this study is to understand if impression management strategies are employed by companies in South Africa when disclosing the move to renewable energy to enhance the reputation of the company.

1.3. Significance and contributions of the study

Business and academia are increasingly concerned regarding the ability of sustainability accounting to accurately reflect corporates' engagement in sustainability (Stacchezzini et al., 2016). This study provides insight into whether companies are transparently communicating the shift from fossil fuels to renewable energy or merely engaging in impression management techniques to present a self-serving image (Beattie and Jones, 2000, Brennan et al., 2009). This study fills a gap in the theoretical analysis of corporate information strategies and tactics in the area of renewable energy and climate change, which was identified by MacKay and Munro (2012). Consequently, this study identifies impression management techniques utilised by companies in their reporting to give the impression that they are sustainable actors. The study contributes to existing research, as it provides additional insight into the impression management techniques that companies use in corporate reporting with specific reference to the disclosure of the shift to renewable energy. This study also extends the literature on carbon information and renewable energy disclosure, as well as impression management from an emerging economy perspective (Luo et al., 2022, Strielkowski et al., 2021).

The results of this paper answer the call by Hamza and Jarboui (2021) which includes calls by governments, investors, and green associations to provide further insight into the use of corporate reporting. The paper provides evidence of whether companies respond to significant issues, such as the volatile energy supply, and if the response contains elements of impression management. Impression management techniques are valuable tools for analysing corporate reporting disclosures and the results of this paper could assist users in their evaluation of corporate reports as users will be aware of how impression management can be used to manipulate perceptions (Melloni et al., 2016, Beattie and Jones, 2000, Varachia and Yasseen, 2020). This study would also be beneficial to regulatory bodies, the management of a company and auditors. For instance, auditors could adapt audit procedures for such manipulations and management could implement sufficient oversight over corporate reports to ensure reports truthfully represent the company (Varachia and Yasseen, 2020). This study evaluates the use of four impression management techniques: attribution, visual/ presentation effects for emphasis, performance comparison (use of internal or external referents), and the sentiment of the disclosure.

1.4. Research questions

The objective of this research is to explore renewable energy disclosure and evaluate if there is evidence of impression management within the disclosures made. In this regard, the following questions have been developed:

1. Which impression management techniques and elements are more common in South African listed entities regarding renewable energy disclosures?
2. Does the impression management method differ within different industries and market capitalisations¹?
3. Are there different impression management techniques used by companies in different reports?

1.5. Assumptions, limitations, delimitations

This study only considers reports issued by listed companies included in the study. It is acknowledged there are other forms of stakeholder communication, such as social media, shareholder meetings, press releases, and media reports (Bansal and Kistruck, 2006). However, for the purposes of this study, these communication media are not considered as they are not the primary means of communication with stakeholders (Mansoor and Maroun, 2016, Lee et al., 2022). This study acknowledges that there are different forms of impression management techniques, however, this study only focuses on four impression management elements employed by 60 listed companies in South Africa: attribution, use of visual emphasis, the sentiment of the disclosure and use of comparisons. In terms of the impression management technique of the use of comparisons, this study assumes that firms choose comparisons that portray their performance in the most favourable light (Brennan and Merkl-Davies, 2013a). It is acknowledged that the findings reported may not hold across other periods, however for the purposes of this study, the focus was only on the 2021 year of assessment (Cho et al., 2012).

¹ Market capitalisations refer to small, mid, and large (refer to Methodology- [Population and Sampling](#))

CHAPTER 2: LITERATURE REVIEW

This section is divided into five parts. Firstly, the literature review will provide a background into the shift from fossil fuels to renewable energy. Secondly, a brief overview will be provided of corporate reporting. Thirdly, the theoretical framework of the legitimacy theory will be established. The significance of impression management in terms of this study will then be discussed. Finally, the various impression management techniques and elements selected for the purpose of this study will be broken down.

2.1. The shift from fossil fuels to renewable energy

Electricity is one of the most desirable necessities in the modern world (Ateba et al., 2019). Modernisation has resulted in lifestyle changes that demand reliable energy sources. The energy supply worldwide is expected to more than double from 2016 to 2030 (Sarkodie and Adams, 2018). This has resulted in an insufficient energy supply in developing countries. The power shortages and energy sector bottlenecks in Africa cost the region 2-4% of GDP annually. The African Progress Panel estimates that a \$55 billion per year investment will be required to fix the problem of 600 million people on the continent not having access to electricity (Sarkodie and Adams, 2018).

South Africa is one of the economic giants of Africa and one of the top emitters of fossil fuel emissions as almost 90% of its energy comes from coal which aggravates the growing issue of climate change (Sarkodie and Adams, 2018). Eskom's reserves have also decreased while the demand for electricity consumption in South Africa has increased. In an attempt to mitigate this imbalance, Eskom has taken to intensifying the rationing of electricity through 'load-shedding' which aims to minimise the strain placed on the electricity grid (Ateba et al., 2019). In May 2021, stage 2 load shedding was reintroduced, followed shortly by stage 4 load shedding from 9 June 2021 (Banderker, 2023). Loadshedding may last anywhere from one to eight hours and has caused significant disruption to the economy (Mbomvu et al., 2021). Dr Francois Stofberg, a senior economist at the Efficient group, stated in a Business Tech article that in 2021, the economy would have been between R360 billion and R460 billion larger if there had not been any load-shedding (Writer, 2022). The unreliable national grid has ground many operations to a halt and the dependency on the national grid no longer appears financially feasible for many. It does not appear that there will be a drastic change in the near future from Eskom's perspective as it is struggling with an ageing fleet of coal plants (du Venage, 2020).

In addition to the costs of electricity being an issue, the main catalyst of global warming is industrial pollution. In 2019, South Africa was noted as the 12th highest carbon dioxide emitter in the world (Jonghe, 2022). A key method to minimise the environmental impact specifically

related to global warming caused by air pollution is through shifting from fossil fuels to renewable energy (Ahmad and Hossain, 2015). Climate change and global warming are adversely impacting the environment and humankind and are argued to be the greatest environmental challenges of the 21st century (Pellegrino and Lodhia, 2012). A 2019 study by Deloitte found that environmental protection and climate change are top concerns of millennials (Strielkowski et al., 2021).

In 2017, United Nations member countries agreed to adopt 17 new sustainable development goals (SDGs) which replaced the millennium development goals (MDG) (Northey et al., 2019). The introduction of SDGs has given corporates a platform to include sustainability in their integrated reports as it is seen as an improved means of reporting non-financial information to ensure a balanced corporate report (Erin et al., 2022). These SDGs comprise of major targets and objectives that countries must achieve to meet the 2030 global agenda and to further improve the quality of integrated reporting (Erin et al., 2022).

In 2016, the Paris agreement was created with the intention to significantly cut greenhouse gas (GHG) emissions from 2020 (Amusan and Olutola, 2016, Weimann and Patel, 2017). It displayed that many of the largest companies in the world are implementing plans to produce 100% renewable energy by 2050 (Strielkowski et al., 2021). The Minister of Water and Environmental Affairs in 2016, Minister Molewa, signed the agreement on behalf of South Africa (Weimann and Patel, 2017). The South African government has committed itself to aggressively pursuing renewable energies as a feasible alternative to fossil fuels (Sarkodie and Adams, 2018). Switching to renewable energy instead of fossil fuels enhances air quality, reduces exposure to price volatility and promotes environmental sustainability (Sarkodie and Adams, 2018). In emerging economies, such as South Africa, the issue of sustainable development is vital which means that crucial attention must be paid to the subject of SDG reporting (Erin et al., 2022).

Businesses are constantly pressured by various stakeholders (government, media, social activists, and others) to reduce their negative environmental impacts, specifically greenhouse gas emissions (GHG) (Strielkowski et al., 2021, Ahmad and Hossain, 2015, Talbot and Boiral, 2015). As a result, many companies are disclosing their views and activities surrounding global warming issues, emphasising their actions in reducing carbon emissions (Ahmad and Hossain, 2015, Pellegrino and Lodhia, 2012). Carbon-intensive industries (such as the basic materials industry) face the largest amount of societal pressure as they are the biggest contributors to the carbon footprint of industrialised countries and are also often the most regulated industries (Talbot and Boiral, 2015).

Businesses have stated that it is of the utmost importance to show commitment to solving environmental problems (Strielkowski et al., 2021). This is evident by the fact that generally, the most respected, successful multi-billion dollar companies have made public relations an integral element of their sustainability strategy (Strielkowski et al., 2021). However, conveying the right message and communicating sustainability initiatives is challenging (Strielkowski et al., 2021). Given the pressure from stakeholders to respond to their environmental footprint, these industries then are forced to develop information strategies to improve their social image and show commitment to regulations and societal pressure (Talbot and Boiral, 2015).

2.2. Corporate reporting

The purpose of corporate reporting is to convey useful information to those with an active interest in the organisation concerned, particularly stakeholders, through the use of various tools (Zairi and Letza, 1994, Uyar, 2016). Corporate reporting has undergone and is still undergoing a tremendous transformation as it has evolved throughout the years from traditional financial statements to stand-alone Corporate Social Responsibility (CSR) reports to integrated reports (Rupley et al., 2017, Dumay et al., 2016, Uyar, 2016).

Prior to 1980, corporate reports traditionally consisted purely of financial information, however, today, corporate reports include both financial and non-financial information (Uyar, 2016). The accounting profession argues that the traditional financial business reporting model does not adequately meet stakeholder needs for assessing an entity's past and future performance as it does not provide an holistic view of a company's performance (Dumay et al., 2016, Haji and Hossain, 2016, Erin et al., 2022, Brennan et al., 2010, Varachia and Yasseen, 2020). Financial statements report financial information that fiscally impacts shareholders and creates value in the short term, for example, shareholder dividends based on the company's profitability (Hasanaj and Kuqi, 2019). However, long-term value is created by strategically conveying what the company stands for, how it contributes to society and its value creation process for shareholders - i.e., via non-financial information reporting (Perrini, 2006).

Recent corporate scandals have also shaken investor confidence and it has been acknowledged that there is a stakeholder demand for more useful information for decision-making (Uyar, 2016). Conscious investors no longer only look at an organisation's balance sheet but they also look for proof of environmental, social and ethical investments (Strielkowski et al., 2021). This links to the stakeholder theory which states that an organisation's success is directly linked to the goals, motivations, values and needs of the stakeholders (Bailur, 2006, Diouf and Boiral, 2017). Reporting on stakeholder engagement is the core of sustainability and entities are expected to engage with stakeholders to identify issues to respond to and

create shared value (Gagné et al., 2021). The improvement in corporate reporting is vital for all stakeholders as it enables an entity to become more transparent and accountable and thus, the nature of corporate reporting is continuously changing to meet stakeholder needs (Uyar, 2016, Rupley et al., 2017, Dumay et al., 2016).

Changes in report type and format have provided valuable variations in how the nature of data is presented (Uyar, 2016). In the past, financial reports were published purely as independent reports. Today there is a tendency for independent financial reports, integrated reports and independent sustainability and social responsibility reports to be published (Uyar, 2016). An integrated report is regarded as the primary report as it is a culmination of economic, financial, governance and social information in one report and reflects triple-bottom-line reporting (Rupley et al., 2017, Cho et al., 2012, Atkins and Maroun, 2015, Lai et al., 2016). Integrated reporting favours an integrated approach to sustainability and extends the traditional corporate focus on short-term profitability to the inclusion of social, economic and environmental issues and dependencies, pertinent to the company's long-term success and viability (Stacchezzini et al., 2016). The integrated reporting agenda began in South Africa in 1994 with the release of King I (the first King Code of Corporate Governance Principles), which was noted for its inclusive stakeholder approach, and continued to develop with King IV being effective from 1 April 2017 (Dumay et al., 2016). South Africa's King IV code, as well as the International Integrated Report Council (IIRC), strongly advocate for the integrated reporting agenda as studies have shown that conventional corporate reporting does not sufficiently capture shareholders' needs (Haji and Hossain, 2016, Erin et al., 2022). In 2010, South Africa also pioneered the mandatory adoption of integrated reporting for all listed companies (Stacchezzini et al., 2016).

While every listed company issues a mandatory integrated report, voluntary reporting is also increasing (Dumay et al., 2016). CSR refers to the voluntary responsibility of an organisation to report on their impact on society and the environment and its contribution to the sustainable development agenda (Strielkowski et al., 2021). CSR reports provide non-financial information that financially and non-financially impact stakeholders (Rupley et al., 2017). Socially responsible companies issue CSR reports, communicating their environmental and social actions to improve their reputation, obtain stakeholders' trust and enhance their social legitimacy (Hamza and Jarboui, 2021). Although it is costly to collect and report on non-financial issues, such as the shift from fossil fuels to renewable energy, it is good practice to do so to attract and retain customers and clients (Rupley et al., 2017). Sustainability, environmental, social and climate change reports are tools used to formalise a company's position on CSR and assist the company in developing good business practices (Perrini, 2006).

The number of organisations that disclose information surrounding their sustainability has increased substantially in recent years as society has become more aware of environmental issues (Diouf and Boiral, 2017, Hamza and Jarboui, 2021). Numerous companies have started issuing stand-alone reports, often referred to as “sustainability reports” in response to stakeholder pressures regarding sustainability (Cho et al., 2012). It is currently estimated that more than 90% of the 500 largest companies in the world issue a sustainability report (Gagné et al., 2021). Due to the global problem of climate change, emphasis is placed on carbon accounting practices. This has resulted in the development of subsets of sustainability reports, such as climate change reports, which focus extensively on carbon emissions (Pellegrino and Lodhia, 2012).

It is vital that companies develop communication and reporting techniques that demonstrate, at a stakeholder level, sustainability commitment, as there is a strong need for accountability and transparency in sustainability reporting (Strielkowski et al., 2021, Rezaee, 2016). This increased adoption of sustainability reporting is argued to make the social and environmental impacts of corporations more transparent and this, in turn, can lead to greater accountability for corporate actions (Cho et al., 2012). It may, however, not reflect actual corporate responsibility but rather be used as a tool to manage the impressions of stakeholders which in turn, reduces transparency and corporate responsibility (Lai et al., 2016, Cho et al., 2012).

With more formats of corporate reports comes new regulations which must be developed and the question of whether reports should be mandated or voluntary (Uyar, 2016). Financial reporting is mandatory and subject to strict regulations. Conversely, integrated reporting is voluntary in many cases and is neither regulated nor audited which leaves room for potential abuse and bias (Cho et al., 2012, Varachia and Yasseen, 2020). There are arguments that since voluntary reporting is more susceptible to manipulation, it may merely be a strategic legitimisation tool used to improve corporate reputation (Lai et al., 2016).

2.3. The legitimacy theory

Legitimacy is a social construct which may be defined as the conformation to societal norms, values and expectations (Palazzo and Scherer, 2006). Legitimacy is a precondition for the survival of a firm as it is vital for the sustained stakeholder support of an organisation and continuous flow of resources (Palazzo and Scherer, 2006). Moreover, the enhancement of a firm’s legitimacy may improve the reputation of the firm which may bring economic benefits (Cormier and Magnan, 2015). This often creates tension between responding to the information needs of stakeholders and maintaining legitimacy (Cormier and Magnan, 2015). While management’s goal is to convey reliable information to reduce information asymmetry,

it needs to legitimise its environmental actions to non-financial stakeholders in order to maintain and expand operations (Cormier and Magnan, 2015).

Maintaining legitimacy has become a critical issue for corporations worldwide and management is pushed to react when their legitimacy is threatened (Palazzo and Scherer, 2006). A firm's legitimacy is threatened whenever there is an inconsistency between the expectations of stakeholders and the firm's actions (Lai et al., 2016). The legitimacy theory posits that the higher the likelihood of adverse shifts in social perceptions of the organisation, the higher the desirability of the organisation to manage these social perceptions in order to remain legitimate (Power, 2003, Corazza et al., 2020). A major form of managing these expectations and external perceptions is through communication strategies, particularly via voluntary reporting (Lai et al., 2016).

Corporate environmental reporting (CER) may be a means of conveying reliable and relevant information about a firm's activities and environmental performance to stakeholders (Cormier and Magnan, 2015). Conversely, CER may be an opportunistic manoeuvre for executives seeking legitimacy through impression management (Cormier and Magnan, 2015). In the context of this study, the legitimacy theory applies when corporations face possible threats to their environmental and social legitimacy, they are incentivised to use impression management and communication strategies in an attempt to influence public perception (Cho et al., 2012, Talbot and Boiral, 2018). When firms disclose CSR matters, they aim to signal to stakeholders that they are involved with social and environmental issues and are good corporate citizens and consequently, improve their legitimacy (Pucheta-Martínez and Gallego-Álvarez, 2019).

Sustainability reports are a common legitimising tool used to reduce criticism from stakeholders and reduce social pressures (Cho et al., 2012, Talbot and Boiral, 2018). Critics suggest that stand-alone corporate reports, such as sustainability and CSR reports, are symbolic and superficial (Cho et al., 2012, Talbot and Boiral, 2018). It appears that they are not used to provide meaningful accounts of corporate impacts across the sustainability domain but are instead focused more on projecting an image of positive performance (Cho et al., 2012). The motivation behind such actions appears to be protecting corporate image rather than genuine concerns for improving corporate reporting (Cho et al., 2012). This results in corporate reporting that is no longer neutral and unbiased which places the faithful representation of corporate reports in question (Varachia and Yasseen, 2020).

Studies show that poorly rated firms are more likely to embark on voluntary reporting strategies to manage their legitimacy (Lai et al., 2016). Firms with poorer ratings face greater legitimacy threats and are incentivised to use disclosure to reduce pressure on them (Lai et al., 2016).

These voluntary disclosures may be seen as a 'symbol' of changes in corporate behaviour and consequentially 'repair' poor legitimacy (Lai et al., 2016). Larger firms are also more likely to engage in voluntary disclosure than smaller companies due to higher public visibility (Lai et al., 2016). According to Pucheta-Martínez and Gallego-Álvarez (2019), some industries are more likely to report on CSR practices than others due to their activities having a greater impact on society and the greater need to legitimise their actions. For example, companies which are in environmentally sensitive industries, such as the basic materials industry are placed under greater levels of environmental scrutiny than other industries (Cho et al., 2012, Talbot and Boiral, 2018, Cormier and Magnan, 2015). These companies tend to disclose more extensively and manipulate the language used in such disclosures to obfuscate any negative impacts on the environment (Cho et al., 2012, Cormier and Magnan, 2015). The emergence of corporate carbon emissions and climate change places further pressure on a company's propensity to legitimise its actions related to these issues (Cormier and Magnan, 2015). These findings align with the legitimacy theory as firms with lower legitimacy disclose more in an attempt to improve their legitimacy (Cormier and Magnan, 2015).

Just as companies use the nature of reports and the amount of disclosures to portray a more favourable image, they may also use impression management techniques as a legitimisation tool (Cho et al., 2012). It has been documented in various studies, especially in the relation to climate change disclosure, that impression management strategies are used to present an idealised image to stakeholders and legitimise their environmental actions (Talbot and Boiral, 2015).

2.4. Impression management

Research suggests that corporate reporting is multidimensional and complex (Merkl-Davies et al., 2011). While corporate reporting may provide an account of organisational outcomes and events, it may also be used as a tool to forge relationships with stakeholders and manage expectations and legitimacy through the use of various communication strategies (Merkl-Davies et al., 2011). Boiral (2016)'s study indicated that impression management is an especially popular communication strategy as it is a low-cost and easy alternative to more substantial actions for managing social legitimacy.

Impression management originates in social psychology and studies how individuals use presentation to create a favourable appearance (Jugnandan and Willows, 2021, Brennan et al., 2009). Organisations also engage in impression management to influence the perceptions of shareholders and ultimately shareholders' decisions (Talbot and Boiral, 2015, Rahman, 2012). Generally, impression management may be used to provide a moral justification for unethical behaviours or to maintain congruence between the organisational image and

societal expectations (Boiral, 2016). Social psychology regards impression management as driven by management's desire to present a self-serving view of corporate performance (Merkl-Davies et al., 2011, Beattie and Jones, 2000, Brennan et al., 2009). Management is assumed to exploit information asymmetries to mislead investors about the companies' performance, which manifests in reporting bias (Brennan and Merkl-Davies, 2013b, Melloni et al., 2016, Varachia and Yasseen, 2020).

Disclosures in corporate reports appear to be managed by management in such a way that bad news is systematically suppressed while good news is emphasised (Beattie and Jones, 2000, Brennan et al., 2009). This is often achieved through the manipulation of visuals, graphs and narratives in both financial and other corporate reports, such as sustainability and CSR reports (Cho et al., 2012). Financial reporting is mandatory and is subject to strict regulations. Conversely, sustainability reporting is voluntary and is neither regulated nor audited which leaves room for potential abuse and bias, often through impression management (Cho et al., 2012, Varachia and Yasseen, 2020). Studies have shown that sustainability reporting may not be used as a transparent source of information on sustainability practices but rather it can be used as a tool for managing impressions (Boiral, 2016).

Sustainability reporting is shaped by impression management techniques due to: the reputational risks associated with the increasing institutional pressures for protecting the environment; focus on justifications rather than actions in sustainability reporting; lack of measurability of sustainability performance and the managerial capture of information (Boiral, 2016). The information relating to sustainability reporting, particularly climate change, is mainly based on qualitative information which is difficult to translate into comparable indicators of performance (Boiral, 2016). These limitations to the comparability and measurability of sustainability information allow the information to be easily obscured by legitimisation techniques (Boiral, 2016).

As a result, sustainability reporting, such as voluntary environmental disclosure of the shift from fossil fuels to renewable energy, which is focused on the interpretation of financial outcomes, is predominantly where impression management occurs (Brennan et al., 2009, Cho et al., 2012, Varachia and Yasseen, 2020). These impression management strategies are exceptionally important where social pressures are likely to threaten an organisation's social legitimacy, such as criticism relating to environmental impacts (Boiral, 2016, Talbot and Boiral, 2015). One of the main environmental pressures that corporations face, is mitigating the global issue of climate change (Talbot and Boiral, 2015, Talbot and Boiral, 2018). In response, companies may manipulate information to present an idealised image or conceal certain negative aspects to influence stakeholders' perceptions of their climate change performance

(Talbot and Boiral, 2018). An analysis of climate information in sustainability reports revealed that companies have a strong tendency to implement impression management strategies (Talbot and Boiral, 2018). This is done in order to legitimise negative aspects or to obfuscate negative aspects and enhance positive aspects (Talbot and Boiral, 2018).

It has also been found that companies with positive environmental performance/ greater impacts on the environment disclose more than companies with negative environmental performance/ low impact on the environment (Jones and Slack, 2010). This is because positive organisational outcomes, such as the shift to renewable energy, provide a strong signal of managerial competence and promote the desired organisational image whereas weak social results have the opposite effect (Aerts, 2005, Stacchezzini et al., 2016). However, the lack of standardisation of certain indicators, the complex nature of information, as well as the intentional impression management strategies which release, manipulate, or select vague/ non-compliant information undermines the transparency of corporate reports. Such impression management may distort perceptions of corporate progress and the achievement of sustainability objectives over time (Diouf and Boiral, 2017, Cho et al., 2012). This emphasises the importance of promoting awareness of the various impression management techniques which may be employed as legitimising tools.

2.5. Impression management techniques

Impression management techniques are techniques intentionally designed to influence an audience's perception of an organisation (Talbot and Boiral, 2018). These techniques appear to positively impact corporate reputation and image as they create consistency between an organisation's practices and society's values (Talbot and Boiral, 2018). This aids in protecting companies against threats to their legitimacy (Talbot and Boiral, 2018).

There are two types of behaviours that management may exhibit: attribution or concealment (Rahman, 2012). Attribution refers to the tendency to claim more responsibility for success than failures and concealment is achieved through either reinforcing positive news or disguising negative news (Rahman, 2012). Three concealment techniques are used to emphasise positive news which consists of visual emphasis, sentiment and the use of comparisons (Rahman, 2012). Both attributional and concealment techniques are investigated.

Attribution, visual emphasis, performance comparison and sentiment are the four impression management techniques that were chosen.

2.5.1. Attribution

Attributional explanations are usually expected in annual accounting disclosures but to a large extent are discretionary (Aerts, 2005). Attribution comprises both internal and external attribution (Ford, 1985, Aerts, 2005). Internal attribution, also known as assertive attributional bias/ attributional entitlements, occurs when companies claim responsibility for results and attribute these to internal causes (Aerts, 2005). Internal causes include company strategy, decision-making, research of future projects, corporate actions, structure, and policies/targets (Ford, 1985). These causes are usually stable and controllable by management (Ford, 1985). External attribution occurs when a company attributes results to external causes (Ford, 1985, Kelley and Michela, 1980). External causes include environmental factors, economic factors, industry trends, regulation/disclosure and government policies and initiatives (Ford, 1985). These causes are often unstable and uncontrollable (Ford, 1985).

Self-serving attributional bias has shown a general tendency for firms to attribute positive outcomes to internal actions and negative outcomes to external factors. This tendency may result from an inherent management bias which affects the way management attributes events (Ford, 1985). This results in information being disclosed that explains situations to the company's advantage (Beattie and Jones, 2000, Aerts, 2005, Brennan and Merkl-Davies, 2013a). For example, prior studies have shown top-performing companies having more discussion in their reports on company actions, future projects and strategy, which represents internal attribution, while poorly performing companies show more statements on environmental factors, such as bad weather and economic factors, such as price controls, which represent external attribution (Ford, 1985). Within a renewable energy disclosure context, this would suggest that firms attribute their shift to renewable energy, which is seen as a positive action, to their own actions (for example, becoming a more socially responsible citizen) rather than external factors (such as pressures from government/ stakeholders or because of the unreliable national grid). Attribution is also one of the most common legitimising techniques used by firms to conceal negative information. Normally reporting negative information can endanger a corporation's legitimacy if it is seen as not being aligned with societal values and norms (Hahn and Lülfs, 2014). Attribution helps to mitigate this threat as it draws attention away from the respective negative information (Hahn and Lülfs, 2014).

Neutralisation is an impression management technique used by organisations to rationalise ethically questionable behaviour or behaviours that have negative impacts or it is used as a tool to protect corporate image (Talbot and Boiral, 2015). Neutralisation in the renewable energy disclosure context is a technique that industrial emitters use to rationalise their negative impacts on the environment (i.e. carbon emissions) through either blaming others, economic and technological blackmail, self-proclaimed excellence, promotion of systematic

view, minimisation and denial or denouncing unfair treatment and deceptive appearances (Talbot and Boiral, 2015). Self-proclaimed excellence and the promotion of a systematic view portray a positive image of the company and is a self-serving attributional technique. The remaining four techniques (denial and minimisation, denouncing unfair treatment and deceptive appearances, economic and technological blackmail and blaming others) are used to deny and/or minimise the impact of climate change caused by its activities and are defensive attributional techniques (Talbot and Boiral, 2015, Ford, 1985).

2.5.2. Visual emphasis

Accounting disclosure consists of both verbal and visual elements (Brennan et al., 2009). There is a tendency for annual reports not to be read thoroughly by users who may struggle to read and comprehend such reports due to their complexity, technical jargon and magnitude (Varachia and Yasseen, 2020, Cho et al., 2012). The use of visual emphasis may be used to mitigate this issue as visuals are easier to interpret and remember than text (Cho et al., 2012). Visuals are a powerful form of communication and the manner in which information is presented is a useful tool to manage impressions (Cooper and Slack, 2015, Rahman, 2012). Visual emphasis is arguably one of the most powerful impression management techniques as according to Cho et al. (2012), the visual sense is the most dominant.

Visual emphasis occurs when corporates use presentation techniques to make certain information stand out to readers (Brennan et al., 2009). Positive information, for example, the shift from fossil fuels to renewable energy, tends to be more emphasised than negative information (for example, the tonnes of carbon dioxide emitted) (Rahman, 2012, Kanbaty et al., 2020, Brennan and Merkl-Davies, 2013b). Visual emphasis is defined as the use of special characters, which include; bullet points, exclamation marks, double quotation marks and percentages, font format (italics, underlining, colour or bold) or prominent positioning (headings and subheadings) to create emphasis (Brennan et al., 2009, Kanbaty et al., 2020). Cho et al. (2012)'s study indicated that management systematically manipulates the visual presentation of social and environmental disclosure to project a favourable image of the organisations' sustainability performance.

Headings and subheadings are critical in navigating corporate reports as they symbolise major transition points and topic changes (Zywica and Gomez, 2008). Graphs are a useful visual emphasis technique as they can improve the effectiveness of information conveyance. This is because graphs allow users to "see" the data by highlighting trends, summarising information and explaining complicated relationships (Cho et al., 2012, Varachia and Yasseen, 2020). This makes the communication process more immediate and direct (Cho et al., 2012). Graphs are more likely to be remembered than text or numerical tabulations (Cho et al., 2012). Cho

et al. (2012)'s study found that there is clear evidence of favourable bias in graphs found in disclosures.

Icons and pictures have a similar effect as graphs as they attract and capture users' attention (Varachia and Yasseen, 2020, Leivian, 1980). They are eye-catching because of their use of colour and are also remembered much more vividly than text or numbers (Varachia and Yasseen, 2020, Leivian, 1980). Icons are also easier to interpret as there are no barriers relating to accounting standards, user's level of sophistication or language (Varachia and Yasseen, 2020, Leivian, 1980). The images in reports often depict images of renewable energy, such as solar panels, and unspoiled nature. Such dramatisations of climate change issues influence the perceptions of stakeholders as they suggest the companies are very concerned about climate change, however, it may also be a smoke screen to hide the lack of substantial actions by the company (Boiral, 2016).

Structural manipulation refers to the physical location of information (Rahman, 2012). This is also an element of visual emphasis used to over-emphasise good news by positioning positive information first in documents and negative information in the middle or towards the end of documents (Brennan and Merkl-Davies, 2013b).

Studies have shown that visuals are especially effective in terms of communicating information surrounding climate change (Sheppard, 2005). The characteristics of climate change are difficult to see directly, for example, carbon dioxide emission is effectively invisible (Sheppard, 2005). There are also numerous complexities surrounding the measurement of the impacts over time. This creates difficulties in the communication of climate change. However, visuals have been proven to be effective in changing perceptions and providing information surrounding climate change (Sheppard, 2005). Visuals can play on human emotion by showing the world what the future may look like if climate change persists (Sheppard, 2005). This can enhance the awareness of the implications and complexities surrounding climate change which in turn, may even motivate behavioural change (Sheppard, 2005).

2.5.3. Comparisons

Comparisons are used as a tool to motivate self-improvement or validate a company's performance (Frownfelter-Lohrke and Fulkerson, 2001). However, they can also be used to yield emotions, and stereotypes and manage perceptions which makes comparison a useful form of impression management (Swencionis and Fiske, 2016). Performance comparisons reinforce quantitative amounts and are used as a form of emphasis (Brennan et al., 2009). Accounting narratives contain performance comparisons to present the company more favourably (Brennan and Merkl-Davies, 2013b). For example, often benchmarks are biased downwards which allows management to overstate relative performance (Brennan et al.,

2009). These benchmarks are chosen specifically to portray the company in the best possible light (Brennan et al., 2009, Melloni et al., 2016, Rahman, 2012).

One element of the performance comparisons technique is the use of performance referents which involves the comparison of performance indicators (for example, tonnes of carbon dioxide emissions) against reference points (Brennan and Merkl-Davies, 2013a). Reference points can be either cross-sectional external (industry average and competitors) or time series/ internal (past performance and internal targets) (Brennan and Merkl-Davies, 2013a, Brennan et al., 2009). Based on prior studies, Brennan et al. (2009) state that there is a strong preference for internal referents as compared with external referents. This is because organisations that are high performing would be expected to frame performance relevant to organisational goals and targets to show overall improvements (Shi et al., 2022). Brennan et al. (2009) also found that well-performing corporates used more comparison with industry averages and competitors (external/ cross-sectional referents) in their performance explanations than poorly performing companies.

2.5.4. Sentiment

Language is one of the most powerful tools of communication used to form and condition beliefs and perceptions of reality (Liu, 2012). Corporate reports are regarded as the direct form of communication with stakeholders, thus the language used has enormous rhetorical importance as it can enhance the company's credibility and confidence and ultimately, influence stakeholders' decisions (Moreno-Sandoval et al., 2019, Atkins and Maroun, 2015). CSR content is often unregulated and unaudited which leaves room for management discretion and bias (Moreno-Sandoval et al., 2019, Mućko, 2021). This results in the potential threat that management intentionally uses language to obfuscate reality or bias investors' perceptions (Mućko, 2021, Moreno-Sandoval et al., 2019). A potential mitigator of this risk is sentiment analysis which is a tool used to analyse an organisation's sentiments, attitudes and emotions from written language and is applied in almost all businesses (Liu, 2012).

Sentiment analysis is a text classification method that results in quantitative text description based on the sentiment of the text (positive, neutral or negative) (Mućko, 2021). The wide array of electronic resources of non-regulated disclosures (including corporate reports, press releases and conference papers) allows researchers to understand how organisations make use of this method to communicate with stakeholders (Moreno-Sandoval et al., 2019). Accounting research has surpassed manual text analysis and computational linguistics, such as IBM Watson, which has been designed to develop understanding of the semantic orientation and tone of sentences (Moreno-Sandoval et al., 2019).

In narrative explanations of performance, management is expected to act in a self-interested manner and manipulate the themes and sentiments by disclosing more positive information than negative information (Brennan et al., 2010). The purposeful usage of negative and positive words aims to shift the readers' focus away from bad news and towards good news (Mućko, 2021). This results in communication bias towards positive terms as management is averse to communicating news that may negatively affect a company's reputation or capital market value (Moreno-Sandoval et al., 2019). Mućko (2021) found that there is a positive correlation between the positive tone of CSR disclosure and financial performance (i.e., strong financial results). However, there was no conclusion as to the correlation between a negative/neutral tone and weak financial results. Mućko (2021) also found that larger companies tend to avoid negative words.

The literature review has demonstrated that loadshedding is accelerating at an alarming rate in South Africa and that the environmental concerns of stakeholders continue to place pressure on companies. In response, corporations are forced to transition to renewable energy sources or at the least, address the risks posed by the failing power grid (Sarkodie and Adams, 2018, Ahmad and Hossain, 2015). In order to legitimise such actions, companies develop communication and reporting techniques that demonstrate a sustainability commitment (Strielkowski et al., 2021, Rezaee, 2016). As a result, elements of management bias may become more prevalent in corporate reporting as impression management becomes commonplace (Brennan et al., 2010). The aim of this study is to provide insight into the underlying impression management techniques to the users of corporate reports, which ultimately, should aid in their overall engagement and understanding of corporate reports. This is explained further in section 3.

CHAPTER 3: METHODOLOGY

3.1. Research design

This study determines if South African listed companies are engaging in impression management when framing the shift from fossil fuels to renewables and specifically, which impression management techniques they are employing. Furthermore, it analyses in which report the disclosure is made. A quantitative approach using content analysis was followed, as adopted from studies by Aerts (2005), Brennan et al. (2009), Melloni et al. (2016) and Buchling and Maroun (2021). Content analysis was applied to determine if South African listed companies engage in impression management when disclosing the shift to renewable energy in their reports. Impression management techniques are complex as they are sophisticated and subtle and therefore manual content analysis was warranted (Brennan et al., 2009). Impression management techniques were drawn on from studies by Brennan and Merkl-Davies (2013b), Merkl-Davies et al. (2011), Talbot and Boiral (2018), Rahman (2012), Aerts (2005), Ford (1985), Beattie and Jones (2000), Brennan et al. (2009), Varachia and Yasseen (2020), Cho et al. (2012) and Kanbaty et al. (2020).

Numerical data was coded into categories and then analysed using statistical means. A dichotomous system was used (See, for example, Aerts, 2005, Buchling and Maroun, 2021, Raemaekers et al., 2016). If a paragraph contained a particular impression management technique, a score of 1 was given if any element of the technique was present and a score of 0 was given if not. Aggregate scores were then calculated to analyse the data and obtain results and conclusions (Buchling and Maroun, 2021). Please refer to [Appendix 2](#) for a detailed breakdown of how the coding has been performed. Manual coding is arguably more reliable than computerised coding as computerised analysis generally requires a list of keywords in advance and there is a virtually inexhaustible list of keywords (Brennan et al., 2009). The data set is also complex as there are a variety of formats (for example, some paragraphs have headings, others have graphs, and yet others have bullets) and data comes from multiple sources - integrated reports, sustainability reports and other corporate reports issued. This created a limitation as computerised coding may have become problematic and manual analysis was thus chosen (Brennan et al., 2009).

3.2. Population and sampling

The population for this study is all the companies listed on the Johannesburg Stock Exchange. The sample selected consists of 60 companies, which had publicly available corporate reports. The 60 companies consisted of the top 20 large-cap companies (Market capitalisation is above R10 Billion), top 20 mid-cap companies (market capitalisation is between R1 Billion and R10 billion) and top 20 small-cap companies (market capitalisation is below R1 Billion) listed on

the JSE. These companies were selected to compare the level of impression management techniques used between small, mid and large caps. The range of data also consisted of various industries, which allowed for the comparison of results between industries. This study was limited to the 2021-year end of assessment as this is the most recent set of reports available.

If a company did not have any corporate reports available for the 2021 year of assessment, the next largest company in the market capitalisation group would be considered to ensure that the sample size remained 60 companies. During the data collection, two mid-cap companies and two small-cap companies were excluded from the sample. The first mid-cap company did not have any corporate reports issued for the 2021 year of assessment and the second mid-cap company was delisted from the JSE. These companies were replaced by the next largest mid-cap and small-cap companies.

3.3. Data sources

All corporate reports of the 60 South African listed companies chosen were downloaded from the respective official company websites only. All corporate reports were assessed to provide a wider range of data and to evaluate which types of corporate reports contained the most impression management. The corporate reports mentioned included the integrated report, sustainability report and other stand-alone reports (such as the climate change report, ESG report and mining and minerals report). These reports are publicly available and are the main form of formally communicating with shareholders, which is why they were the focus of this research (Buchling and Maroun, 2021).

3.4. Analysis plan

The collection of the necessary data was conducted on Microsoft Excel. Microsoft Excel aided in the analysis, management, and organisation of data. An Excel spreadsheet was used to record information in terms of the company name, market capitalisation, sector, type of report, type of impression management techniques and elements of each impression management technique (Varachia and Yasseen, 2020). A pilot study was also run on 10 listed South African companies to determine whether there was disclosure on the shift from fossil fuels to renewable energy. The researcher read each annual report multiple times to gain an understanding of the structure and content (Buchling and Maroun, 2021). This pilot study was performed to ensure the completeness and suitability of the disclosure checklist (Setia et al., 2015).

3.5. Content analysis

A keyword search was run on each report to identify renewable energy disclosure and to ensure that all relevant disclosures were identified and were not omitted (Buchling and Maroun, 2021, Mansoor and Maroun, 2016). Some of the keywords included 'renewable', 'energy', 'climate change', 'electricity', 'fossil fuels', 'load shedding', 'solar', 'wind' and 'hydro'.

All corporate reports issued by each company were analysed and a score of '1' or '0' was used to indicate the presence or absence of renewable energy disclosure in each report (Mansoor and Maroun, 2016). The renewable energy disclosure for each of the four techniques and subsequent elements of impression management was analysed. A score of '1' or '0' was again used in the analysis to indicate the presence or absence of each technique and element (Mansoor and Maroun, 2016). The unit of analysis was individual paragraphs and subsections rather than sentences or words. This metric prevented overlooking context or including disclosures which deal with broad environmental issues (rather than the specific issue of the shift from fossil fuels to renewable energy) (Buchling and Maroun, 2021, Brennan et al., 2009).

Attribution was codified into external attribution, internal attribution and neutralisation (Aerts, 2005, Brennan et al., 2009). When the shift was attributed to policies, corporate actions, decision making or structure, this was classified as internal attribution (Staw et al., 1983). When the shift is attributed to industry trends, environmental causes (e.g., climate change), economic factors (e.g. load shedding), regulation or government policies, this was classified as external attribution (Staw et al., 1983). When the shift was associated with justification (blaming others, economic and technological blackmail, self-proclaimed excellence, promotion of systematic view, minimisation and denial, denouncing unfair treatment and deceptive appearances) of the negative impacts of emissions, this was classified as neutralisation (Talbot and Boiral, 2015).

Visual emphasis was codified into special characters (bullet points, exclamation marks, percentages, double quotation marks); font format (italics, underlining, colour bold); prominence (headings or subheadings) and location (in which third of the report the paragraph is located) (Brennan et al., 2009).

The sentiment was codified as positive, neutral or negative (and the score thereof) using IBM Watson (Biondi et al., 2017). Only the surface content of the paragraph was analysed and not the underlying meaning of the text as analysing tone can be complex.

Comparisons were codified based on internal referents (comparison to past performance and/or set targets that have been met/not met) or external referents (comparison to the industry average and competitors) (Brennan et al., 2009). The comparison was then further

codified, based on whether it is a positive, negative, or neutral comparison. The data was captured on Microsoft Excel and aggregate scores were then calculated to analyse the data and obtain results and conclusions (Buchling and Maroun, 2021). A table explaining the impression management techniques and elements can be found in [Appendix 1](#).

3.6. Data analysis

The approach followed to collect and analyse the data for the three research questions in this report is discussed in detail below.

Research question 1

To address RQ1, a dichotomous system was used (See, for example, Aerts, 2005, Buchling and Maroun, 2021, Raemaekers et al., 2016). If a paragraph contained a particular impression management technique, a score of 1 was given if any element of the technique was present and a score of 0 was given if not. Paragraphs may contain more than one element of each technique; as a result, one paragraph may contain multiple impression management techniques. This was completed to determine which impression management technique was the most frequently used, as well as which elements of that impression management technique were most frequently used (Varachia and Yasseen, 2020).

Research question 2

Further analysis was completed to identify which industry contained the most elements of impression management in terms of renewable energy disclosure, as well as whether market capitalisation affects the level of impression management. A Kruskal-Wallis test was run to evaluate if there was a statistical difference in impression management techniques within the different industries and different market capitalisations. A Kruskal-Wallis test is a rank-based non-parametric test used to determine if there is statistical difference between two or more groups of an independent variable (industries and market capitalisations) on a dependent variable (impression management techniques).

Research question 3

To answer RQ3, the report where the disclosure was found was given either a score of 1 or a score of 0. A score for each report was calculated and, based on this, it was determined which report tended to disclose the transition to renewable energy as well as which report contained the most elements of impression management (Buchling and Maroun, 2021 2016, Raemaekers et al., 2016). A Kruskal-Wallis test was run to evaluate if there was a statistical difference in impression management techniques within the different types of corporate reports.

3.7. Ethical consideration

This study did not involve any human participation and consequently, there were no related ethical considerations. Ethical clearance was granted for this study by the University of the Witwatersrand on 27 October 2022 under clearance number WSOA-2022-09-11W.

3.8. Validity and reliability

The study had inherent subjectivity as a manual content analysis was performed (Brennan et al., 2009). Despite these concerns, this did not create a threat to validity and objectivity (Buchling and Maroun, 2021). This report had several controls to limit subjectivity and improve validity and objectivity. A dichotomous approach was used to analyse whether impression management techniques were present in the disclosures or not, which minimised research bias (Raemaekers et al., 2016). During the initial stages, the coding was performed by two researchers and meetings were held to discuss any discrepancies. This was done to further enhance reliability in the coding. The researchers made use of the same scoring sheets which were developed in line with the framework discussed above in order to further ensure the consistency and reliability of the coding process (Brennan et al., 2009). The first coder is the author and the second coder is a researcher with an extensive background in impression management (Brennan et al., 2009). Content validity was achieved as the measures undertaken for each research question allowed the researcher to answer all research questions and reach a conclusion (Varachia and Yasseen, 2020).

Although manual content analysis is time-consuming and labour-intensive, it provides more sophisticated and detailed comparisons and analysis (Brennan et al., 2009). Due to the time-consuming nature of manual content analysis, the sample size was limited to 60 companies. This posed a risk that focusing solely on 60 listed companies could distort the final results as the research may not provide a complete account of the impression management techniques employed by all listed companies (Raemaekers et al., 2016). In order to overcome this risk, the companies chosen were split based on three different market capitalisation sizes to provide a more diversified set of results.

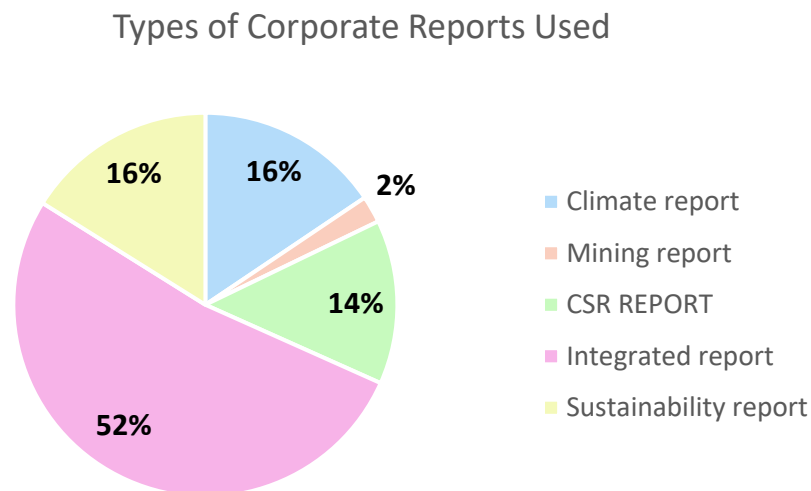
CHAPTER 4: RESULTS AND DISCUSSION

The results begin with a discussion of the overall descriptive statistics. Next there is a discussion of the overall impression management techniques and subsequent elements used by the population. The impression management techniques used are then discussed based on the differences within industries and market capitalisations. Finally, there is a discussion on the various impression management techniques used between different types of corporate reports.

4.1: Overall descriptive statistics

4.1.1: Types of corporate reports issued.

Figure 1: Breakdown of corporate reports used.



A total of 751 paragraphs relating to renewable energy disclosure were identified in the 2021 corporate reports of 60 South African listed companies. Figure 1 provides a breakdown of all corporate reports used by companies in this study. 52% of disclosures were found in the integrated report, making it the most popular corporate report used. This is expected due to the quasi-mandatory nature of integrated reporting for JSE-listed companies (Stacchezzini et al., 2016). Integrated reports are also regarded as the primary reports for communicating with stakeholders (Atkins and Maroun, 2015). Due to the voluntary nature of other forms of corporate reporting, such as the standalone sustainability reports, corporate governance reports and mining and minerals reports, many companies choose not to issue reports other than the integrated report (Hossain and Hammami, 2009). This is evident by the fact that the

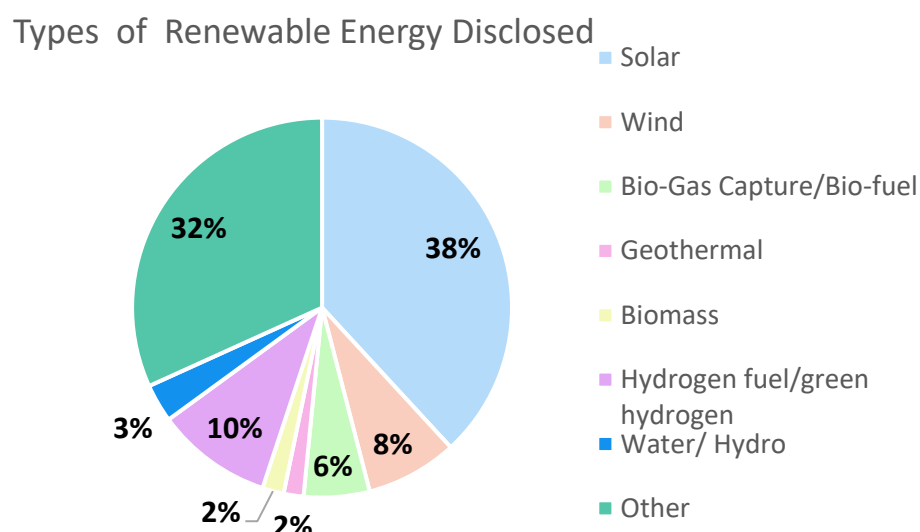
second most popular reports used were the climate change report and sustainability report which each accounted for only 16% of disclosures respectively.

A possible reason that many companies choose not to issue climate change reports and sustainability reports is litigation risk. Many companies are hesitant about scenario analysis being misinterpreted as forecast by investors (Eccles and Krzus, 2018). Another reason that companies may be hesitant to issue a climate change and sustainability report is the negative stigma and strong emotions of stakeholders surrounding climate change; as it is associated with drought, flooding, and other negative impacts on society. If companies do issue a climate change report and their actions are not consistent with the expectations of stakeholders, this could adversely affect emotional stakeholders and subsequently lead to a competitive disadvantage (Eccles and Krzus, 2018, Alsaifi et al., 2020). In these cases, companies may choose to rather not issue any climate change reports in order to remain competitive, although this could be seen as being less transparent.

The mining and minerals report was the least common report used and accounted only for 2% of all disclosures. This is a very specific type of corporate report which only mines would issue and there were only nine mines in our population, which accounted for 15% of the sample size. Not every mine chose to issue a mining report as it is costly and time-consuming to prepare and issue numerous corporate reports, therefore many companies will use only one report – the integrated report- to disclose all material information (Eccles and Krzus, 2018, Macias and Farfan-Lievano, 2017).

4.1.2: Types of renewable energy disclosed.

Figure 2: Types of renewable energy disclosed



As illustrated in Figure 2, solar was the most common form of renewable energy disclosed and accounted for 38% of the total renewable energy that was disclosed. This aligns with expectations as solar is the most abundant renewable energy source available (Kumar et al., 2020). Although the cost of installing solar PV and wind panels is expected to remain high, they remain competitive as natural gas and other fossil fuel prices are rising much faster (IEA, 2022). Thus, companies who are interested in transitioning to renewables would rather transition to solar as it is cheaper than other types of renewable energy, such as wind and hydro energy. Additionally, South Africa allocated \$2.8 billion for 25 renewable energy projects which include wind farms and solar photovoltaic plants which may be contributing to the increased proportion of solar (Jonghe, 2022, IEA, 2022).

Geothermal energy and biomass energy were the least popular form of renewable energy disclosed, accounting for only 2% of the total renewable energy respectively. A low percentage uptake may be because geothermal energy requires a significant amount of heat and it is not the most efficient form of renewable energy (Lund, 2010). There are also limited areas in South Africa where geothermal energy can be produced. Compounded with these factors are the considerable capital investment and dependency on local regulations (Lund, 2010). The lower uptake of biomass may also be as a result of several limitations which include; the time taken to produce biomass and the local climate, soil and water required to produce the biomass may be insufficient (McKendry, 2002). For example, in Cape Town, there was a severe rainfall deficit for three years from 2015-2017 which resulted in extreme drought (Pascale, 2020). These types of conditions would not allow for efficient biomass production.

4.1.3: Industry

Number of disclosures

Table 1: Number of disclosures per industry

Industry	Number of disclosures	Percentage	Number of companies	Percentage
Basic materials	429	57%	13	22%
Financials	22	3%	9	15%
Industrials	44	6%	11	18%
Telecommunications	30	4%	3	5%
Technology	20	3%	5	8%
Healthcare	3	0%	1	2%
Real Estate	45	6%	5	8%
Consumer goods and services	153	20%	12	20%

Energy	5	1%	1	2%
Total	751	100%	60	100%

The breakdown of disclosures per industry is shown in Table 1. Although the basic materials industry only consisted of 13 companies, which make up 22% of the total companies, it accounted for 57% of all disclosures. Together the basic materials, industrials and consumer goods and services industries account for 83% of all renewable energy disclosures. This supports Pucheta-Martínez and Gallego-Álvarez (2019), as these industries are significantly more carbon intensive and would be seen to have a greater societal impact which would result in more disclosure.

The healthcare and energy industries accounted for the least disclosures, at only 1%. The low percentage can be attributed to the fact that there was only one company from both the healthcare and energy industries in our sample with a total of three and five disclosures respectively. The telecommunications industry also accounted for a very small percentage of renewable energy disclosures, at only 4%. This is because the industry is not associated with being as carbon-intensive as other industries (Talbot and Boiral, 2015, Cormier and Magnan, 2015).

Types of corporate reports used.

Table 2: Number of disclosures per corporate report based on industry.

Industry	Number of disclosures per corporate report based on industry						Percentage
	Climate report	Mining report	CSR report	Integrated report	Sustainability report	Total number of disclosures	
Basic materials	102	17	47	190	73	429	57%
Financials	6	0	3	13	0	22	3%
Industrials	9	0	9	26	0	44	6%
Telecommunications	0	0	0	12	18	30	4%
Technology	0	0	0	20	0	20	3%
Healthcare	0	0	0	3	0	3	0%
Real Estate	0	0	0	45	0	45	6%
Consumer goods and services	0	0	45	78	30	153	20%
Energy	0	0	0	5	0	5	1%
Total	117	17	104	392	121	751	100%
Percentages	16%	2%	14%	52%	16%	100%	

Table 2 provides a breakdown of the number of disclosures per corporate report per industry. As shown in Table 2, the integrated report was the most popular corporate report and was used by all industries. This was expected as integrated reports are regarded as the primary report and are mandatory for all companies listed on the JSE (Stacchezzini et al., 2016, Atkins and Maroun, 2015). Integrated reports are also aimed at consolidating all the material information from stand-alone reports; thus many companies may not feel the need to issue multiple reports (Macias and Farfan-Lievano, 2017). The basic materials industry also had the most diversity in terms of types of reports issued and issued reports in every category. The basic materials industry is very carbon intensive and is increasingly pressured to disclose CSR information, particularly their overall climate change strategy and plans to reduce GHG emissions which is often disclosed under a climate report (Alsaifi et al., 2020, Pucheta-Martínez and Gallego-Álvarez, 2019). The basic materials industry also includes mining companies and is therefore expected to issue mining reports. The healthcare industry only issued integrated reports. The healthcare industry faces less pressure from stakeholders to disclose CSR information and the additional costs of issuing stand-alone reports likely outweigh the potential benefits of managing stakeholders' expectations (Alsaifi et al., 2020).

Types of renewable energy disclosed based on industry.

Table 3: Disclosure of renewable energy per industry

Industry	Number of types of renewable energy									Percentage
	Solar	Wind	Bio-Gas Capture/Bio-fuel	Geothermal	Biomass	Hydrogen fuel/green hydrogen	Water/ Hydro	Other/ type was not disclosed	Total	
Basic materials	148	48	34	7	4	65	22	146	474	61%
Financials	6	0	0	0	0	0	0	11	17	2%
Industrials	22	1	1	2	2	2	0	12	42	5%
Telecommunications	14	3	0	0	0	1	1	15	34	4%
Technology	12	2	0	0	0	0	0	3	17	2%
Healthcare	2	0	0	0	0	0	0	1	3	0%
Real Estate	28	0	0	0	0	0	0	17	45	6%
Consumer goods and services	61	6	8	4	8	8	2	39	136	18%
Energy	0	0	0	0	0	0	0	5	5	1%
Total	293	60	43	13	14	76	25	249	773	100%
Percentages	38%	8%	6%	2%	2%	10%	3%	32%	100%	

Table 3 shows a breakdown of the level of disclosure of renewable energy disclosed per industry. The reason that the number of types of renewable energy disclosed does not match the number of disclosures is because often companies chose to transition to multiple types of renewable energy. For example, the following extract from one company's corporate report in our sample indicated that the company was transitioning to five forms of renewable energy sources, namely, solar, wind, biomass, biogas, geothermal and water.

“As members of the global corporate renewable energy initiative RE100, we follow the initiative's guidelines with our renewable electricity sources coming from solar, wind, biomass, biogas, geothermal and water. We also follow RE100 guidelines on energy generation, leveraging self-generated energy through either on-site installations or off-site PPAs.” (Entity 3: ESG report, page 25).

The findings are aligned with the overall findings, as solar was the most popular form of renewable energy and biomass was not the preferred form of renewable energy.

4.1.4: Market capitalisation

Number of disclosures

Table 4: Number of disclosures per market capitalisation

Market Capitalisation	Number of disclosures	Percentage
Top 20 Large cap	504	67%
Top 20 Mid cap	176	23%
Top 20 Small cap	71	9%
Total	751	100%

As shown in Table 4, out of the 751 paragraphs that contained renewable energy disclosure, the top 20 large-cap companies accounted for 67% of all disclosures, the top 20 mid-cap companies accounted for 23% of all disclosure and the top 20 small-cap companies accounted for 9% of all disclosures. This aligns with prior literature as the size of a company is expected to significantly impact the extent of disclosures made as not all companies can afford the costs of extensive accumulation and distribution of information (Mansoor and Maroun, 2016). Since the top 20 large-cap companies have the largest market capitalisation, they are expected to have more resources to absorb the costs of disclosure and are able to issue more corporate reports and subsequently, more disclosures, to communicate with stakeholders than the top 20 small-cap companies (Mansoor and Maroun, 2016).

Types of corporate reports used.

Table 5: Number of disclosures per corporate report based on market capitalisation.

Market Capitalisation	Number of disclosures per corporate report based on market capitalisation						Percentages
	Climate report	Mining report	CSR report	Integrated report	Sustainability report	Total number of disclosures	
Top 20 Large cap	108	16	65	200	115	504	67%
Top 20 Mid cap	9	1	33	127	6	176	23%
Top 20 Small cap	0	0	6	65	0	71	9%
Total	117	17	104	392	121	751	100%
Percentages	16%	2%	14%	52%	16%		

Table 5 documents the number of disclosures per corporate report used per market capitalisation size. The top 20 large-cap companies had the most disclosures for each category of corporate report and the top 20 mid-cap companies also had disclosures for each category of corporate report. Conversely, the top 20-small cap companies only had disclosure in the integrated reports and CSR reports. It is likely that the top 20-small cap firms do not believe that the benefits of issuing additional reports outweigh the associated costs involved (Alsaifi et al., 2020). Larger firms, such as the top 20 large-cap companies and top 20 mid-cap companies, have more stakeholders with diversified interests, than smaller firms. For example, government bodies will care more about compliance with regulations while potential investors will be more focused on the long-term sustainability of the company (Tang and Shen, 2013). The top 20 large-cap companies are thus, more incentivised to accommodate their different stakeholder information needs and issue different types of corporate reports so that stakeholders can read the reports that are the most valuable to them.

Larger firms are also exposed to a higher level of public visibility and scrutiny than smaller firms and have a greater incentive to transition to renewables and legitimise their actions through increasing their disclosure (Cho et al., 2012, Talbot and Boiral, 2018). Renewable energy implementation is highly capital intensive and larger companies, such as the top 20 large-cap companies are more capable of absorbing such costs of transitioning and increasing their disclosure than smaller companies (Lund, 2010, Mansoor and Maroun, 2016). The top 20 large-cap firms are most likely to engage in voluntary disclosure to legitimise their actions, in the form of standalone reports, such as sustainability report, climate change report and mining reports than the top 20 small-cap companies (Lai et al., 2016).

Types of renewable energy disclosed.

Table 6: Renewable energy per market capitalisation

Market capitalisation	Renewable Energy									Percentage
	Solar	Wind	Bio-Gas Capture /Biofuel	Geothermal	Biomass	Hydrogen fuel/ green hydrogen	Water/ Hydro	Other/ not specified	Total	
Top 20 Large cap	144	58	38	11	10	71	24	169	525	68%
Top 20 Mid cap	107	2	5	1	0	5	1	62	183	24%
Top 20 Small cap	42	0	0	1	4	0	0	18	65	8%
Total	293	60	43	13	14	76	25	249	773	100%
Percentages	38%	8%	6%	2%	2%	10%	3%	32%	100%	

Table 6 provides a breakdown of the types of renewable energy disclosed per market capitalisation. The top 20 large-cap companies accounted for 68% of all instances of renewable energy mentioned while the top 20 small-cap companies contained only 8% of all renewable energy discussed. Given the findings above, this is expected as the top 20 large-cap companies are disclosing more information and in a wide variety of reports.

From the table, the proportions of different types of renewable energy are similar across the market capitalisation sizes with solar having the greatest focus. The top 20 large-cap companies were the most diversified in terms of the sources of renewable energy mentioned while the top 20 mid-cap and top 20 low-cap had little to no disclosures pertaining to different types of renewables, except for solar. As a result of the cost-effectiveness of solar and the larger costs for other forms of energy, this is aligned with the findings above. Alternate sources, such as hydrogen and biomass, are exclusively for those that can afford this, such as the larger companies.

4.2: RQ1- Overall impression management

In the next few sections, the impression management techniques and elements of impression management techniques are discussed in greater detail. For the purposes of our analysis, sentiment and location are assessed individually, while the other techniques are assessed comparatively. Attribution, visual emphasis and comparison are all categories which do not contain mutually exclusive elements. For example, visual emphasis may have both bullet points and percentages. However, sentiment and location categories are mutually exclusive,

for example a disclosure cannot be both positive and negative. This makes these categories incomparable with the other categories.

Figure 3: Breakdown of impression management techniques

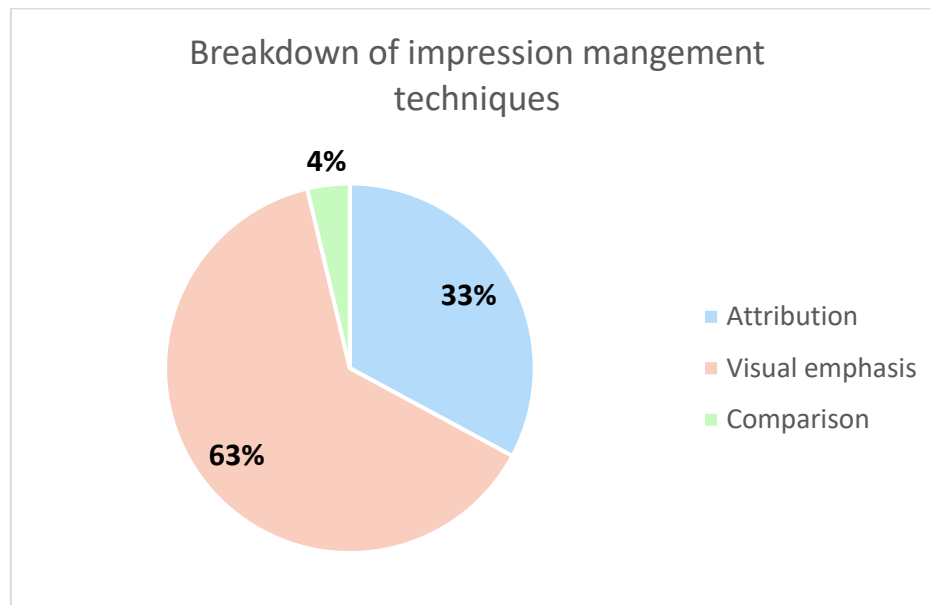


Figure 3 provides an overview of the impression management techniques used, excluding location and sentiment. The most frequently used impression management technique was visual emphasis which accounted for 63% of all impression management techniques used. Visual emphasis also contained the most elements and could be implemented in numerous ways; including font format, special characters, prominent positioning and icons/pictures and tables/ graphs (Brennan et al., 2009, Kanbaty et al., 2020). The least frequently used impression management technique was comparison, which accounted for only 4% of all impression management techniques. Performance comparisons are often used to reinforce quantitative amounts, however, the disclosures relate to non-financial information which is predominantly qualitative in nature which explains why this impression management was the least used (Brennan et al., 2009).

4.2.1: Attribution

Figure 4: Breakdown of attributional elements used.

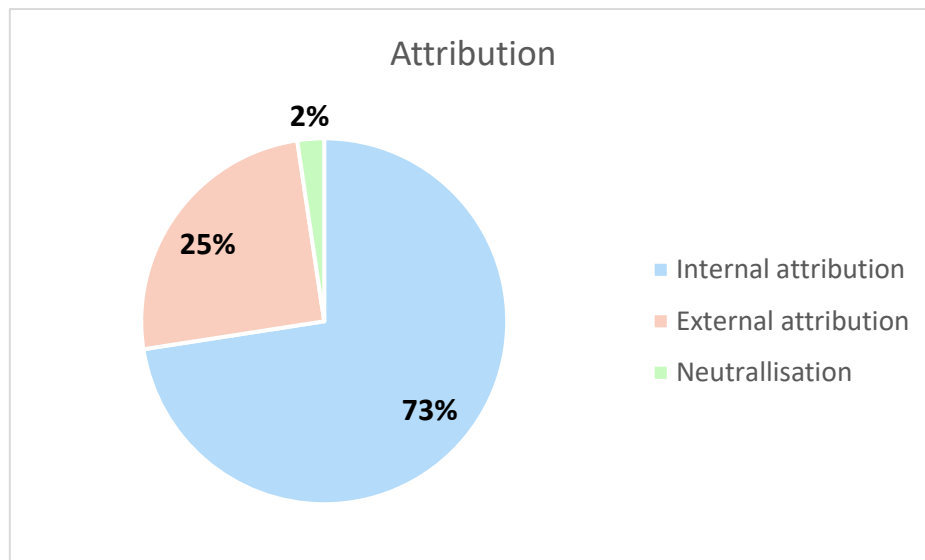


Figure 5 provides a breakdown of the elements of the attribution. Overall, internal attribution was the most common attribution element and accounted for 73% of the total attribution disclosures and neutralisation was the least used attributional element and accounted only for 2% of the total attribution. The disclosure of renewable energy is inherently positive and according to literature, self-serving attributional bias has shown a tendency for firms to attribute positive outcomes to internal actions (Beattie and Jones, 2000, Aerts, 2005, Brennan and Merkl-Davies, 2013a). External attribution accounted for 25% of all attribution used. This is interesting to note as new sources of energy are largely driven by loadshedding and/ or pressure from stakeholders to reduce their environmental impact, however, businesses do not attribute this externally. Although there were instances of neutralisation, overall renewable energy disclosure does not relate to ethically questionable behaviour, on the contrary, it is considered ethical behaviour, and there was a limited need to rationalise such behaviour (Talbot and Boiral, 2015).

The next few paragraphs consider the sub-elements of attribution and how these were used by companies.

Internal attribution

Figure 5: Breakdown of internal attribution

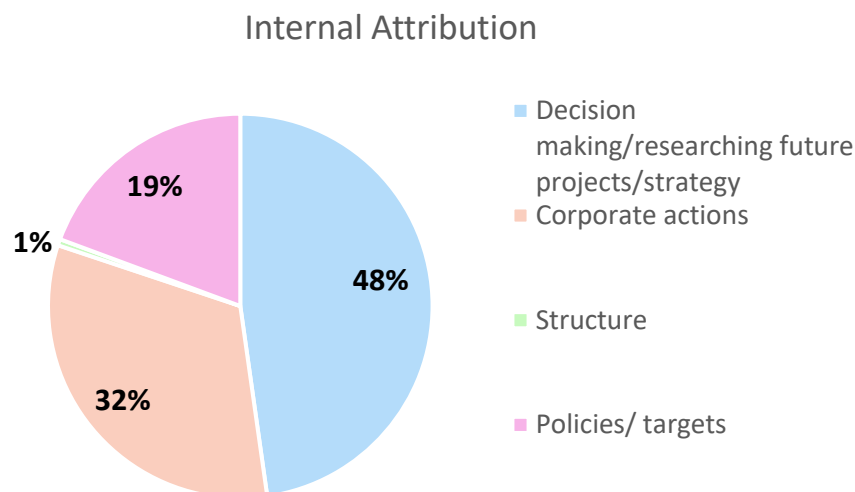


Figure 6 explains the breakdown of internal attribution. 656 of all disclosures contained elements of internal attribution, accounting for 87% of all disclosures. 48% of all internal attribution was based on decision-making while only 1% was based on the structure of the firm. Studies show that when CEO's engage in internal attribution, they aim to link the outcome to their direct action, being the decision making which brought about the desired outcome of transitioning to renewable energy (Shi et al., 2022). The structure of the firm is more indirect and is unlikely to be the direct cause of a renewable energy transition in a company. The following is an example of internal attribution used in a company's corporate report.

"We progressed towards our operational emissions reduction targets and goal by entering into renewable power supply agreements for our Kwinana nickel refinery and Queensland Coal operations – adding to the Escondida and Spence copper mine agreements announced in FY2020." (Entity 1: Integrated report, page 5).

The firm attributes the transition to renewable energy to their decision-making and corporate actions which is entering into a power supply agreement (Aerts, 2005). The firm directly claims responsibility for the results by using personal and possessive pronouns such as "we" and "our".

External attribution

Figure 6: Breakdown of external attribution

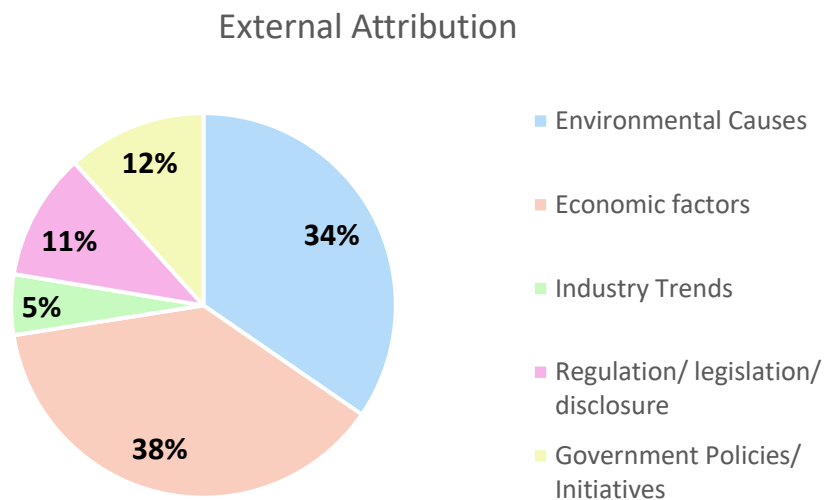


Figure 7 explains the breakdown of external attribution. 267 of all disclosures contained elements of external attribution, accounting for 35% of all disclosures. Out of the disclosures that did contain external attribution, 38% was attributed to economic factors while only 5% was attributed to industry trends. Not every industry will be experiencing negative trends at the same time, however, economic factors will always impact companies, either directly or indirectly. It is therefore, easier and more commonplace to attribute factors to economic factors such as the long term effects of COVID-19, the Russian invasion of Ukraine, inflation, protests and, particularly in South Africa, load shedding (du Venage, 2020). The main incentive for corporations transitioning to renewables was load shedding dramatically impacting profitability, which is an economic factor. The following is an example of external attribution used in a company's corporate report.

“Social concerns around climate change may result in investors divesting our securities, pressure on Company ABC to divest or close remaining fossil fuel assets and on financial institutions not to provide financing for our fossil fuel assets, or otherwise adversely impact our ability to optimise our portfolio.” (Entity 1: Integrated report, page 43).

The company externally attributes the transition to renewables. This is done through stating that external factors - being climate change, which is an environmental cause, and economic pressures, such as financing issues, is what ultimately resulted in the transition to renewables.

Neutralisation

Figure 7: Breakdown of neutralisation

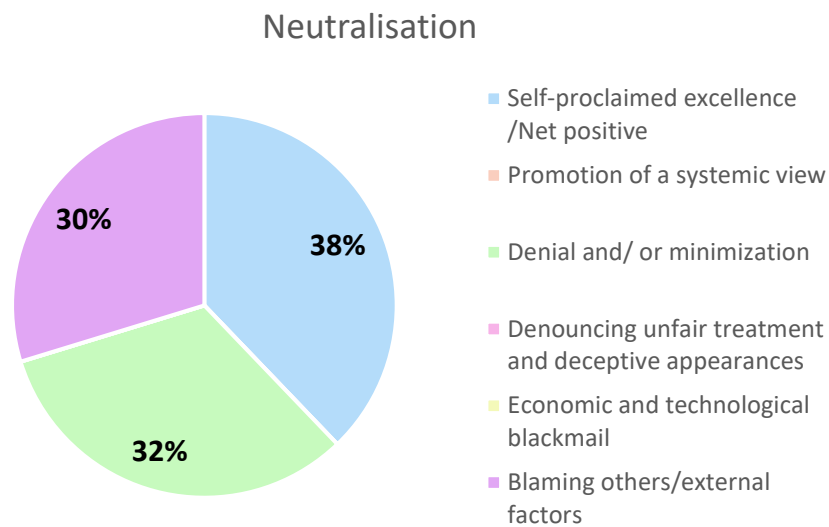


Figure 8 shows a breakdown of neutralisation. 3% of all disclosures contained neutralisation. 38% of neutralisation consisted of self-proclaimed excellence, while 0% was based on the promotion of a systematic view, denouncing unfair treatment and economic and technological blackmail. Although neutralisation was minimal, when it was found, it was mostly related to the company trying to detract from their carbon emissions and negative environmental impacts by placing emphasis on its transition to renewables. The following is an example of neutralisation used in a company's corporate report.

"In FY2021, total operational energy consumption increased 3 per cent from FY2020 due to increased drilling activity in our Trinidad and Tobago operations, the use of diesel generators to provide power to our Angostura facility during the Ruby project tie-in and increased diesel usage at our Queensland Coal operated assets. Building on our Light Electric Vehicle (LEV) trials at Olympic Dam and Queensland Coal, we have commenced LEV trials at Nickel West using onboard battery power. This trial is anticipated to reduce noise, heat and diesel particulate matter, as well as consumption of fossil fuel. We have increased the renewable component of our energy consumption in FY2020". (Entity 1: Integrated report, page 39).

This example demonstrates the use of neutralisation through self-proclaimed excellence (Talbot and Boiral, 2015, Ford, 1985). The company attempts to detract from the negative fact that their energy and diesel consumption has increased through placing emphasis on their positive actions, which is that they are increasing their renewable energy component and trialling alternate sources of energy. This is referred to as neutralisation through self-proclaimed excellence.

4.2.2: Visual emphasis

Figure 8: Breakdown of the elements of visual emphasis

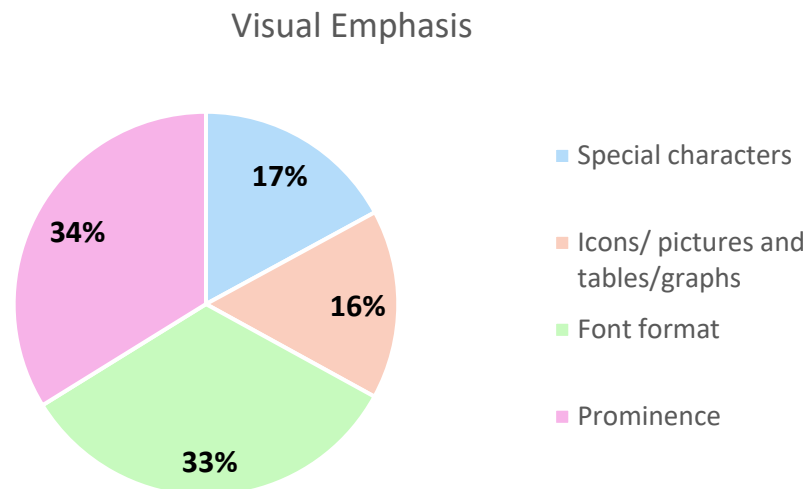


Figure 9 displays a breakdown of the various elements used for visual emphasis. The most popular form of visual emphasis was prominence which accounted for 34% of the total visual emphasis. Prominence was present in every corporate report as headings and subheadings are essential for navigating text as they highlight major transitions and indicate a change in topic (Zywica and Gomez, 2008). It is therefore commonplace to use headings and subheadings as impression management tools due to their prevalent nature in all corporate reports. The least popular form of visual emphasis was icons/pictures/ tables/graphs which accounted for 16% of total visual emphasis. The use of pictures/icons/tables/graphs is based on the personal preference of the preparer and there is no norm of how many icons/pictures/tables/graphs are appropriate in a corporate report. Based on the minimal usage of icons/pictures/tables/graphs, it appears that many corporations are of the opinion that the use of icons/pictures in corporate reports is a marketing technique and prefer the corporate report to represent more 'hard data' (Sherman, 2012).

Special characters

Figure 9: Breakdown of special characters

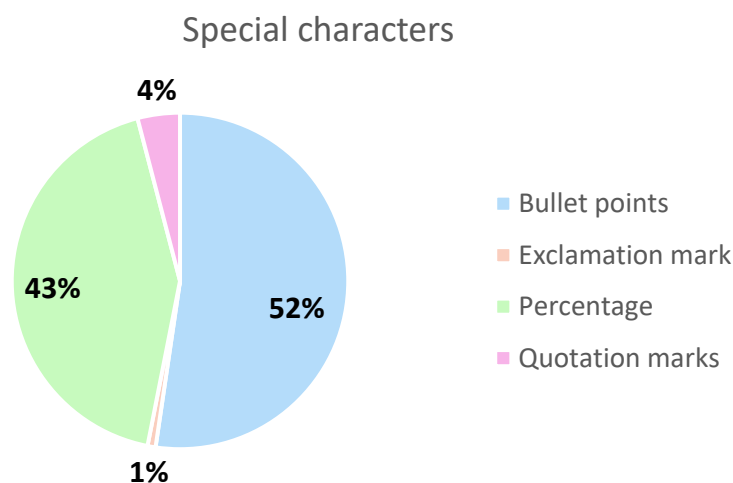


Figure 10 presents an overview of special characters. 458 of all disclosures contained elements of special characters, accounting for 60% of all disclosures. 52% of all special characters consisted of bullet points. Bullet points are a very popular special character as they make a quick impact spatially and visually and effectively present points and lists (Gunter and Archer, 2001). Only 1% of all special characters used were exclamation marks. Corporate reports are formal documents and the tone must be kept professional, exclamation marks are associated with strong emotion and are often associated with informal communication, for example, tweets (Ip, 2002).

Icons/pictures and tables/graphs

Figure 10: Breakdown of icons/pictures and tables/graphs

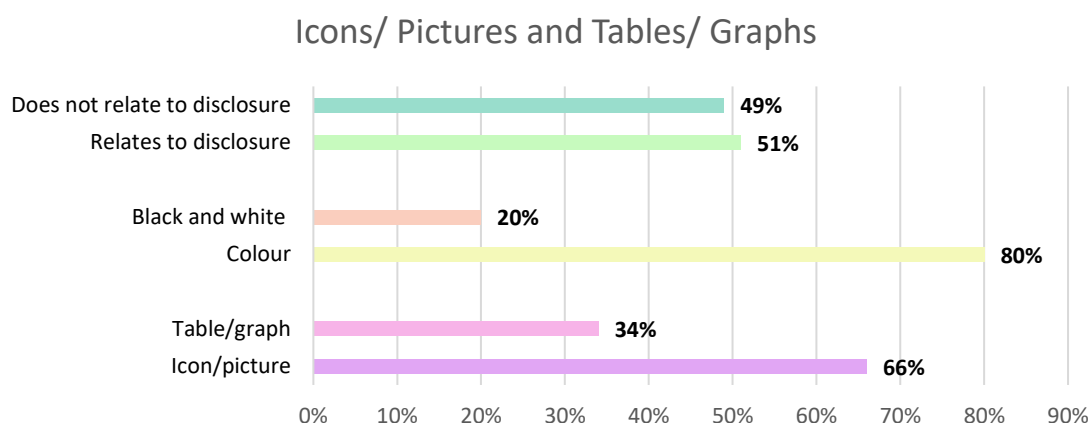


Figure 11 presents an overview of icons/pictures and tables/graphs used. 317 of all disclosures contained icons/pictures, accounting for 66% of all disclosures and 164 of all

disclosures contained tables/ graphs, accounting for 34% of all disclosures. This does not align with prior literature as, usually, graphs are a very popular tool used in impression management to highlight trends and explain complicated information (Cho et al., 2012, Varachia and Yasseen, 2020). A possible reason for the reduced use of images/ graphs is that these are sometimes viewed as elements which can be used to distract information from users. As a change to renewable energy may be considered as positive news, companies may not want to distract users from this type of information. Out of all the graphs/ tables and icons/pictures, 80% were in colour while only 20% were in black and white. This is likely because it is scientifically proven that readers remember images in colour better than images in black and white (Wichmann et al., 2002). When colour is used effectively in corporate reporting, it guides the user's attention by providing visual cues which ultimately helps them analyse information and engage with the report (LLC, 2022). Only 51% of all icons/pictures/tables/ graphs related to disclosure while 49% did not relate to the disclosure. This may indicate that companies are using images in an effective manner and not merely using images which can distract users' attention from the core information.

Font formats

Figure 11: Breakdown of font formats

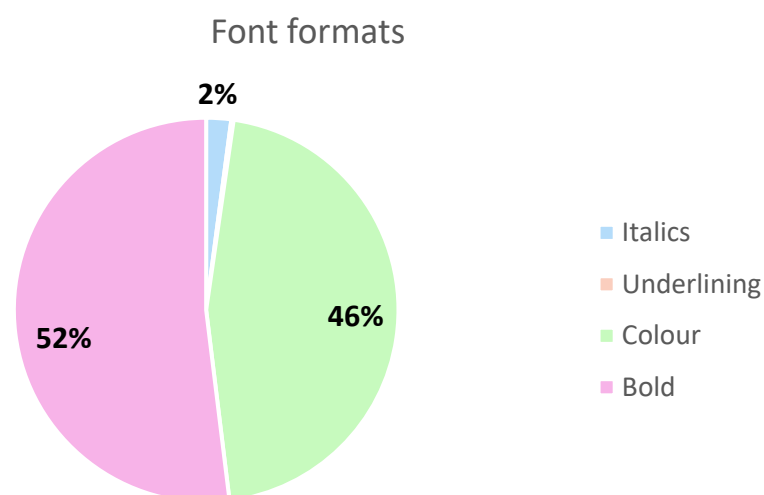


Figure 12 shows a breakdown of the elements of font format. 588 of all disclosures contained font format, accounting for 77% of all disclosures. 52% of all font formats used, were bold. Companies may be more induced to use bold, as oppose to other font formats, as bold is more noticeable as it changes the shape and features of the text (LaBrozzi, 2016).

Out of all the disclosures no text included underlining. These results align with LaBrozzi (2016)'s study which shows that underlining is the least effective font format as the changes are very subtle and often go unnoticed. The underlining may also be misconstrued as a printing error which may deter companies from utilising it.

Prominence

Figure 12: Breakdown of prominence

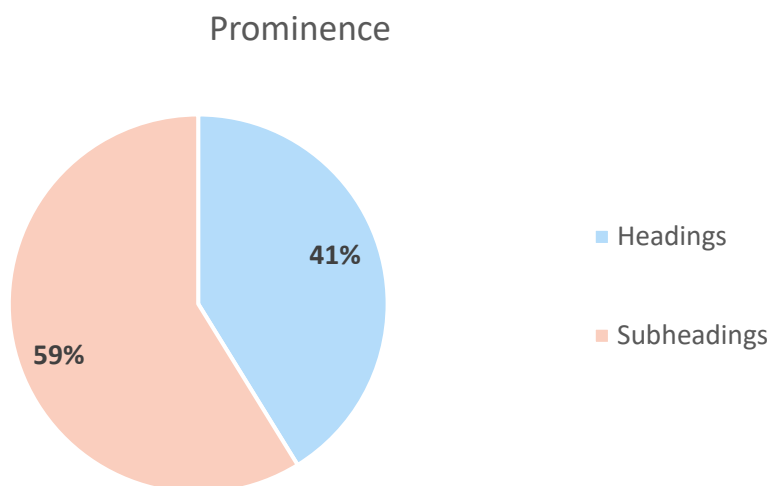


Figure 13 displays a breakdown of prominence. 671 of all disclosures contained either a heading/ subheading or both, accounting for 87% of all disclosures. 41% of all disclosures containing prominence had a heading while 59% of all disclosures contained a subheading. This aligns with the expected formatting of a normal corporate report as usually there will be one heading for each section of the corporate report and multiple subheadings within each section to indicate different subsections. This is necessary as headings are used to hook the reader while subheadings guide the reader to keep scanning the information (Mailchimp).

Location

Figure 13: Breakdown of location

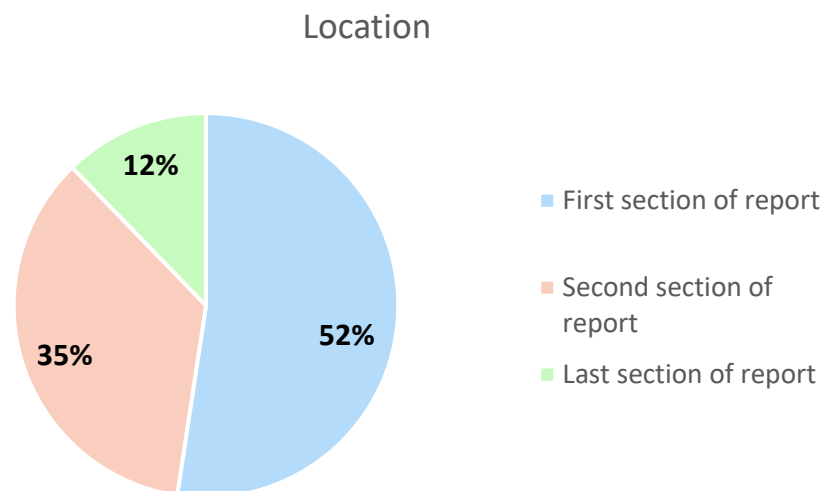


Figure 14 provides a breakdown of location. For the purposes of this study, the first section of the corporate report is considered the most emphasised section, the second section is the second most emphasised section and the last section is least emphasised section (Brennan et al., 2009). 52% of all disclosures were found in the first section of the report, 35% of all disclosures were found in the second section of the report and 12% of all disclosures were found in the final section of the report. This aligns to prior studies which indicate that positive information, being the transition to renewable energy, is usually disclosed in the most emphasised section of the corporate report- the first section (Brennan et al., 2009). The length of integrated reports can be considered long, it is therefore probable that information contained in the first section will be more likely to be read first compared to the middle or last section. As a result, including positive information in the beginning will create a positive image of the company when viewed by stakeholders.

4.2.3: Sentiment

Figure 14: Breakdown of sentiment

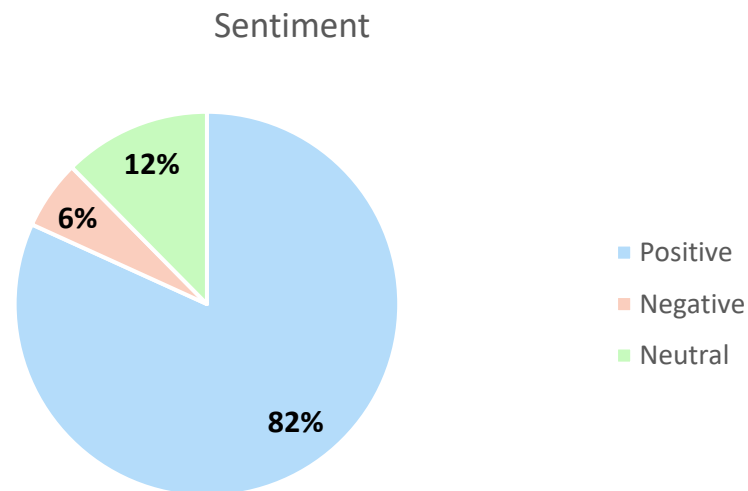


Figure 15 shows a breakdown of the elements of sentiment. 82% of all disclosures were categorised as positive, 6% of all disclosures were categorised as negative and 12% of all disclosures were categorised as neutral. The high percentage of positive disclosures aligns with prior studies as management is expected to act in a self-interested manner and manipulate sentiment by disclosing predominantly positive information (Brennan et al., 2009). Minimal disclosure was categorised as negative as management is unlikely to disclose information that may be interpreted as negative and will focus on disclosing information which portrays the company in a positive light (Brennan et al., 2009).

4.2.4: Comparisons

Figure 15: Breakdown of the elements of comparisons

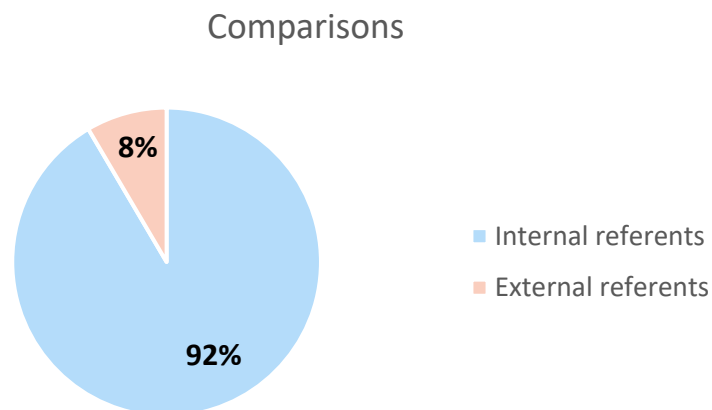


Figure 16 displays a breakdown of the elements of comparisons. 177 of all disclosures contained comparisons, accounting for 23% of all disclosures. 92% of all disclosures related to comparisons contained internal referents, yet only 8% of all disclosures related to comparisons contained external referents. Our findings support prior studies which found that there is a strong preference for internal referents over external referents (Brennan et al., 2009). This is because organisations would be expected to frame performance relevant to organisational goals and targets which are internal forces directly under management's control and easier to predict than external forces (Shi et al., 2022).

Internal referents

Figure 16: Breakdown of internal referents

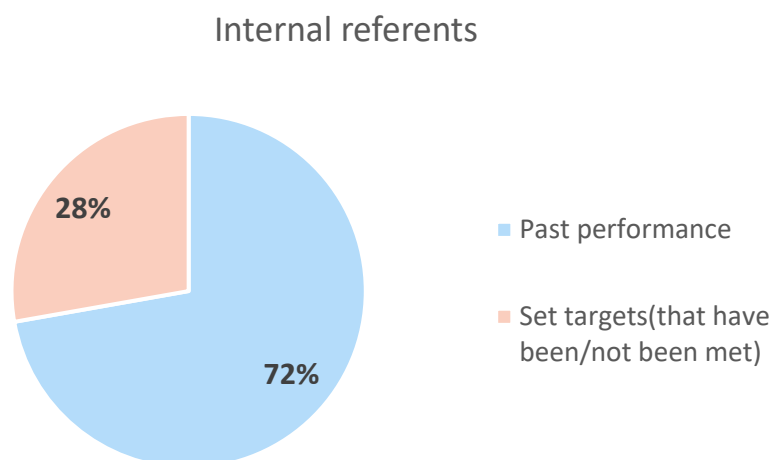


Figure 17 displays a breakdown of the elements of internal referents. 149 of all disclosures contained internal referents, accounting for 20% of all disclosures. Out of the total internal referents, 72% related to past performance and only 28% related to targets that were met/ not met. This is likely because most of the companies are still in the process of transitioning to renewable energy and have not yet met their targets, however they are able to show improvement through comparison to past performance.

External referents

Figure 17: Breakdown of external referents

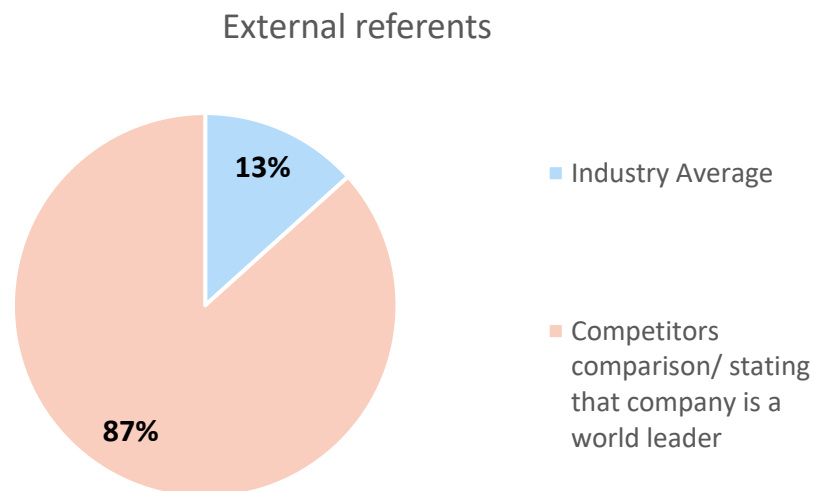


Figure 18 shows a breakdown of external referents. 15 disclosures contained external referents, accounting for 8% of all disclosures. Out of the total external referents, 87% related to competitor comparisons and only 13% related to industry average.

Nature of comparisons

Figure 18: Breakdown of the nature of comparisons

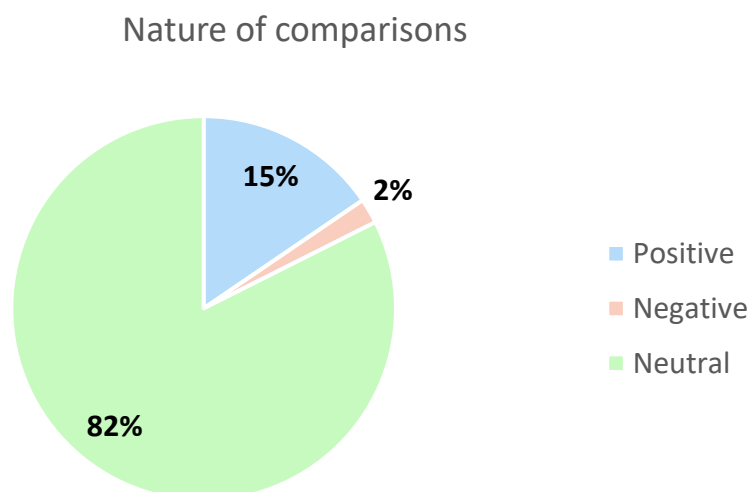


Figure 19 displays a breakdown of the nature of comparisons. 82% of all comparisons used were neutral while only 15% were positive and 2% were negative. This is surprising as a more

positive comparison was expected due to favourable bias which shows as firms tend to disclose more favourable information (Cho et al., 2012). This is also inconsistent with our sentiment findings which indicated that the disclosures were predominantly positive.

4.2.5: Answering research question 1.

To answer our first research question, the most common impression management technique used in South African entities regarding renewable energy disclosures is visual emphasis, with the most popular visual emphasis being prominence. The second most popular impression management technique was attribution, with the most popular attributional element being internal attribution. The least popular impression management technique was comparison and the most popular comparison element used was the use of internal referents.

4.3: RQ2 - Difference in impression management within different industries and market capitalisations

In the next few sections, the impression management techniques are discussed in greater detail, specifically noting any differences and similarities between different industries and market capitalisation sizes. The findings are split per industry and market capitalisation.

4.3.1: Industry

Table 7: Impression management techniques per industry

Industry	Impression management technique				
	Attribution	Visual emphasis	Comparison	Total	Percentage
Basic materials	904	1146	96	2146	60%
Financials	44	46	3	93	3%
Industrials	48	68	4	120	3%
Telecommunications	66	93	7	166	5%
Technology	38	47	4	89	2%
Healthcare	5	8	0	13	0%
Real Estate	92	120	11	223	6%
Consumer goods and services	305	371	49	725	20%
Energy	0	0	0	0	0%
	1502	1899	174	3575	100%

Table 7 provides an overview of the impression management techniques used per industry, excluding location, which is found under visual emphasis, and sentiment. The basic materials industry accounted for 60% of all the impression management techniques while the energy and healthcare industry accounted for 0% of all the impression management techniques and

the technology industry only accounted for 2% of all impression management techniques. These results suggest that the higher the level of carbon intensity of the industry, the higher the level of impression management techniques used. This supports prior studies which suggest that companies which have a stronger environmental impact on society, have a greater incentive to legitimise their actions and engage in impression management (Pucheta-Martínez and Gallego-Álvarez, 2019, Corazza et al., 2020). Further, given that the basic materials had the most disclosure relating to renewable energy, it is expected that they have the majority of the impression management techniques. The most common impression management technique used consistently across all industries was visual emphasis. The least common impression management technique used across all industries was comparison. This is aligned with the overall impression management techniques.

Attribution

A Kruskal-Wallis test was conducted on a disclosure basis to determine if there were significant differences in the total number of attributions between industries. The median attributions were not statistically significantly different between the different industries, $\chi^2 (8) = 8,752$, $p = 0.364$. This means that on a disclosure basis, the number of attributions does not statistically differ which implies that the techniques used by different industries are all very similar, on a disclosure basis. Perhaps in the context of a failing power grid, all industries are similar, and they all consider renewable energies important to manage the current crisis. However, when the Kruskal-Wallis test was conducted on a company basis, the median attributions were statistically different between the different industries, $\chi^2 (2) = 24.419$, $p < 0.002$. This indicates that there is a statistical difference in the overall level of impression management techniques used by different industries. This aligns to Corazza et al. (2020) and Cho et al. (2012) as it would be expected that the basic materials industry, having a large societal impact, would engage in significantly more impression management than, for example, the healthcare industry.

Table 8: Attributional elements per industry

Industry	Attributional elements				
	Internal attribution	External attribution	Neutralisation	Total attribution	Percentage
Basic materials	646	230	28	904	58%
Financials	32	15	0	47	3%
Industrials	59	18	2	79	5%
Telecommunications	53	13	0	66	4%

Technology	28	9	1	38	2%
Healthcare	3	2	0	5	0%
Real Estate	68	24	1	93	6%
Consumer goods and services	244	81	5	330	21%
Energy	4	1	0	5	0%
	1137	393	37	1567	100%

Table 8 provides a breakdown of how attributional elements were used per industry. The basic materials industry accounted for the highest percentage, being 58% of the total attribution. The healthcare and energy industries had minimal cases of internal attribution. This is aligned as the basic materials industry accounted for a higher percentage of renewable energy disclosure than the healthcare and energy industry. The most popular attributional technique for all industries was internal attribution. This aligns with prior literature as the disclosure of renewable energy is inherently positive and firms have a tendency to attribute positive outcomes to internal actions (Beattie and Jones, 2000, Aerts, 2005, Brennan and Merkl-Davies, 2013a). The least popular attributional element was consistently neutralisation for all industries. Across all industries, it appears that companies are using internal attribution to enhance this positive image of the company. Therefore, it can be concluded across all industries, there is a self-serving bias to portray the company in a favourable light.

Visual emphasis

A Kruskal-Wallis test was run on a disclosure basis to determine if there were differences in the level of visual emphasis between industries. Interestingly, the Kruskal-Wallis test did show a difference in the use of different visual emphasis elements used between industries and all relationships were statistically significant (special characters showed that $\chi^2(8) = 23.213$, $p = 0.003$, total images showed that $\chi^2(8) = 19.125$, $p = 0.014$, total fonts showed that $\chi^2(8) = 19.514$, $p = 0.012$, total prominence showed that $\chi^2(8) = 45.494$, $p < 0.001$). The results at an overall level, showed that on a disclosure basis, the relationship between industry type and visual emphasis was not statistically significant as $\chi^2(8) = 8.909$, $p = 0.364$. This implies that at an overall level, the industry type does not materially impact the visual emphasis used and companies are using the same visual emphasis techniques, at a disclosure level. However, at a micro-level, the industry type does have a material impact on the elements within each visual emphasis technique used.

A Kruskal-Wallis test was also run on a company basis to determine if there were differences in the level of visual emphasis used. The results at an overall company level, showed that the

relationship between industry type and visual emphasis was statistically significant as $\chi^2(7) = 18.020$, $p=0.012$. This aligns with prior findings which show that certain industries engage in higher levels of disclosure than others and consequently higher levels of impression management (Corazza et al., 2020, Cho et al., 2012).

Table 9: Visual Emphasis elements per industry

Industry	Visual Emphasis elements					
	Total special characters	Total icons/pictures / tables/ graphs	Font format	Prominence	Total	Percentage
Basic materials	289	270	587	598	1744	58%
Financials	13	16	23	16	68	2%
Industrials	23	22	71	73	189	6%
Telecommunications	18	26	49	46	139	5%
Technology	11	11	25	22	69	2%
Healthcare	3	1	4	5	13	0%
Real Estate	30	33	58	59	180	6%
Consumer goods and services	129	102	178	198	607	20%
Energy	0	0	8	5	13	0%
	516	481	1003	1022	3022	100%

Table 9 provides a split of the visual emphasis elements per industry. Prominence was the most popular visual emphasis element used by most industries, except that font format was the most popular visual emphasis element used by the financials, telecommunications, and technology industries. The least popular form of visual emphasis elements for all industries was icons/pictures/tables/graphs, except that special characters was the least popular visual emphasis element used by the financials, telecommunications, and technology industry. It is interesting that the financials, telecommunications, and technology industries were consistent in their most and least used elements while the remainder of the industries were consistent with each other. This is possibly because the financials, telecommunications and technology industries are intertwined with one other (Warf, 1989). The basic materials industry accounted for the highest percentage (58%) of all instances of visual emphasis. The healthcare and energy industries did use visual emphasis; however, it was insignificant which resulted in these industries accounting for the lowest percentage (0%) of the total visual emphasis.

Table 10: Location per industry

Industry	Location			
	The first third of the report	The second third of the report	The final third of the report	Total disclosures
Basic materials	207	152	45	404
Financials	10	4	5	19
Industrials	19	18	6	43
Telecommunications	12	15	0	27
Technology	9	8	0	17
Healthcare	1	1	1	3
Real Estate	30	12	1	43
Consumer goods and services	79	41	29	149
Energy	5	0	0	5
Total	372	251	87	710
Percentages	52%	35%	12%	100%

Table 10 shows an overview of the location of disclosures per industry. The most popular location of disclosures for all industries was the first third of the report, except the second third of the report was the most popular for the telecommunications industry. The least popular location of disclosures for all industries was the final third of the report. These findings aligns with prior literature which indicates that positive information, being the transition to renewable energy, is usually disclosed in the most emphasised section of the corporate report, which is the first section (Brennan et al., 2009).

Sentiment

A Kruskal-Wallis test was conducted to determine if there were differences in the use of sentiment scores (as determined by IBM Watson) between industries at an overall disclosure level. The relationship between industry type and sentiment was not statistically significant as $\chi^2(8) = 6.579$, $p=0.583$. This aligns with prior studies as most industries would be expected to have a favourable bias and choose to disclose more positive information than negative information (Cho et al., 2012). These findings were consistent when a Kruskal-Wallis test was run, at a company level, to determine if there was a difference in the sentiment score between different industries (as determined by IBM Watson) on a company basis, $\chi^2(8) = 2.796$, $p = 0.947$.

Table 11: Sentiment per industry

Industry	Sentiment			
	Positive	Negative	Neutral	Total disclosures
Basic materials	355	23	49	427
Financials	19	1	6	26
Industrials	34	3	11	48
Telecommunications	24	1	5	30
Technology	16	2	3	21
Healthcare	3	0	0	3
Real Estate	38	3	4	45
Consumer goods and services	127	10	16	153
Energy	4	1	0	5
Total	620	44	94	758
Percentages	82%	6%	12%	100%

Table 11 displays an overview of the sentiment of disclosures per industry. The most popular sentiment of disclosures for all industries was positive and the least popular sentiment of disclosures for all industries was negative. An explanation for the high preponderance of positive disclosures is that renewable disclosures tend to be positive. Another potential explanation is that the companies in our study may be experiencing improvements in social and environmental performance (Cho et al., 2012). Management is also inherently expected to act in a self-interested manner and manipulate sentiment by disclosing more positive information than negative information (Brennan et al., 2009).

Comparisons

A Kruskal-Wallis test was run on a disclosure basis to determine if there were differences in the use of comparison between industries. The results indicate that the median attributions were not statistically significantly different between the different industries, $\chi^2(8) = 11.620$, $p = 0.169$. This implies that the industry type does not materially affect the use of comparisons as the number of comparisons does not statistically differ. This is surprising as it would be expected that certain industries would have made more progress than others in terms of their transition to renewables, such as the basic materials industry. It would then be expected that such industries would want to highlight their achievements using comparisons (Shi et al., 2022, Brennan et al., 2009).

A Kruskal-Wallis test was also run at an overall company level to determine if there were differences in the use of comparisons between different types of industries. The results showed that the use of comparison across market capitalisations was statistically different, $\chi^2(8) = 20.880$, $p=0.007$. This implies that industry type does have a material effect on the level of comparison used, which aligns with prior findings as different industries engage in a higher level of renewable energy disclosure than others and consequently, will have a higher level of impression management (Cho et al., 2012, Corazza et al., 2020).

Table 12: Comparison elements per industry

Industry	Comparison element			Percentage
	Total internal referents	Total external referents	Total comparisons	
Basic materials	86	10	96	54%
Financials	3	0	3	2%
Industrials	5	0	5	3%
Telecommunications	5	2	7	4%
Technology	4	0	4	2%
Healthcare	0	0	0	0%
Real Estate	9	2	11	6%
Consumer goods and services	50	1	51	29%
Energy	0	0	0	0%
	162	15	177	100%

Table 12 provides a breakdown of the instances of comparison elements used per industry. The most popular element of comparison used for all industries was internal referents while the least popular element was external referents. This aligns with literature as transitioning to renewables presents an improvement in the company so the company would be expected to frame performance relevant to organisational goals and targets to show overall improvements (Shi et al., 2022). The basic materials engaged in the most comparison and accounted for 54% of the total comparison instances while the healthcare and energy industries accounted for 0% of the total comparison instances. This correlates to the fact that the basic materials industry accounted for a higher percentage of renewable energy disclosure than the healthcare and energy industry.

Table 13: Nature of comparisons per industry

Industry	Nature of comparisons			
	Positive	Negative	Neutral	Total disclosures
Basic materials	52	12	366	430
Financials	3	0	23	26
Industrials	4	1	43	48
Telecommunications	5	0	25	30
Technology	4	0	18	22
Healthcare	0	0	3	3
Real Estate	10	1	34	45
Consumer goods and services	39	2	111	152
Energy	1	0	4	5
	118	16	627	761
	16%	2%	82%	100%

Table 13 provides an overview of the nature of comparisons per industry. Neutral comparisons were the most popular form of comparison for all industries. This was not expected as the disclosure of renewables is inherently positive and as companies slowly transition, there should be a year-on-year improvement which should result in a positive comparison. The least popular form of comparison for all industries was negative. It is unlikely that a company could digress in terms of the renewable transition. For example, the company may not add more solar panels to their buildings, which would result in a neutral comparison, but it would be unlikely that they would remove solar panels, which would result in a negative comparison.

[Answering research question 2.](#)

Our results showed that while there were some similar trends between industries, in terms of which impression management techniques are used, there were some differences in the method of impression management between different industries. The Kruskal-Wallis test, conducted at a disclosure level, showed that overall, the use of attribution, sentiment and comparison techniques were the same across industries, however, the use of individual elements of each visual emphasis differed across industries. It can be concluded that the type of impression management technique used, is not impacted by the type of industry.

The Kruskal Wallis test, conducted at a company level, indicated that the level of impression management, however, did differ across industries. The findings further showed that the basic materials industry accounted for the highest percentage of impression management while the

energy, healthcare and technology industries accounted for the least impression management. These findings are consistent with the level of disclosure per industry.

4.3.2: Market capitalisation

Table 14: Impression management techniques per market capitalisation

Market capitalisation	Impression management technique				
	Attribution	Visual emphasis	Comparison	Total	Percentage
Top 20 Large cap	1085	1292	140	2517	70%
Top 20 Mid cap	350	517	27	894	25%
Top 20 Small cap	67	90	7	164	5%
Total	1502	1899	174	3575	100%

Table 14 provides an overview of the impression management techniques used per market capitalisation, excluding location, which is found under visual emphasis, and sentiment. The top 20 large-cap companies accounted for 70% of all the impression management techniques while the top 20 small-cap companies only accounted for 5% of all impression management techniques. The most common impression management technique used across all market capitalisations was visual emphasis. The least common impression management technique used across all market capitalisations was comparison. This is consistent with the overall impression techniques and the technique used by different industries. Across all market capitalisations, it appears that companies are following similar patterns when disclosing information.

Attribution

A Kruskal-Wallis test was run to determine if there were differences in the use of attribution between different market capitalisation sizes at an overall disclosure level. The median attributions were not statistically significantly different between the different market capitalisations, $\chi^2(2) = 2.206$, $p = 0.332$. This implies that market capitalisation size does not have a material effect on the type of attribution techniques used. Across all categories of market capitalisations, companies want to portray a positive image to their stakeholders. The fact that a company may not have more visibility does not impact the techniques used as

ultimately, a company needs to be positively perceived by its stakeholders to ensure its success.

A Kruskal-Wallis test was also run at an overall company level to determine if there were differences in the use of attribution between different market capitalisation sizes. The median attributions were statistically different between different market capitalisations, $\chi^2(2) = 19.180$, $p < 0.001$. This aligns with prior studies which imply that larger companies, such as the top 20 large-cap companies are placed under a higher level of scrutiny and therefore have more incentive to legitimise their actions (Mansoor and Maroun, 2016, Pucheta-Martínez and Gallego-Álvarez, 2019). This is done through increasing their level of renewable energy disclosure, and subsequently, impression management.

Table 15: Attributional elements per market capitalisation

Market Capitalisation	Attributional Elements				
	Internal attribution	External attribution	Neutralisation	Total attribution	Percentage
Top 20 Large cap	780	273	32	1085	69%
Top 20 Mid cap	258	89	3	350	22%
Top 20 Small cap	99	31	2	132	8%
	1137	393	37	1567	100%

Table 14 provides a breakdown of the instances that attributional elements were used per market capitalisation. The top 20 large-cap companies accounted for the highest percentage, being 69% of the total attribution while the top 20 small-cap companies accounted for the least of the total attribution at 8%. This correlates to the fact that the top 20 large-cap companies accounted for a higher percentage of renewable energy disclosure than the top 20 small-cap companies. Consistent with all the findings above, the most used attribution technique for all market capitalisation sizes was internal attribution and the least used technique was neutralisation for all market capitalisation sizes.

Visual emphasis

A Kruskal-Wallis test was conducted on a disclosure basis to determine if there were differences in the use of visual emphasis between different market capitalisation sizes. The median visual emphasis instances were statistically significantly different between the different market capitalisations, $\chi^2(2) = 11.126$, $p = .004$. This means that on a disclosure basis, the

number of instances when visual emphasis is used does statistically differ which implies that market capitalisation size does have a material effect on visual emphasis.

A Kruskal-Wallis test was conducted on a company level to determine if there were differences in the use of visual emphasis between different market capitalisation sizes. The median visual emphasis instances were statistically significantly different between the different market capitalisations, $\chi^2(2) = 10.558$, $p = .005$. At a company level, the level of disclosure and subsequent impression management does statistically differ between different market capitalisation sizes, which is consistent with the above findings (Mansoor and Maroun, 2016, Pucheta-Martínez and Gallego-Álvarez, 2019).

Table 16: Visual emphasis elements per market capitalisation

Market capitalisation	Visual Emphasis elements					
	Total special characters	Total icons/pictures/tables/ graphs	Font format	Prominence	Total	Percentage
Top 20 Large cap	346	310	636	660	1952	65%
Top 20 Mid cap	125	134	258	270	787	26%
Top 20 Small cap	45	37	109	92	283	9%
Total	516	481	1003	1022	3022	100%

Table 15 displays a breakdown of the instances visual emphasis elements were used per market capitalisation. The most used visual emphasis element for the top 20 large-cap companies and top 20 mid-cap companies was prominence while font format was the most used element for the top 20 small-cap companies. Icons/ pictures/ tables/ graphs was the least popular element used by the top 20 large-cap companies and top 20 small-cap companies. Special characters were the least commonly used visual emphasis element by the top 20 mid-cap companies. The top 20 large-cap companies accounted for the majority of all visual emphasis instances, at 65%, while the top 20 small-cap companies accounted for the least instances of visual emphasis, at only 9%.

Table 17: Prominence per market capitalisation

Market capitalisation	Location			
	The first section of report	Second section of report	Final section of report	Total disclosures

Top 20 Large cap	223	176	72	471
Top 20 Mid cap	101	63	8	172
Top 20 Small cap	48	12	7	67
Total	372	251	87	710
Percentages	52%	35%	12%	100%

Table 16 shows an overview of prominence per market capitalisation. The most popular location of disclosures for all market cap sizes was the first section of the report and the least popular location of disclosures for all market cap sizes was the last section of the report. These findings align with prior literature which indicate that positive information, being the transition to renewable energy, is usually disclosed in the most emphasised section of the corporate report, which is the first third (Brennan et al., 2009).

Sentiment

A Kruskal-Wallis test was run to determine if there were differences in the sentiment scores (as determined by IBM Watson) between different market capitalisations sizes at an overall disclosure level. The median attributions were not statistically significantly different between the different market capitalisations, $\chi^2(2) = 3.634$, $p = 0.163$. This means that on a disclosure basis, sentiment used does not statistically differ which implies that market capitalisation is not having a material effect on sentiment score. This is consistent with the above findings for industry size. These findings were consistent when a Kruskal-Wallis test was run, at a company level, to determine if there was a difference in the sentiment score (as determined by IBM Watson) between market capitalisation sizes, $\chi^2(2) = 2.018$, $p = 0.365$.

Table 18: Sentiment per market capitalisation

Market capitalisation	Sentiment			
	Positive	Negative	Neutral	Total disclosures
Top 20 Large cap	428	27	47	502
Top 20 Mid cap	139	10	29	178
Top 20 Small cap	53	7	18	78
Total	620	44	94	758
Percentages	82%	6%	12%	100%

Table 17 shows an overview of sentiment per market capitalisation. The most popular sentiment of disclosures for all market capitalisation sizes was positive. An explanation for the

high preponderance of positive disclosures is that renewable disclosures tend to be positive. Another potential explanation is that the companies in our study may be experiencing improvements in social and environmental performance (Cho et al., 2012).

Comparisons

A Kruskal-Wallis test was run, at an overall disclosure level, to determine if there were differences in the use of comparisons between different market capitalisations sizes. The Kruskal–Wallis test was run on the relationship between market capitalisation and internal referents and external referents, respectively. The results showed that the use of internal referents across market capitalisations was statistically different, $\chi^2(2) = 9.199$, $p=0.010$. This implies that market capitalisation size does have a material effect on internal referents. Conversely, external referents across market capitalisations did not statistically differ $\chi^2(2) = 0.147$, $p=0.929$. This suggests that market capitalisation size does not have a material effect on external referents. At an overall level, the relationship between market capitalisation size and use of total comparison was statistically significant as $\chi^2(2) = 8.285$, $p=0.016$. This implies that, at an overall disclosure, market capitalisation size does have a material effect on total comparison. The top 20 large-cap companies are expected to have made more progress in terms of their renewable energy transition than the top 20 small-cap companies. It would then be expected that such companies would want to highlight their achievements using comparisons, more than companies which have not made as much progress (Shi et al., 2022, Brennan et al., 2009).

A Kruskal-Wallis test was also run at an overall company level to determine if there were differences in the use of comparisons between different market capitalisations sizes. The results showed that the use of comparison across market capitalisations was statistically different, $\chi^2(2) = 19.180$, $p<0.001$. This implies that market capitalisation size does have a material effect on the level of comparison used, which aligns with prior findings as larger companies engage in a higher level of renewable energy disclosure (Mansoor and Maroun, 2016, Pucheta-Martínez and Gallego-Álvarez, 2019).

Table 19: Comparison elements per market capitalisations

Market capitalisations	Comparisons			
	Internal referents	External referents	Total	Percentage
Top 20 Large cap	129	11	140	79%
Top 20 Mid cap	24	3	27	15%

Top 20 Small cap	9	1	10	6%
	162	15	177	100%

Table 18 provides a breakdown of the instances that comparison elements were used per market capitalisation. The most popular element of comparison used for all market capitalisations was internal referents. The least popular element was external referents. This aligns with literature and the findings above. The top 20 large-cap companies engaged in the most comparison and accounted for 79% of the total comparison while the top 20 small-cap companies accounted for 6% of the total comparison. This correlates to the fact that the top 20 large-cap companies accounted for a higher percentage of renewable energy disclosure than the top 20 small-cap companies.

Table 20: Nature of comparisons per market capitalisation

Market capitalisation	Nature of comparisons			
	Positive	Negative	Neutral	Total disclosures
Top 20 Large cap	85	11	409	505
Top 20 Mid cap	24	3	151	178
Top 20 Small cap	9	2	68	79
Total	118	16	628	762
Percentages	15%	2%	82%	100%

Table 19 presents an overview of the nature of comparisons per market capitalisation. Neutral comparisons were the most popular form of comparison for all market capitalisation sizes. This was not expected as the disclosure of renewables is inherently positive and as companies slowly transition, there should be a year-on-year improvement which should result in a positive comparison. The least popular form of comparison for all market capitalisation sizes was negative.

[Answering research question 2](#)

Our results showed that while there were some similar trends between different market capitalisation sizes, in terms of which impression management techniques are used, there were also differences in the impression management method used by different market capitalisation sizes. The Kruskal-Wallis test, conducted at a disclosure level, showed that overall, the use of attribution and sentiment were the same across different market

capitalisation sizes, however, the use of visual emphasis and comparison differed across different market capitalisation sizes. To a greater extent, it appears that market capitalisation does not influence the type of impression management technique used as all companies mainly utilise techniques which would enhance their reputation.

When a Kruskal Wallis test was conducted at a company level, the results indicated that the level of impression management, however, did differ across different market capitalisations. Our findings further showed that the top 20 large-cap companies accounted for the highest percentage of impression management while the top 20 small-cap companies accounted for the least impression management. These findings are consistent with the level of disclosure per market capitalisation size.

4.4: RQ3 – Impression management between corporate reports

Figure 20: Impression management per corporate report

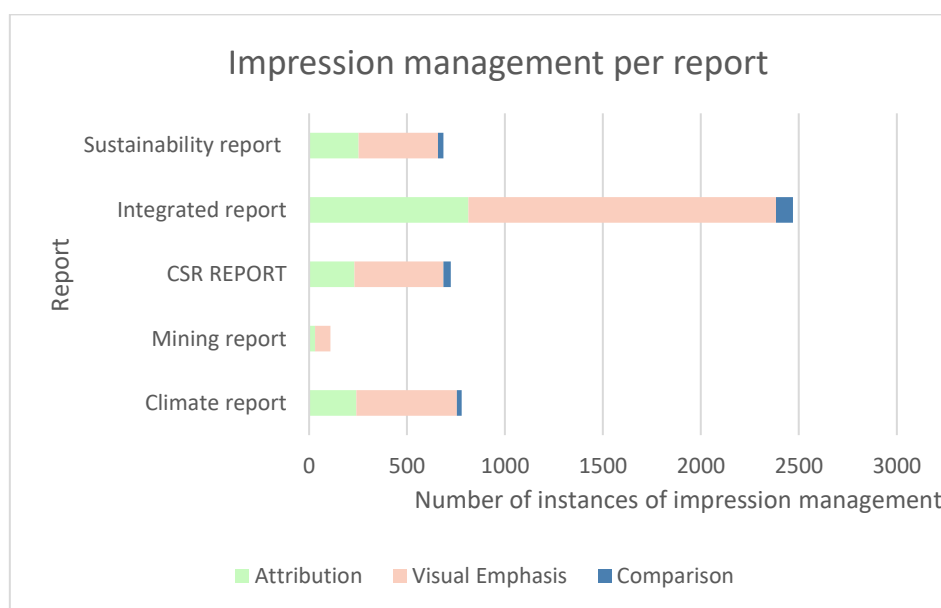


Figure 20 shows that there are different quantities of impression management techniques used by companies in different reports, however the ratio of impression management techniques used between corporate reports remains consistent. Visual emphasis is the most used technique in all corporate reports, followed by attribution and lastly, comparison. This figure excludes location (found under visual emphasis) and sentiment though, as this category contains mutually exclusive elements which cannot be compared to the other elements of visual emphasis, which are not mutually exclusive.

The integrated reports accounted for the most impression management and contained the highest percentage of attribution (52%), visual emphasis (52%) and comparison (49%). This

is likely because the integrated report was the most popular corporate report used as it is mandatory for all listed companies. The sustainability reports contained the second-highest percentage of total attribution (16%). Sustainability reports are commonly used as a legitimising tool to reduce criticism from stakeholders and reduce social pressures (Cho et al., 2012, Talbot and Boiral, 2018). Studies show further that attribution is one of the most common techniques used, when disclosing negative information in sustainability reports, as it draws attention away from the negative information (Hahn and Lülfs, 2014).

The climate report contained the second-highest percentage of visual emphasis (17%). Studies have shown that visuals are exceptionally powerful when disclosing climate change as they play on human emotion and create a representation of the impacts of climate change which are often not visible. For example, graphs may show the level of carbon emissions or there may be images of the hole in the ozone layer which is effectively invisible (Sheppard, 2005).

4.4.1: Attribution

A Kruskal-Wallis test was conducted on a disclosure basis to determine if there were differences in the total number of attributions between different types of corporate reports. The median attributions were not statistically significantly different between the different corporate reports, $\chi^2(4) = 2.108$, $p = 0.716$. This means that on an overall disclosure basis, the number of attributions does not statistically differ which implies that corporate report type does not have a material effect on total attribution. However, certain elements of attribution, such as the median external attribution between corporate reports were statistically significant, $\chi^2(4) = 11.774$, $p = 0.019$.

Table 21: Attributional elements per corporate report

Type of report	Attribution				
	Internal attribution	External attribution	Neutralisation	Total attribution	Percentage
Climate report	186	48	7	241	15%
Mining report	22	8	0	30	2%
CSR report	169	55	7	231	15%
Integrated report	564	229	20	813	52%

Sustainability report	196	53	3	252	16%
	1137	393	37	1567	100%

Table 20 provides a breakdown of the instances that attributional elements were used per corporate report. The integrated reports accounted for the highest percentage, being 52% of the total attribution while the mining reports accounted for the least of the total attribution at 2%. This correlates with the fact that the integrated reports accounted for a higher percentage of renewable energy disclosure than the mining reports. The most popular attributional element for all types of corporate reports was internal attribution. The least popular attributional element was consistently neutralisation for all types of corporate reports. The findings are consistent with what was found regarding techniques used for industry and market capitalisation.

4.4.2: Visual Emphasis

A Kruskal-Wallis test was conducted on a disclosure basis to determine if there were differences in the use of visual emphasis between different types of corporate reports. The median visual emphasis instances were statistically significantly different between the different corporate reports, $\chi^2(4) = 24.588$, $p < 0.001$. This implies that the type of corporate report does have a material effect on visual emphasis.

Table 22: Visual emphasis elements per corporate report

Type of report	Visual emphasis					
	Total special characters	Total icons/pictures	Font format	Prominence	Total	Percentage
Climate report	74	96	169	174	513	17%
Mining report	15	7	27	30	79	3%
CSR report	86	85	142	142	455	15%
Integrated report	273	234	531	532	1570	52%
Sustainability report	68	59	134	144	405	13%

	516	481	1003	1022	3022	100%
--	-----	-----	------	------	------	------

Table 21 provides a breakdown of the instances that visual emphasis elements were used per corporate report. The most used visual emphasis element found in all corporate reports was prominence. Icons/pictures/tables/graphs were the least popular element found in all corporate reports except for the mining report. Special characters were the least popular visual emphasis element used in the mining report. Interestingly, the two most common forms of visual emphasis – prominence and font format – appear to be very similar for each corporate report. This is likely because headings and subheadings usually are in bold or have a different font format to the rest of the text. The two least popular forms of visual emphasis – icons and special characters – do not appear to be correlated at all and vary between all corporate reports.

Table 23: Location per corporate report

Type of report	Location						Total
	First section of report	Percentage	Second section of report	Percentage	Last section of report	Percentage	
Climate report	36	31%	62	54%	17	15%	115
Mining report	5	33%	8	53%	2	13%	15
CSR report	57	56%	19	19%	25	25%	101
Integrated report	232	63%	122	33%	14	4%	368
Sustainability report	42	38%	40	36%	29	26%	111
	372		251		87		710

As Table 22 demonstrates, in the climate change and mining reports, most disclosures were found in the second section of the reports. This did not align with prior literature as positive information, being the transition to renewable energy, is usually disclosed in the most emphasised section of the corporate report - the first section (Brennan et al., 2009). However, in the CSR, integrated and sustainability reports, the majority of disclosures were found in the

first section of the reports which is consistent with literature (Brennan et al., 2009). The least popular section for all reports, except the CSR report, was the final section of the report. The second section of the CSR report was the least popular section.

4.4.3: Sentiment

A Kruskal-Wallis test was run to determine if there were differences in the sentiment scores (as determined by IBM Watson) between different types of corporate reports at an overall disclosure level. The median attributions were statistically significantly different between the different corporate report types, $\chi^2(4) = 17.331$, $p = 0.002$. So, this means that on a disclosure basis, sentiment used does statistically differ which implies that corporate report type does have a material effect on sentiment score. This does not align with the findings for industry type and market capitalisations. Prior studies also indicate that most companies, irrespective of the type of corporate report, would be expected to have a favourable bias and choose to disclose more positive information than negative information (Cho et al., 2012).

Table 24: Sentiment per corporate report

Type of report	Sentiment			
	Positive	Negative	Neutral	Total
Climate report	97	5	15	117
Mining report	6	5	4	15
CSR report	90	6	8	104
Integrated report	325	21	44	390
Sustainability report	102	7	12	121
	620	44	83	747

Table 23 provides an overview of sentiment per corporate report. The most popular sentiment of disclosures for all corporate report types was positive, while the least popular sentiment was negative. These findings are consistent with the findings relating to market capitalisation size and industry.

4.4.4: Comparisons

A Kruskal-Wallis test was conducted, at an overall disclosure level, to determine if there were differences in the use of comparisons between different types of corporate reports. The

Kruskal–Wallis test was run on the relationship between types of corporate reports and internal referents and external referents, respectively. The results showed that the use of internal referents across types of corporate reports statistically differed, $\chi^2 (4) = 14.680$, $p=0.005$. This implies that the type of corporate report does have a material effect on internal referents. Conversely, external referents across market capitalisations did not statistically differ $\chi^2 (4) = 6.840$, $p=0.145$. At an overall level, the relationship between the type of corporate report and use of total comparison was statistically significant as $\chi^2 (2) = 11.789$, $p=0.019$. This implies that at an overall disclosure, corporate report type does have a material effect on total comparison.

Table 25: Comparisons per corporate report

Type of report	Comparisons			
	Internal referents	External referents	Total	Percentage
Climate report	19	5	24	14%
Mining report	0	0	0	0%
CSR report	36	1	37	21%
Integrated report	78	9	87	49%
Sustainability report	29	0	29	16%
	162	15	177	100%

Table 24 provides a breakdown of comparison elements per corporate report type. The most popular element of comparison used for all corporate report types was internal referents while the least popular element was external referents. This aligns with the findings above for different market capitalisation sizes and industry types. The integrated reports contained the most comparisons and accounted for 49% of the total comparison while the mining reports accounted for 0% of the total comparison. This correlates with the fact that integrated reports accounted for a higher percentage of renewable energy disclosure than the mining reports.

4.4.5: Answering research question 3

Our results indicated that while there were some similar trends between different types of corporate reports, in terms of which impression management techniques are used, there were also differences in the impression management method used by different types of corporate reports. The Kruskal-Wallis H test showed that overall, the use of visual emphasis, sentiment

and comparison differed across different types of corporate reports, however, the use of attribution was the same across different types of corporate reports. The use of individual elements of each technique and the level of impression management also differed across different corporate reports. Overall, the majority of impression management was found in the integrated reports of our sample while the least impression management was found in the mining and CSR reports.

CHAPTER 5: Conclusion and recommendations

As the level of loadshedding accelerates at an alarming rate in South Africa and the environmental concerns of stakeholders continue to place pressure on companies, corporations are forced to transition to renewable energy sources or at the least, address the risks posed by the failing power grid (Sarkodie and Adams, 2018, Ahmad and Hossain, 2015). In order to legitimise such actions, it is vital that companies develop communication and reporting techniques that demonstrate a sustainability commitment (Strielkowski et al., 2021, Rezaee, 2016). Voluntary disclosures, as well as alternate means of communication, such as tables, graphs, pictures and icons have increased (Varachia and Yasseen, 2020). As a result, elements of management bias may more prevalent in corporate reporting as impression management becomes commonplace (Brennan et al., 2010). This study allows users of corporate reports to gain insight into the underlying impression management techniques which ultimately, should aid in their overall engagement and understanding of corporate reports.

The purpose of this study is to understand if impression management strategies are employed by listed companies in South Africa, when disclosing the move to renewable energy. Secondly, this study aimed to determine if impression management differs within different market capitalisation sizes, industry types and types of corporate reports. Our sample consisted of 60 companies listed on the JSE. The companies comprised of the top 20 small-cap, medium-cap and large-cap companies in order to evaluate impression management techniques from both a market capitalisation and industry level. For the purposes of this study, the use of four impression management techniques consisting of attribution, visual emphasis, performance comparison and sentiment in renewable energy disclosures were investigated.

Our findings were consistent with prior studies which show that companies are engaging in impression management and using multiple elements of impression management techniques when disclosing information. The most popular impression management technique used was visual emphasis, which accounted for 63% of all disclosures. The most popular element of impression management was prominence. Both these conclusions were consistent throughout all industries, market capitalisation sizes and types of corporate reports. The least popular impression management technique used across all industries, market capitalisations and corporate reports was comparison, which accounted for 4% of the total disclosures. The Kruskal Wallis test conducted at a disclosure level, showed that the type of impression management technique used remain consistent, irrespective of the market capitalisation size and type of industry. However, the element trends of each technique were not as consistent throughout industries, market capitalisations and reports. For example, icons/ pictures/ tables/ graphs were the least popular element used by the top 20 large-cap companies and top 20

small-cap companies while special characters were the least commonly used visual emphasis element by the top 20 mid-cap companies. This highlighted the fact that while the techniques used are fairly consistent throughout our sample, the methods of impression management differ.

The overall quantity of disclosure of renewable energy statistically differed amongst different market capitalisations, industries, and corporate reports. These findings corroborate prior studies (see for example, Pucheta-Martínez and Gallego-Álvarez, 2019, Mansoor and Maroun, 2016). Larger companies, such as the top 20 large-cap companies and high-risk industries, such as the basic materials industry, are exceptionally scrutinised and are placed under significant pressure to legitimise their transition to renewables. It would be expected that such companies are, thus, more likely to engage in impression management than smaller companies which fall within lower risk industries, such as the top 20 small-cap companies and the healthcare industry. This raises concern as to whether certain firms are disclosing their transition to renewables more extensively than others in order to remain transparent or merely in an attempt to legitimise their actions to stakeholders.

Overall, it is evident that there is room for considerable improvement in the quality of corporate reporting surrounding the transition to renewable energy (Uyar, 2016, Rupley et al., 2017, Dumay et al., 2016).

5.2: Contribution of the report

Firstly, this study aids in the awareness of impression management used in corporate reporting, particularly in renewable energy disclosure and aims to contribute to the enhancement and development of such reporting (Hamza and Jarboui, 2021). This study also further expands on the limited body of research surrounding the use of impression management within renewable energy disclosure.

Secondly, this report aims to educate the users of corporate reports as well as regulatory bodies, auditors and the government about the role that impression management plays as a legitimising tool (Melloni et al., 2016, Beattie and Jones, 2000, Varachia and Yasseen, 2020).

Thirdly, this study marks the first of its kind in South Africa and provides insight into a prevalent issue of legitimisation within corporate reporting. It is likely that this issue will become increasingly pervasive in corporate reporting, especially considering the further renewable energy tax incentives which were introduced in the 2023 Budget Speech as more companies will start to transition to renewables in South Africa (News, 2023).

5.3: Limitations and areas for future research

This study specifically focused on the top 20 large-cap, mid-cap and small-cap companies listed on the JSE and was limited to 60 companies within nine industries. Thus, the results from this study are not generalisable across all industries and market capitalisation sizes due to the varying factors affecting organisations of different sizes and industries. The companies investigated are also all listed on the JSE, thus the findings may not be representative of unlisted companies.

This study is limited to only providing conclusions regarding the use of impression management. This research cannot provide conclusions for the intention behind the use of impression management (for example greenwashing, enhancing reputation or challenges in providing disclosure). This is possibly an area of interest for future research.

This study only considered corporate reports from 2021, thus this study may not be generalisable across financial periods. Further research may investigate impression management within renewable energy disclosures across well-performing companies versus poorly performing companies, different countries and different financial periods. Future research may also incorporate other forms of communication, such as social media, shareholder meetings, press releases, and media reports (Bansal and Kistruck, 2006). This may aid in providing a holistic understanding of the use of impression management used when communicating the transition to renewable energy.

REFERENCES:

- AERTS, W. 2005. Picking up the pieces: impression management in the retrospective attributional framing of accounting outcomes. *Accounting, organizations and society*, 30, 493-517.
- AHMAD, N. N. N. & HOSSAIN, D. M. 2015. Climate change and global warming discourses and disclosures in the corporate annual reports: A study on the Malaysian companies. *Procedia-social and behavioral sciences*, 172, 246-253.
- AKPEJI, K. O., OLASOJI, A. O., GAUNT, C., OYEDOKUN, D. T., AWODELE, K. O. & FOLLY, K. A. 2020. Economic impact of electricity supply interruptions in South Africa. *SAIEE Africa Research Journal*, 111, 73-87.
- ALSAIFI, K., ELNAHASS, M. & SALAMA, A. 2020. Market responses to firms' voluntary carbon disclosure: Empirical evidence from the United Kingdom. *Journal of Cleaner Production*, 262, 121377.
- AMUSAN, L. & OLUTOLA, O. 2016. Addressing climate change in southern Africa: any role for South Africa in the post-Paris Agreement? *India Quarterly*, 72, 395-409.
- ATEBA, B. B., PRINSLOO, J. J. & GAWLIK, R. 2019. The significance of electricity supply sustainability to industrial growth in South Africa. *Energy Reports*, 5, 1324-1338.
- ATKINS, J. & MAROUN, W. 2015. Integrated reporting in South Africa in 2012: Perspectives from South African institutional investors. *Meditari Accountancy Research*.
- BAILUR, S. 2006. Using stakeholder theory to analyze telecenter projects. *Information Technologies & International Development*, 3, pp. 61-80.
- BANDERKER, S. I. 2023. The perceived psychosocial and economic impact of load-shedding on employees in selected small micro medium enterprises.
- BANSAL, P. & KISTRUCK, G. 2006. Seeing is (not) believing: Managing the impressions of the firm's commitment to the natural environment. *Journal of Business Ethics*, 67, 165-180.
- BEATTIE, V. & JONES, M. J. 2000. Impression management: the case of inter-country financial graphs. *Journal of International Accounting, Auditing and Taxation*, 9, 159-183.
- BIONDI, G., FRANZONI, V. & POGGIONI, V. A deep learning semantic approach to emotion recognition using the IBM watson bluemix alchemy language. International Conference on Computational Science and Its Applications, 2017. Springer, 718-729.
- BOIRAL, O. 2016. Accounting for the unaccountable: Biodiversity reporting and impression management. *Journal of business ethics*, 135, 751-768.
- BRENNAN, N. M., DALY, C. A. & HARRINGTON, C. S. 2010. Rhetoric, argument and impression management in hostile takeover defence documents. *The British Accounting Review*, 42, 253-268.
- BRENNAN, N. M., GUILLAMON-SAORIN, E. & PIERCE, A. 2009. Methodological Insights: Impression management: developing and illustrating a scheme of analysis for narrative disclosures—a methodological note. *Accounting, Auditing & Accountability Journal*.
- BRENNAN, N. M. & MERKL-DAVIES, D. M. 2013a. Accounting narratives and impression management. *The Routledge companion to accounting communication*, 109-132.
- BRENNAN, N. M. & MERKL-DAVIES, D. M. 2013b. Accounting narratives and impression management. *The Routledge companion to accounting communication*. Routledge.
- BUCHLING, M. & MAROUN, W. 2021. Biodiversity reporting practices of the South African national parks. *Social Responsibility Journal*.
- CHO, C. H., MICHELON, G. & PATTEN, D. M. 2012. Impression management in sustainability reports: An empirical investigation of the use of graphs. *Accounting and the Public Interest*, 12, 16-37.
- COOPER, S. & SLACK, R. 2015. Reporting practice, impression management and company performance: A longitudinal and comparative analysis of water leakage disclosure. *Accounting and Business Research*, 45, 801-840.

- CORAZZA, L., TRUANT, E., SCAGNELLI, S. D. & MIO, C. 2020. Sustainability reporting after the Costa Concordia disaster: a multi-theory study on legitimacy, impression management and image restoration. *Accounting, Auditing & Accountability Journal*.
- CORMIER, D. & MAGNAN, M. 2015. The economic relevance of environmental disclosure and its impact on corporate legitimacy: An empirical investigation. *Business Strategy and the Environment*, 24, 431-450.
- DIOUF, D. & BOIRAL, O. 2017. The quality of sustainability reports and impression management: A stakeholder perspective. *Accounting, Auditing & Accountability Journal*.
- DU VENAGE, G. 2020. South Africa comes to standstill with Eskom's load shedding. *Engineering and Mining Journal*, 221, 18-18.
- DUMAY, J., BERNARDI, C., GUTHRIE, J. & DEMARTINI, P. Integrated reporting: a structured literature review. Accounting Forum, 2016. Elsevier, 166-185.
- ECCLES, R. G. & KRZUS, M. P. 2018. Why companies should report financial risks from climate change. *MIT Sloan Management Review*, 59, 1-6.
- ERIN, O. A., BAMIGBOYE, O. A. & OYEWO, B. 2022. Sustainable development goals (SDG) reporting: an analysis of disclosure. *Journal of Accounting in Emerging Economies*.
- FORD, J. D. 1985. The effects of causal attributions on decision makers' responses to performance downturns. *Academy of management Review*, 10, 770-786.
- FROWNFELTER-LOHRKE, C. & FULKERSON, C. L. 2001. The incidence and quality of graphics in annual reports: An international comparison. *The Journal of Business Communication (1973)*, 38, 337-357.
- GAGNÉ, V., BERTHELOT, S. & COULMONT, M. 2021. Stakeholder engagement practices and impression management. *Journal of Global Responsibility*.
- GARCIA-CASAREJOS, N., GARGALLO, P. & CARROQUINO, J. 2018. Introduction of renewable energy in the Spanish wine sector. *Sustainability*, 10, 3157.
- GUNTER, H. M. & ARCHER, R. 2001. Biting the bullet. *Management in Education*, 15, 35-37.
- HAHN, R. & LÜLF, R. 2014. Legitimizing negative aspects in GRI-oriented sustainability reporting: A qualitative analysis of corporate disclosure strategies. *Journal of business ethics*, 123, 401-420.
- HAHN, R., REIMSBACH, D. & SCHIEMANN, F. 2015. Organizations, climate change, and transparency: Reviewing the literature on carbon disclosure. *Organization & Environment*, 28, 80-102.
- HAJI, A. A. & HOSSAIN, D. M. 2016. Exploring the implications of integrated reporting on organisational reporting practice: Evidence from highly regarded integrated reporters. *Qualitative Research in Accounting & Management*.
- HAMZA, S. & JARBOUI, A. 2021. CSR or social impression management? Tone management in CSR reports. *Journal of Financial Reporting and Accounting*.
- HARRAST, S. & OLSEN, L. 2016. Climate change disclosures are getting hotter. *Journal of Corporate Accounting & Finance*, 27, 21-28.
- HASANAJ, P. & KUQI, B. 2019. Analysis of financial statements. *Humanities and Social Science Research*, 2, p17-p17.
- HOSSAIN, M. & HAMMAMI, H. 2009. Voluntary disclosure in the annual reports of an emerging country: The case of Qatar. *Advances in Accounting*, 25, 255-265.
- IEA 2022. Renewable power is set to break another global record in 2022 despite headwinds from higher costs and supply chain bottlenecks.
- IGOGO, T., AWUAH-OFFEI, K., NEWMAN, A., LOWDER, T. & ENGEL-COX, J. 2021. Integrating renewable energy into mining operations: Opportunities, challenges, and enabling approaches. *Applied Energy*, 300, 117375.
- IP, A. 2002. The impact of emoticons on affect interpretation in instant messaging. Retrieved April, 26, 2012.
- JONES, M. J. & SLACK, R. 2010. Environmental disclosure and targets in environmental reports: impression management or legitimacy theory.

- JONGHE, O. D. 2022. THE STATE OF RENEWABLE ENERGY IN SOUTH AFRICA. *The Borgen Project*.
- JUGNANDAN, S. & WILLOWS, G. D. 2021. "It's a long story..."—impression management in South African corporate reporting. *Accounting Research Journal*.
- KANBATY, M., HELLMANN, A. & HE, L. 2020. Infographics in corporate sustainability reports: Providing useful information or used for impression management? *Journal of Behavioral and Experimental Finance*, 26, 100309.
- KELLEY, H. H. & MICHELA, J. L. 1980. Attribution theory and research. *Annual review of psychology*, 31, 457-501.
- KUMAR, D. S., YAGLI, G. M., KASHYAP, M. & SRINIVASAN, D. 2020. Solar irradiance resource and forecasting: a comprehensive review. *IET Renewable Power Generation*, 14, 1641-1656.
- LABROZZI, R. M. 2016. The effects of textual enhancement type on L2 form recognition and reading comprehension in Spanish. *Language Teaching Research*, 20, 75-91.
- LAI, A., MELLONI, G. & STACCHEZZINI, R. 2016. Corporate sustainable development: is 'integrated reporting' a legitimization strategy? *Business Strategy and the Environment*, 25, 165-177.
- LEE, M. T., RASCHKE, R. L. & KRISHEN, A. S. 2022. Signaling green! firm ESG signals in an interconnected environment that promote brand valuation. *Journal of Business Research*, 138, 1-11.
- LEIVIAN, G. M. 1980. How to communicate financial data more efficiently. *Management Accounting*, 62, 31-34.
- LIU, B. 2012. Sentiment analysis and opinion mining. *Synthesis lectures on human language technologies*, 5, 1-167.
- LLC, O. T. 2022. *Reporting Best Practices Using Color to Communicate Risk-related Data* [Online]. [Accessed].
- LUND, J. W. 2010. Direct utilization of geothermal energy. *Energies*, 3, 1443-1471.
- LUO, X., ZHANG, R. & LIU, W. 2022. Environmental legitimacy pressure, political connection and impression management of carbon information disclosure. *Carbon Management*, 13, 90-104.
- MACIAS, H. A. & FARFAN-LIEVANO, A. 2017. Integrated reporting as a strategy for firm growth: multiple case study in Colombia. *Meditari Accountancy Research*, 25, 605-628.
- MACKAY, B. & MUNRO, I. 2012. Information warfare and new organizational landscapes: An inquiry into the ExxonMobil–Greenpeace dispute over climate change. *Organization Studies*, 33, 1507-1536.
- MAILCHIMP. *What Is A Subheading and Why Are They Important?* [Online]. [Accessed].
- MANSOOR, H. & MAROUN, W. 2016. An initial review of biodiversity reporting by South African corporates: The case of the food and mining sectors. *South African Journal of Economic and Management Sciences*, 19, 592-614.
- MARX, B. & MOHAMMADALI-HAJI, A. 2014. Emerging trends in reporting: an analysis of integrated reporting practices by South African top 40 listed companies. *Journal of Economic and Financial Sciences*, 7, 231-250.
- MBOMVU, L., HLONGWANE, I. T., NXAZONKE, N. P. & QAYI, Z. 2021. Load shedding and its influence on South African Small, Medium and Micro Enterprise profitability, liquidity, efficiency and solvency. *Business Re-Solution Working paper BRS/2021/001*.
- MCKENDRY, P. 2002. Energy production from biomass (part 1): overview of biomass. *Bioresource technology*, 83, 37-46.
- MELLONI, G., STACCHEZZINI, R. & LAI, A. 2016. The tone of business model disclosure: an impression management analysis of the integrated reports. *Journal of Management & Governance*, 20, 295-320.
- MERKL-DAVIES, D. M. & BRENNAN, N. M. 2007. Discretionary disclosure strategies in corporate narratives: incremental information or impression management? *Journal of accounting literature*, 27, 116-196.

- MERKL-DAVIES, D. M., BRENNAN, N. M. & MCLEAY, S. J. 2011. Impression management and retrospective sense-making in corporate narratives: A social psychology perspective. *Accounting, Auditing & Accountability Journal*.
- MORENO-SANDOVAL, A., GISBERT, P. A. H. A., GUERRERO, M. & MONTORO, H. Tone analysis in Spanish financial reporting narratives. Proceedings of the Second Financial Narrative Processing Workshop (FNP 2019), 2019. 42-50.
- MORENO, A. & CAPRIOTTI, P. 2009. Communicating CSR, citizenship and sustainability on the web. *Journal of communication management*.
- MUČKO, P. 2021. Sentiment analysis of CSR disclosures in annual reports of EU companies. *Procedia Computer Science*, 192, 3351-3359.
- NEWS, S. 2023. Government introduces renewable energy, solar tax incentive.
- NORTHEY, S. A., MUDD, G. M., WERNER, T. T., HAQUE, N. & YELLISHETTY, M. 2019. Sustainable water management and improved corporate reporting in mining. *Water Resources and Industry*, 21, 100104.
- PALAZZO, G. & SCHERER, A. G. 2006. Corporate legitimacy as deliberation: A communicative framework. *Journal of business ethics*, 66, 71-88.
- PASCALE, S. 2020. Increasing risk of another Cape Town “Day Zero” drought in the 21st century.
- PELLEGRINO, C. & LODHIA, S. 2012. Climate change accounting and the Australian mining industry: exploring the links between corporate disclosure and the generation of legitimacy. *Journal of Cleaner Production*, 36, 68-82.
- PERRINI, F. 2006. The practitioner's perspective on non-financial reporting. *California management review*, 48, 73-103.
- POWER, M. K. 2003. Auditing and the production of legitimacy. *Accounting, organizations and society*, 28, 379-394.
- PUCHETA-MARTÍNEZ, M. C. & GALLEGO-ÁLVAREZ, I. 2019. An international approach of the relationship between board attributes and the disclosure of corporate social responsibility issues. *Corporate Social Responsibility and Environmental Management*, 26, 612-627.
- RAEMAEKERS, K., MAROUN, W. & PADIA, N. 2016. Risk disclosures by South African listed companies post-King III. *South African Journal of Accounting Research*, 30, 41-60.
- RAHMAN, S. 2012. Impression management motivations, strategies and disclosure credibility of corporate narratives. *Journal of Management Research*, 4, 1.
- REZAEI, Z. 2016. Business sustainability research: A theoretical and integrated perspective. *Journal of Accounting literature*, 36, 48-64.
- RUPLEY, K. H., BROWN, D. & MARSHALL, S. 2017. Evolution of corporate reporting: From stand-alone corporate social responsibility reporting to integrated reporting. *Research in Accounting Regulation*, 29, 172-176.
- SARKODIE, S. A. & ADAMS, S. 2018. Renewable energy, nuclear energy, and environmental pollution: accounting for political institutional quality in South Africa. *Science of the total environment*, 643, 1590-1601.
- SETIA, N., ABHAYAWANSA, S., JOSHI, M. & HUYNH, A. V. 2015. Integrated reporting in South Africa: some initial evidence. *Sustainability Accounting, Management and Policy Journal*, 6, 397-424.
- SHEPPARD, S. R. 2005. Landscape visualisation and climate change: the potential for influencing perceptions and behaviour. *Environmental science & policy*, 8, 637-654.
- SHERMAN, W. R. 2012. The triple bottom line: The reporting of doing well & doing good. *Journal of Applied Business Research (JABR)*, 28, 673-682.
- SHI, W., CHEN, G. & LI, B. 2022. Problem Solving or Responsibility Avoidance? The Role of CEO Internal Attribution Tendency in Shaping Corporate Downsizing in Response to Performance Shortfalls. *Journal of Management Studies*.

- STACCHEZZINI, R., MELLONI, G. & LAI, A. 2016. Sustainability management and reporting: the role of integrated reporting for communicating corporate sustainability management. *Journal of Cleaner Production*, 136, 102-110.
- STAW, B. M., MCKECHNIE, P. I. & PUFFER, S. M. 1983. The justification of organizational performance. *Administrative science quarterly*, 582-600.
- STRIELKOWSKI, W., TARKHANOVA, E., BABURINA, N. & STREIMIKIS, J. 2021. Corporate Social Responsibility and the Renewable Energy Development in the Baltic States. *Sustainability*, 13, 9860.
- SWENCIONIS, J. K. & FISKE, S. T. 2016. Promote up, ingratiate down: Status comparisons drive warmth-competence tradeoffs in impression management. *Journal of Experimental Social Psychology*, 64, 27-34.
- TALBOT, D. & BOIRAL, O. 2015. Strategies for climate change and impression management: A case study among Canada's large industrial emitters. *Journal of Business Ethics*, 132, 329-346.
- TALBOT, D. & BOIRAL, O. 2018. GHG reporting and impression management: An assessment of sustainability reports from the energy sector. *Journal of Business Ethics*, 147, 367-383.
- TANG, L. & SHEN, Q. 2013. Factors affecting effectiveness and efficiency of analyzing stakeholders' needs at the briefing stage of public private partnership projects. *International Journal of Project Management*, 31, 513-521.
- URRY, J. 2015. Climate change and society. *Why the social sciences matter*. Springer.
- UYAR, A. 2016. Evolution of corporate reporting and emerging trends. *Journal of Corporate Accounting & Finance*, 27, 27-30.
- VARACHIA, Z. & YASSEEN, Y. 2020. The use of graphs as an impression management tool in the annual integrated reports of South African listed entities. *Journal of Economic and Financial Sciences*, 13, 11.
- WARF, B. 1989. Telecommunications and the globalization of financial services. *The Professional Geographer*, 41, 257-271.
- WEIMANN, E. & PATEL, B. 2017. Tackling the climate targets set by the Paris Agreement (COP 21): Green leadership empowers public hospitals to overcome obstacles and challenges in a resource-constrained environment. *South African Medical Journal*, 107, 34-38.
- WICHMANN, F. A., SHARPE, L. T. & GEGENFURTNER, K. R. 2002. The contributions of color to recognition memory for natural scenes. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 28, 509.
- WRITER, S. 2022. Stage 6 load shedding costs South Africa over R4 billion a day: economist. *Business Tech*.
- ZAIRI, M. & LETZA, S. 1994. Corporate reporting. *Management decision*.
- ZYWICA, J. & GOMEZ, K. 2008. Annotating to support learning in the content areas: Teaching and learning science. *Journal of Adolescent & Adult Literacy*, 52, 155-165.

APPENDICES:

Appendix 1

Impression Management Techniques	Attribution	Visual Emphasis	Sentiment Analysis	Comparisons
Elements of Impression Management	Internal attribution <ul style="list-style-type: none"> • Decision making • Corporate actions • Structure • Policies <p>(For example: being a good corporate citizen)</p>	Special characters <ul style="list-style-type: none"> • Bullet points • Exclamation mark • Percentage • Double quote 	Positive (And related IBM Watson score)	Internal referent <ul style="list-style-type: none"> • Past performance • Set targets that have/ have not been met.
	External attribution <ul style="list-style-type: none"> • Environmental causes • Economic factors • Industry trends • Regulation • Government policy <p>(For example, load shedding/ climate change)</p>	Icon/picture Including whether the icon/picture is in colour/black and white and a description of the picture	Neutral (And related IBM Watson score)	External referent <ul style="list-style-type: none"> • Industry average • Competitor comparison
	Neutralisation <ul style="list-style-type: none"> • Self-proclaimed excellence • Promotion of systematic view • Denial and minimisation • Denouncing unfair treatment and deceptive appearances • Economic and technological blackmail <p>For example: blaming the increase in</p>	Table/ graph Including whether the table/graph is in colour/black and white and a description of the picture	Negative (And related IBM Watson score)	Whether the comparison is <ul style="list-style-type: none"> • Positive • Negative • Neutral

	emissions on increased production after the pandemic.			
		Font format italics underlining colour or bold		
		Prominent positioning <ul style="list-style-type: none"> • Headings • Subheadings 		
		Location <ul style="list-style-type: none"> • First third of report • Second third of report • Last third of report 		
References:	(Brennan et al., 2009, Aerts, 2005, Talbot and Boiral, 2015, Ford, 1985).	(Cho et al., 2012, Varachia and Yasseen, 2020, Brennan and Merkl-Davies, 2013b, Merkl-Davies et al., 2011, Brennan et al., 2009, Rahman, 2012, Kanbaty et al., 2020).	(Biondi et al., 2017, Mućko, 2021, Moreno and Capriotti, 2009, Atkins and Maroun, 2015, Liu, 2012).	(Melloni et al., 2016, Brennan and Merkl-Davies, 2013a, Merkl-Davies et al., 2011, Brennan et al., 2009, Frownfelter-Lohrke and Fulkerson, 2001, Swencionis and Fiske, 2016).

Appendix 2

Coding methods and Analysis

Research Question 1	<p>If a paragraph contained a particular impression management technique, a score of 1 was given if any element of the technique was present and a score of 0 was given if not. Paragraphs may contain more than one element of each technique; as a result, one paragraph may contain multiple impression management techniques. This was completed to determine which impression management technique was the most frequently used, as well as which elements of that impression management technique were most frequently used (Varachia and Yasseen, 2020).</p>
----------------------------	---

Research Question 2	Further analysis was completed to identify which industry contained the most elements of impression management in terms of renewable energy disclosure, as well as whether market capitalisation affects the level of impression management. A Kruskal-Wallis test was run to evaluate if there was a statistical difference in impression management techniques within the different industries and different market capitalisations
Research Question 3	To answer RQ3, the report where the disclosure was found was given either a score of 1 or a score of 0. A score for each report was calculated and, based on this, it was determined which report tended to disclose the transition to renewable energy as well as which report contained the most elements of impression management (Buchling and Maroun, 2021 2016, Raemaekers et al., 2016). A Kruskal-Wallis test was run to evaluate if there was a statistical difference in impression management techniques within the different types of corporate reports.