

Evaluating SDG disclosure of South African JSE-listed food, beverage, and tobacco companies

E Booysen

 [orcid.org/ 0000-0002-5055-6678](https://orcid.org/0000-0002-5055-6678)

Dissertation accepted in fulfilment of the requirements for the degree [Master of Commerce in Management Accountancy](#) at the North-West University

Supervisor: Prof. SL Middelberg

Co-supervisor: Prof. N Gulko

Graduation: April 2024

ACKNOWLEDGEMENTS

This study is devoted to my Lord and Saviour, Jesus Christ. Throughout this journey, the unwavering presence of Your faithfulness was a comfort. Your kindness and goodness have proven boundless. You are the solid foundation upon which I stood during this time — You made everything possible with even the smallest seed of faith.

I would like to express my heartfelt gratitude to my dear father, Pieter Booysen. Thank you for consistently urging me to give my utmost effort, for inspiring me to strive for greatness, and for being the source of success that motivates me. Your unwavering support has been instrumental in shaping my journey toward achievement.

I would like to extend my sincere appreciation to my mother, Carin Booysen. Thank you for not just being my mother, but also my best friend, for always nurturing and supporting me. Your every call, text, and prayer have been a testament to your unwavering belief in me, and for that, I am truly grateful.

To my brother, Juan-Pierre Booysen, your capabilities are remarkable. Dream big, reach for greatness, and know that I will be there every step of the way to support you in your endeavours.

My friends, with special appreciation for Nicola, Ruan, and Daneel — your support, motivation, and steadfast presence have been invaluable throughout this study. Thank you for being more than friends; you are my cherished community.

My sincerest appreciation to my co-supervisor, Prof. Nadia Gulko, for your invaluable guidance, motivation, and support throughout this process. Your expertise and encouragement have been instrumental in my journey.

Finally, I would like to extend a special thanks to my supervisor, Prof. Sanlie Middelberg. Your inspiration transcends not only your role as a corporate woman but also extends to your roles as a wife, mother, and friend. The kindness you have demonstrated throughout this year is a treasure I will carry with me for a lifetime. Thank you for your unwavering motivation, support, and leadership — I have gained so much insights from your guidance.

ABSTRACT

The United Nations (UN) established the Sustainable Development Goals (SDGs) to address various social, economic, and environmental challenges, including climate change and environmental protection. SDG 2, known as Zero Hunger, aims to create a hunger-free world by 2030 through the global transformation of food systems. South Africa, leveraging its agricultural expertise, assumes a pivotal role in alleviating food insecurity across Africa, thereby contributing significantly to the attainment of SDG 2.

Corporate disclosure of SDGs holds paramount importance, serving as a reflection of the commitment of companies to addressing social, environmental, and governance issues. This disclosure enhances stakeholders' understanding, facilitates effective decision making, and ultimately fortifies companies' reputations. Various SDG frameworks, such as the KPMG guidance, and the UN Global Compact and the Global Reporting Initiative's business reporting on the SDGs framework, have been developed to foster high-quality SDG reporting. These frameworks provide guidance for the creation of effective SDG performance and reporting.

Companies have voluntarily embraced SDG reporting guidance, coupled with adherence to Sustainability Accounting Standards Board (SASB) standards. The latter is set to become mandatory for JSE-listed companies starting January 1, 2024. The voluntary adoption of these reporting standards demonstrates companies' dedication to addressing SDGs in a comprehensive manner, thereby elevating the overall quality of SDG reporting and strengthening their legitimacy in the eyes of stakeholders.

The primary objective of this study was to appraise the overall reporting compliance on SDGs and specifically SDG 2 – Zero Hunger among South African JSE-listed companies in the food, beverage, and tobacco sector. This objective was achieved through a meticulous evaluation of integrated and sustainability reports from 12 South African JSE-listed companies in the food, beverage, and tobacco industry, employing a two-part content analysis approach.

In the initial phase, the overall SDG compliance of the companies was scrutinised by making use of the KPMG guidance as a benchmark. The second phase of the content analysis focused on evaluating SDG 2 reporting compliance, utilising the UN Global Compact and Global Reporting Initiative's business reporting on the SDGs framework. This dual approach allowed for a comprehensive assessment of the effectiveness of SDG reporting within the South African food, beverage, and tobacco industry, ultimately drawing conclusions regarding the companies' commitment and adherence to SDGs, particularly SDG 2.

The findings of this study indicate that South African food, beverage, and tobacco companies demonstrate a relatively low to moderate level of disclosure regarding their compliance with SDGs. These results suggest a need for a more comprehensive approach, emphasising the importance of aligning their sustainability initiatives more closely with the specific targets outlined by SDGs.

Furthermore, the study brings attention to a disconcerting deficiency in SDG 2 compliance among South African food, beverage, and tobacco companies, particularly concerning aspects related to product health and nutrition. This underscores the urgency for these companies to enhance their contributions and commitments towards the attainment of zero hunger by 2030. The study advocates for a heightened focus on addressing issues related to food security and nutrition within the context of SDG 2, urging companies to play a more substantial role in achieving this critical global goal.

This study offers valuable insights into the SDG reporting practices of South African food, beverage, and tobacco companies. Its purpose was to assist these companies in gauging their progress toward the 2030 Agenda for sustainable development. Additionally, the study serves as a crucial resource for key stakeholders, providing them with essential information about the commitment of South African food, beverage, and tobacco companies toward reducing inequalities, ensuring food safety, and promoting prosperity for all people.

Keywords: Analysis of Goals and Targets (SDGs business reporting), Compliance, Disclosure, Food, beverage, and tobacco companies, International Sustainability Standards Board (ISSB), JSE-listed, KPMG SDG Reporting Guidance, SDG 2 – Zero Hunger, South African, Sustainable Development Goals (SDG)

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	I
------------------------	---

ABSTRACT	II
----------------	----

LIST OF FIGURES.....	VIII
----------------------	------

LIST OF TABLES	IX
----------------------	----

CHAPTER 1	1
-----------------	---

1	INTRODUCTION	1
1.1	Background	1
1.1.1	Sustainable development goals (SDGs)	1
1.1.2	Importance of South African food, beverage, and tobacco industry	2
1.1.3	Importance of SDG reporting.....	4
1.1.4	Theoretical framework	5
1.1.5	Previous research on the topic	6
1.2	Problem statement	7
1.3	Research objectives	8
1.3.1	Main objective.....	8
1.3.2	Secondary objectives.....	8
1.4	Research design and methodology.....	8
1.4.1	Paradigmatic assumptions.....	9
1.5	Literature review	10
1.6	Empirical study	11
1.6.1	Population and sampling	11
1.6.2	Data collection and analysis	12
1.7	Ethical considerations.....	13

1.8	Chapter Overview	13
-----	------------------------	----

CHAPTER 2 15

2	LITERATURE REVIEW	15
2.1	Introduction.....	15
2.2	SDG frameworks	16
2.2.1	KPMG SDG Reporting Guidance.....	16
2.2.2	Analysis of the goals and targets (<i>SDGs business reporting</i>).....	18
2.2.3	Prior studies addressing SDG frameworks	21
2.3	SDG reporting.....	22
2.4	Integrated reporting	24
2.4.1	Integrated Reporting and SDGs.....	25
2.5	South African companies in the food, beverage, and tobacco industry	26
2.6	Summary	28

CHAPTER 3 30

3	RESEARCH METHODOLOGY	30
3.1	Introduction.....	30
3.2	Purpose and characteristics of research methodology.....	31
3.3	Research methodology	32
3.3.1	Research philosophy	33
3.3.2	Research approach	35
3.3.3	Research strategy	36
3.3.4	Research design.....	37
3.3.5	Data collection	39
3.3.6	Data analysis techniques.....	43
3.4	Summary	53

CHAPTER 4 55

4	RESULTS AND FINDINGS	55
4.1	Introduction.....	55
4.2	Part 1: Evaluation of overall SDG reporting compliance using KPMG guidance	56
4.2.1	Overall SDG disclosure	57
4.2.2	Understanding SDGs.....	60
4.2.3	Prioritising SDGs	63
4.2.4	Measurement of SDGs	66
4.3	Part 2: Evaluation of reporting compliance regarding SDG 2 – Zero Hunger by using <i>SDGs business reporting</i> guidance	70
4.3.1	Reporting compliance in relation to SDG 2 – Zero Hunger	71
4.3.2	Available business disclosures	71
4.4	Summary	91

CHAPTER 5 94

5	CONCLUSION AND RECOMMENDATIONS	94
5.1	Introduction.....	94
5.2	Summary of findings	95
5.2.1	Literature review	95
5.2.2	Empirical study	97
5.3	Discussion and conclusion.....	99
5.4	Recommendations.....	101
5.5	Study's contribution	103
5.6	Limitations of this study	103
5.7	Future research recommendations	104
5.8	Summary	105

REFERENCES.....	106
------------------------	------------

APPENDIX 1: ETHICAL CLEARANCE CERTIFICATE	120
APPENDIX 2: LANGUAGE CERTIFICATE	122
APPENDIX 3: OVERALL SDG REPORTING RESULTS USING THE KPMG GUIDANCE ..	123
APPENDIX 4: SDG 2 REPORTING RESULTS USING SDG REPORTING GUIDANCE	124

LIST OF FIGURES

Figure 1-1: Proportion of countries affected by high or moderately high food prices, 2020 and 2021 (percentage).....	3
Figure 2-1: Chapter 2 layout.....	15
Figure 2-2: Nine criteria for SDG reporting	17
Figure 3-1: Chapter 3 layout.....	30
Figure 3-2: The Honeycomb of Research Methodology.....	33
Figure 3-3: Primary data collection tools.....	39
Figure 3-4: Two-part content analysis adopted.....	44
Figure 4-1: Chapter 4 layout.....	55
Figure 4-2: Layout of Part 1 – evaluation of overall SDG reporting compliance using KPMG guidance.....	56
Figure 4-3: SMART SDG performance target set by South African food, beverage, and tobacco company.....	68
Figure 4-4: Structure of Part 2: Evaluation of reporting compliance regarding SDG 2 – Zero Hunger using <i>SDGs business reporting</i> guidance.....	70
Figure 5-1: Chapter 5 layout.....	94

LIST OF TABLES

Table 2-1: Nine criteria of KPMG guidance.....	17
Table 3-1: Relationship between research philosophy, research approach, and research strategy	37
Table 3-2: Advantages and disadvantages associated with the use of secondary data	40
Table 3-3: Population and sample of this study	41
Table 3-4: KPMG guidance criteria and evaluation questions.....	45
Table 3-5: South African JSE-listed food, beverage, and tobacco companies' core objectives.....	47
Table 3-6: <i>SDGs business reporting</i> guidance evaluation criteria.....	49
Table 4-1: SDGs disclosed by the South African JSE-listed food, beverage, and tobacco industry	58
Table 4-2: Number of companies addressing the three key elements of KPMG guidance	59
Table 4-3: Number of companies addressing the “understanding” element	60
Table 4-4: Number of companies addressing the “prioritising” element	63
Table 4-5: Number of companies addressing the “measurement” element.....	66
Table 4-6: Number of companies that addressed each of the 11 “available business disclosures”	71
Table 4-7: Number of companies meeting the “Product Health and Nutrition” criteria.....	73
Table 4-8: Number of companies meeting the “Food Safety” criteria	74
Table 4-9: Count of companies meeting the “Environmental and Social Impacts of Ingredient Supply Chain” criteria	77
Table 4-10: Number of companies meeting the “Management of Environmental and Social Impacts in the Supply Chain” criteria	79

Table 4-11: Number of companies meeting the “Environmental and Social Impacts of Animal Supply Chain”	81
Table 4-12: Number of companies meeting the “Land Use and Ecological Impacts” criteria	82
Table 4-13: Number of companies meeting the “Energy Management” criteria	84
Table 4-14: Number of companies meeting the “Global Gas Emissions” criteria.....	85
Table 4-15: Number of companies meeting the “Ingredient Sourcing” criteria.....	87
Table 4-16: Number of companies meeting the “Water Management” criteria	89

CHAPTER 1

1 INTRODUCTION

1.1 Background

In recent years, there has been a significant increase in the awareness of companies relating to sustainable development and social responsibility concerns (Jimenez *et al.*, 2021:1). This heightened awareness is concurrent with a notable decrease in the community's trust in institutions and businesses, primarily attributed to current global issues, such as human rights, unemployment, hunger, water scarcity, and climate change (Iazzi *et al.*, 2021:1081). Moreover, the proliferation of social media has exposed issues, such as fraud, workforce conditions, and environmental pollution — further eroding this trust. As a response to these changing dynamics, companies have seen a growing interest from their stakeholders regarding their social, economic, and environmental contributions, and has led companies to embrace sustainable reporting through non-financial disclosures (Lodhia *et al.*, 2022:2). This shift in focus by companies is a result of their recognition of the role they play in influencing the global issues mentioned earlier and the understanding of how corporate disclosure can enhance their reputation (Iazzi *et al.*, 2021:1081).

1.1.1 Sustainable development goals (SDGs)

In September 2015, the United Nations (UN) introduced the 2030 Agenda for Sustainable Development, which defined sustainable development goals (SDGs) as a call to action with the aim of protecting the planet, eradicating poverty, addressing climate change, reducing carbon emissions, and ensuring that by 2030, everyone will experience peace, partnership, and prosperity (Fukuda-Parr & Muchhala, 2020:1).

In 2012, the SDGs were developed at the United Nations Conference in Rio de Janeiro, building upon the foundation laid by the millennium development goals (MDGs) (United Nations, 2015). The MDGs were introduced in 2000, with the primary aim of establishing quantifiable, universally applicable objectives to reduce hunger, combat diseases, enhance access to quality education, and eradicate poverty. During the 15 years leading up to 2015, the MDGs successfully reduced poverty, fought against HIV/AIDS, increased access to free education, and lowered child mortality by more than 50% (Stafford-Smith *et al.*, 2017). The achievements of the MDGs provided the UN with invaluable knowledge and expertise, enabling them to take further steps in formulating new goals that address the world's most pressing challenges today (United Nations, 2015).

The 17 SDGs, as established by the UN, are founded on five core pillars, namely planet, prosperity, people, peace, and partnership, and are anchored in the overarching principle of inclusivity, ensuring that no one is left behind, as they aim to engage all individuals in the pursuit of a more stable, secure and flourishing planet for everyone (United Nations Global Compact, 2015). The 17 specific SDGs encompass the following areas: 1) No poverty; 2) Zero hunger; 3) Good health and well-being; 4) Quality education; 5) Gender equality; 6) Clean water and sanitation; 7) Affordable and clean energy; 8) Decent work and economic growth; 9) Industry, innovation, and infrastructure; 10) Reduced inequalities; 11) Sustainable cities and communities; 12) Responsible consumption and production; 13) Climate action; 14) Life below water; 15) Life on land; 16) Peace, justice, and strong institutions; and 17) Partnership for the goals (United Nations, 2015). It is widely recognised that companies should actively promote and engage with the UN's SDGs, and should also make public disclosures of their environmental and social achievements and goals in specialised documents (Girella *et al.*, 2019).

Since 2015, there has been a concerning rise in hunger due to climate change, inequalities, and the COVID-19 pandemic (United Nations, 2023c:14). In 2022, 735 million individuals – constituting 9.2% of the earth's population – were in a chronic state of hunger, with 2.4 billion individuals worldwide lacking sufficient access to food (United Nations, 2023c:14). Addressing the crises of world hunger is, therefore, of the utmost importance. Recognising the impact and significance of tackling malnutrition and food insecurity, the UN has developed and included SDG 2 – Zero Hunger – to strive for a world free from hunger by 2030 (United Nations, 2023a). SDG 2 emphasises the importance of enhancing nutrition and food security to reduce poverty, improve community health, ensure quality education, and promote equity (Iazzi *et al.*, 2021). SDG 2 comprises of eight targets, which are elaborated on in Chapter 3: Research Methodology.

To facilitate companies in advancing SDG 2 and its associated targets by 2030, it is crucial to prioritise the transformation of food systems, the support of sustainable agricultural policies, and the reduction of inequality (United Nations, 2023c:14). South Africa has committed to align itself with the 2030 Agenda for SDGs, recognising that this alignment will expedite the realisation of the National Development Plan (NDP) by promoting greater policy coherence and eliminating inefficiencies between the SDGs and the NDP (Stats SA, 2019:29). Notably, South Africa's agricultural sector plays a vital role in alleviating food insecurity across Africa and is, consequently, indispensable for the long-term sustainability of the continent.

1.1.2 Importance of South African food, beverage, and tobacco industry

In Africa, the impact of global warming and rising food costs has left 146 million individuals grappling with severe food insecurity (IFRC, 2022:3). By September 2020, at least one in five

South Africans experienced moderate to severe food insecurity, while up to 14.9% of the South African population was afflicted by severe food insecurity (Stats SA, 2020:30). In 2021, about 11.6% (2.1 million) of South Africans reported experiencing hunger, with 683,221 of these households having children under five years of age (Stats SA, 2021). Food security, defined as ensuring all individuals have both economic and physical access to sufficient, nutritious, and safe food to meet their dietary needs for a healthy life (FAO, 1996), remains paramount for sustainable development (World Food Summit, 1996). The global threat to food security stems from rising food prices driven by high inflation rates and the Russian-Ukraine war, which started on 24 February 2022 (FAO, 2022). This conflict has disrupted fertilizer exports and led to increased costs of vegetable oils (Glauber & Laborde Debucquet, 2023:1).

In 2021, it is evident from Figure 1-1 that Sub-Saharan Africa experienced abnormally high food prices affecting 13.6% of the region, while moderately high food prices impacted 27.3% (United Nations, 2023c:15). This situation is a result of Sub-Saharan Africa grappling with worsening security conditions, macroeconomic challenges, and a significant dependence on imported agricultural and food resources (United Nations, 2023c:15). Consequently, ensuring adequate access to sustainable and dependable food sources is paramount for reducing malnutrition and promoting food security in South Africa.

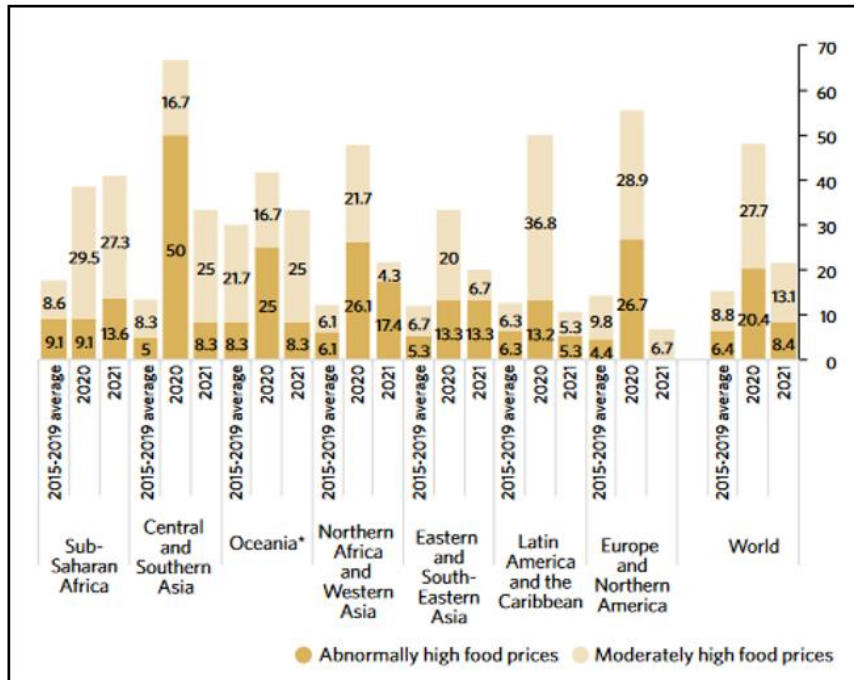


Figure 1-1: Proportion of countries affected by high or moderately high food prices, 2020 and 2021 (percentage)

Source: United Nations (2023c:15)

In 2012, South Africa established the NDP with the following 2030 vision: “Our future – make it work” to address hunger, promote employment, and to reduce inequality, and is closely aligned, to the extent of 74%, with the SDGs (Stats SA, 2019:5). Furthermore, South Africa has committed to the 2030 Agenda for Sustainable Development and is dedicated to both Africa’s long-term development goals and the NDP (Stats SA, 2019:29).

South Africa stands as one of the leading economies on the African continent, boasting the third-highest gross domestic product (GDP) at \$329.53 billion in 2021 (Benson, 2021). Leveraging its agricultural expertise and capabilities, South Africa plays a vital role in achieving SDG 2, which aims to combat poverty and reduce malnutrition by ensuring access to diverse and nutritious food sources (USAID, 2023). These elements highlight South Africa's pivotal role in contributing to the SDGs, particularly SDG 2, positioning the country as a key player in enhancing sustainability across the continent and bolstering food security for the African nations.

As mentioned earlier, the SDGs that explicitly focus on food security may play a positive contribution towards the success of South African food, beverage, and tobacco companies, through enabling a more stakeholder-inclusive approach which is encouraged by the fundamental concepts of KING IV. Reporting on these SDGs to stakeholders is crucial to empower them to make more informed decisions.

1.1.3 Importance of SDG reporting

According to Erin *et al.* (2021:2), the development of SDGs by the UN has provided companies with an opportunity to incorporate sustainability and SDG targets in their integrated reports, thereby raising the standard of their financial reporting. Companies reporting on their SDG compliance in their annual integrated reports summarise all ecological, governance, and civil issues. SDG reporting extends beyond the minimum shareholder requirements by addressing societal challenges (Erin & Bamigoye, 2021:2). Reporting on SDGs aligns companies with global sustainability goals, offering benefits, such as building stakeholder trust, enhancing reputation, and capitalising on SDG-related opportunities and thus contributes towards the ‘success’ of the company as mentioned above.

SDG reporting serves three essential purposes. First, it supplies primary stakeholders with the information required for informed decision making, therefore fostering potential growth in the short, medium, and long term (JSE, 2022:13). Second, it plays a crucial role in bolstering a company’s reputation by documenting its dedication to international SDG frameworks and ethical standards. Last, it offers tangible evidence of management's commitment to expanding economic, environmental, and societal footprints (JSE, 2022:13).

In 2017, the UN Global Compact and Global Reporting Initiative (GRI), in collaboration with other stakeholders, introduced guidance titled “Business Reporting on the SDGs: An analysis of the goals and targets 2022” (referred to as *SDGs business reporting*) (United Nations Global Compact, 2022:9). This guidance serves as a foundational resource for companies seeking to report their progress on SDGs effectively. It offers a starting point for companies to report comprehensively and consistently on their contributions to the SDGs. In July 2022, an updated version of the *SDGs business reporting* was released to complement the initial edition (United Nations Global Compact, 2022:9). Furthermore, in 2018, KPMG developed a nine-criteria checklist to offer companies valuable guidance in understanding and disclosing their social, environmental, and governance information to help companies meet the demands of their stakeholders (KPMG, 2018:3). As sustainability garners increasing attention from customers, governments, and society, companies face an obligation to demonstrate their commitment to sustainability and the SDGs to remain relevant and competitive.

1.1.4 Theoretical framework

This study is rooted in legitimacy theory, which posits that companies are increasingly driven to disclose voluntarily environmental and social data in response to emerging environmental, social, and economic challenges. These disclosures are aimed at demonstrating their commitment to upholding societal laws, principles, and values, allowing stakeholders to evaluate their compliance with these standards (Burlea & Popa, 2013:1579). Legitimacy, as defined by Suchman (1995:574), is the presumption that a company’s actions align with the norms, beliefs, principles, and culture within the social context. Companies are considered legitimate when their activities align with the shared values and norms of the societal systems, leading to economic approval (Dowling & Pfeffer, 1975:123). Burlea and Popa (2013:1579) argue that legitimacy theory supports companies in the cultivation and execution of disclosures on social and environmental data. These disclosures play a crucial role in acknowledging a company’s goals and ensures survival in dynamic environments by fulfilling social contracts. The concept of the social contract between companies and society is central to this theory. It underscores that while a company’s primary aim is to generate profit, it must also operate in a socially responsible manner (Shocker & Sethi, 1973:97).

Legitimacy theory suggests that companies aim to collaborate with society by disclosing their social and environmental activities and performance, aligning with its norms, values, and principles. The increased societal interest in social, environmental, and sustainability practices has led companies to shift their focus towards social responsibility. In this study, JSE-listed food,

beverage, and tobacco companies' reporting and compliance with SDGs were examined from the perspective of legitimacy theory, as they are anticipated to align with societal values and norms.

1.1.5 Previous research on the topic

Since the UN introduced the SDGs in 2015, a plethora of studies have been published (Erin & Bamigboye, 2021; Fleming *et al.*, 2017; Fukuda-Parr & Muchhala, 2020; Hummel & Szekely, 2022; Lodhia *et al.*, 2022). These studies indicate that companies prioritise SDGs, considering them vital for their survival, as they align with their core values and reflect their business practices (Estoque, 2023). Moreover, evidence suggests that all nations should take responsibility for implementing key actions to ensure the success of the 2030 sustainable development agenda, promoting prosperity for all (Fleming *et al.*, 2017; Strafford-Smith *et al.*, 2017).

Extant research has primarily focused on examining SDG reporting frameworks (Calabrese *et al.*, 2021). Furthermore, attention has been directed toward the SDG compliance disclosure and reporting of companies from various regions, including African companies (Erin & Bamigboye, 2021), Nigerian companies (Erin *et al.*, 2021), Australian companies (Lodhia *et al.*, 2022), European companies (Hummel & Szekely, 2022), and Italian companies (Di Vaio & Varriale, 2019).

It is worth noting that there is a notable deficiency in SDG disclosure among African-listed and Nigerian companies. This shortfall can be attributed to factors, such as a lack of stewardship, a deficiency of mandatory reporting frameworks and cost considerations (Erin & Bamigboye, 2021; Erin *et al.*, 2021). However, South Africa stands out as an exception in this regard (Erin & Bamigboye, 2021; Erin *et al.*, 2021). Lodhia *et al.* (2022) found that Australian companies exhibit a moderate level of reporting on SDGs, suggesting a need for expansion in measuring their SDG-related performances. Di Vaio and Varriale (2019) conducted an analysis of SDG reporting in the airport sector and determined that very few Italian airport companies include their contributions towards SDG 11 (sustainable cities and communities) and SDG 17 (partnership for the goals) in their reports. They also confirmed the significant role that sustainability reporting plays in helping companies understand, guide, assess, and communicate their efforts pertaining to SDGs (Di Vaio & Varriale, 2019). Although there is limited research on the subject of SDG reporting among South African JSE-listed companies, Erin and Bamigboye conducted an assessment of overall SDG reporting compliance by South African companies in 2021. It is worth noting that their study did not concentrate on a particular industry. Moreover, there is limited evidence available regarding the reporting of specific SDGs, particularly SDG 2.

It is, therefore, evident that there exists a clear knowledge gap when it comes to assessing SDG reporting in the food, beverage, and tobacco sector. This study aimed to address this gap by examining the overall SDG reporting of South African JSE-listed companies operating in the food, beverage, and tobacco industry, with a particular focus on SDG 2. To evaluate the former, the KPMG reporting guidance was employed, while for the latter, the *SDGs business reporting* framework was utilised.

1.2 Problem statement

In recent years, global issues, such as unemployment, hunger, and global warming have seen a notable increase (Iazzi et al., 2021:1081). In response to these challenges, the UN has developed the 17 SDGs, which aim to preserve the planet, eradicate poverty, and ensure prosperity for the global population (United Nations, 2015). Companies have become increasingly conscious of their role in promoting sustainable development and addressing these global issues and social problems.

South Africa stands out as a key contributor to food security in Africa, leveraging its extensive agricultural skills and experience. The food and beverages sector plays a pivotal role in enhancing the nutrition well-being of individuals by ensuring their access to safe and nutritious food that meets their dietary need (USAID, 2023). Recognising the significance of tackling food insecurity, the UN has established SDG 2 – Zero Hunger, which seeks to enhance nutrition and food security with the ultimate goal of reducing hunger and improving food quality worldwide. South African food, beverage, and tobacco companies have committed to contribute actively to the achievement of these 17 SDGs as part of their involvement in the 2030 Agenda for SDGs (Stats SA, 2019:29). Nevertheless, the precise methods for these companies to disclose their contributions towards these goals remain somewhat unclear.

SDGs disclosure is of paramount importance, as it encapsulates the companies' involvement in addressing 21st-century governance, societal, and ecological challenges. The transparency regarding SDG compliance is crucial, as it equips stakeholders with the necessary insights for informed decision making, stimulates innovation, identifies SDG-related opportunities, and bolsters the company's reputation and, ultimately, its legitimacy (JSE, 2022:13). The extent and adequacy of SDG disclosure by South African-listed food, beverage, and tobacco companies in their integrated reports, particularly with regard to SDG 2, remain uncertain. This study concentrated on both the broad and in-depth disclosure of SDG 2 – Zero Hunger, by South African JSE-listed food, beverage, and tobacco companies. This focus on SDG 2 reporting provided substantial evidence of these South African companies' dedication to alleviate global hunger, address food insecurity, and ensure access to safe food for all.

1.3 Research objectives

The research objectives consist of the main objective and are complemented by the secondary objectives.

1.3.1 Main objective

The main objective was to assess South African JSE-listed food, beverage, and tobacco companies' disclosure practices regarding two key aspects: 1) Their overall contributions to the SDGs using the KPMG SDG reporting guidance; and 2) Their reporting on SDG 2 – Zero Hunger, utilising the UN Global Compact and Global Reporting Initiative's business reporting on the SDGs framework.

1.3.2 Secondary objectives

The secondary objectives were divided between theoretical and empirical objectives.

1.3.2.1 Theoretical secondary objectives

The first theoretical objective was to frame the literature in the context of SDG sustainability frameworks, specifically the KPMG SDG reporting guidance and the UN Global Compact and Global Reporting Initiative's analysis of the goals and targets (*SDGs business reporting*).

The second theoretical objective was to review the literature concerning sustainability disclosure practices within South African JSE-listed food, beverage, and tobacco industries.

1.3.2.2 Empirical secondary objectives

The first empirical secondary objective was to use the KPMG SDG reporting guidance to analyse the overall SDG disclosure in the annual integrated reports of South African JSE-listed food, beverage, and tobacco companies.

The second empirical secondary objective was to analyse the reporting compliance of South African JSE-listed food, beverage, and tobacco companies' integrated reports with regard to SDG 2 – Zero Hunger. This analysis was carried out by making use of the UN Global Compact and Global Reporting Initiative's business reporting on the SDGs framework.

1.4 Research design and methodology

A research design serves as the bridge between research questions and their fulfillment (Blanche *et al.*, 2006:32). Research designs can become complex, especially when resources are limited

(Turpin & Van Belle, 2021:84). Investigation and the discovery of facts, theories, and truths, all encompassed within research methodology, are the primary means to enhance an understanding of society, humanity, and culture (Shoket, 2014:512). To analyse the disclosure of South African-listed food, beverage, and tobacco companies, the content of annual integrated reports and sustainability reports was assessed, analysed, and interpreted to generate new insights. Specifically, the disclosure of SDG 2 – Zero Hunger contributions by these companies was examined. The evaluation of SDG disclosures was employed by making use of a two-part content analysis and disclosure frameworks.

The study utilises Wilson's (2014) Honeycomb of Research Methodology as a framework to explain the research design and methodology clearly. This honeycomb framework includes six key elements: Research philosophy, research approach, research strategy, research design, data collection, and data analysis techniques, which collectively constituted the research methodology (Wilson, 2014). Chapter 3, titled Research Methodology, provides an in-depth discussion of these six elements. This study encompassed a literature review and an empirical study, all grounded in the paradigmatic assumptions outlined below.

1.4.1 Paradigmatic assumptions

Killam (2013:5) defines a paradigm as a set of coloured lenses that shape your worldview, essentially comprising your patterns, beliefs, and thought processes. Research philosophy, as described by Killam (2013:5), serves as a framework for researchers, guiding their actions and conclusions and influencing the research procedures and designs they employ. Paradigms offer comprehensive systems of interconnected practices that establish the foundations for the three dimensions of ontology, epistemology, and methodology for researchers (Blanche *et al.*, 2006:6).

According to Saunders *et al.* (2009), there are four types of paradigmatic assumptions: Positivism, interpretivism, realism, and pragmatism. Positivism involves acquiring knowledge and providing certainty through direct, scientifically quantifiable methods without speculation (Al-Ababneh, 2020:79). In contrast, interpretivism, as opposed to positivism, generates knowledge subjectively and views each organisation's circumstances as unique (Al-Ababneh, 2020:80). Realism is another paradigmatic assumption, where knowledge is acquired through scientific enquiry, with the belief that reality exists independently of human interpretations (Al-Ababneh, 2020:81). The fourth paradigmatic assumption is pragmatism, which is based on the idea that reality is shaped by human perception and beliefs, resulting in multiple interpretations and explanations for scientific phenomena (Al-Ababneh, 2020:81).

This study adopted an interpretivist approach for both ontological and epistemological reasons, as discussed below. The analysis of integrated reports is inherently subjective in nature and can yield multiple possible interpretations, based on the researcher's perspective.

Two research design types exist based on the research problem and the audience of the study, namely qualitative and quantitative research (Creswell, 2009:22). Qualitative research involves interpreting data acquired from interviews, observations, and publicly accessible documents, while quantitative research explores variable relationships using measurable statistical methods or standardised tests (Creswell, 2009:22). This study adopted a qualitative research approach, analysing publicly available annual integrated reports of companies and providing interpretations.

1.4.1.1 Ontological assumptions

Ontology is defined by Crotty (2003:10) as the "study of being, what kind of world are we investigating and what is the nature of reality". The aim of this study was to evaluate the reporting of South African JSE-listed food, beverage, and tobacco companies regarding their compliance with SDGs, with a specific focus on SDG 2 – Zero Hunger. This examination involved an analysis, review, and interpretation of the annual integrated reports and corresponding sustainability reports of the JSE-listed companies. It is important to note that this study adopted an interpretive approach, due to the subjective nature of analysing integrated reports, which can yield multiple interpretations of reality.

1.4.1.2 Epistemological assumptions

Maynard defines 'epistemology' as "concerned with providing a philosophical grounding for deciding what knowledge is possible and how we can ensure that they are both adequate and legitimate" (Maynard, 1994:10). Epistemology is the process of acquiring knowledge based on the principle of "how we know what we know" (Crotty, 2003:8). The study analysed data from integrated reports to assess how South African JSE-listed food, beverage, and tobacco industries disclose their contributions to achieve SDGs. This research study acquired knowledge through the interpretation of subjective actions, aligning with an interpretivist perspective.

1.5 Literature review

A literature review is a methodology for enhancing one's understanding by assessing secondary sources and analysing existing knowledge to pinpoint deficiencies and draw fresh conclusions (Jesson *et al.*, 2011:9). This was accomplished through an examination of the subsequent literature sources: Peer-reviewed journal articles, annual integrated reports, and publicly accessible sustainability reports.

1.6 Empirical study

This study analysed the annual integrated reports of South African JSE-listed food, beverage, and tobacco companies, following a content analysis as indicated in Figure 1-2:

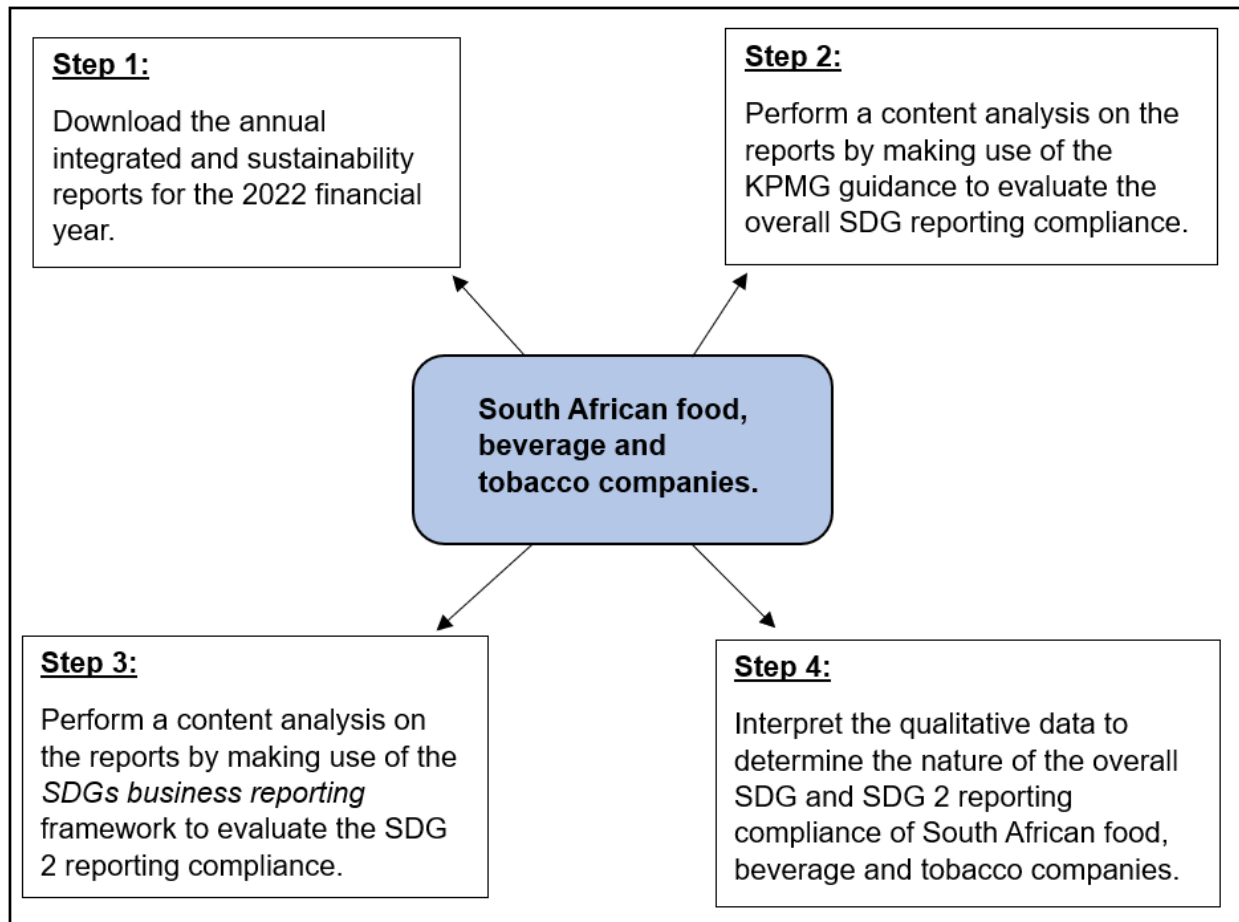


Figure 1-1: Methodological approach

This study employed a two-part content analysis approach, as detailed in Chapter 3 – Research Methodology.

1.6.1 Population and sampling

The population in research, as defined by Elfil and Negida (2017:1), is the comprehensive set of objects or inhabitants that exhibit the characteristics that pique the researcher's interest. In order to enhance the quality of research, it is imperative to make informed decisions regarding sampling (Suri, 2011:63). Sampling involves making projections and estimations about an entire population based on a subset of items, allowing for more efficient data collection at a reduced cost (Singh & Masuku, 2013:124). To ensure a minimal margin for error and biases, while maximising

representativeness, it was essential to conduct the sampling process with the utmost precision (Tyrer & Heyman, 2016:57).

The JSE market's consumer staples sector comprises of two subsections: 1) The food, beverage, and tobacco sector, and 2) personal care, drug and grocery stores. The study focused on South African JSE-listed food, beverage, and tobacco companies. Within the food, beverage, and tobacco sector, there are five distinct departments: 1) Brewers, 2) farming, fishing, ranching, and plantations, 3) food products, 4) sugar, and 5) tobacco. The "Food, beverage, and tobacco" sector on the JSE includes a total of 15 companies (Business Day, 2023).

This study specifically considered the 12 South African listed food, beverage, and tobacco companies that are incorporated and effectively managed within South Africa. The selection of these companies, as well as those excluded, is elaborated on in Chapter 3: Research Methodology section 3.3.5.1. The research employed a purposive sampling method, which is a non-probability approach relying on the researcher's discretion (Berndt, 2020:225). The chosen sampling period for this study was the year 2022, as it represents the most recent financial year and aligns with the latest SDG disclosure compliance of the food, beverage, and tobacco industry. Previous studies have also used the most recent financial year available as the sampling period to assess their SDG reporting (Arena *et al.*, 2022; Lodhia *et al.*, 2022; Hatayama, 2022).

1.6.2 Data collection and analysis

Researchers and scientists use various data collection strategies to gather both primary and secondary data (Hox & Boeije, 2005:593). Primary data represents newly collected information intended to address a specific research problem. In contrast, secondary data comprises pre-existing data generated by earlier researchers, which are made available for use by the broader research community (Hox & Boeije, 2005:593).

In this particular study, secondary data were utilised, as there was no collection of new data. Instead, an analysis and examination of existing data were conducted to assess the South African JSE-listed food, beverage, and tobacco companies' disclosure of SDGs. The data collection process focused on the annual integrated reports and corresponding sustainability reports of the 12 selected South-African JSE-listed food, beverage, and tobacco companies, which revealed their SDGs reporting practices. Similar studies on SDG reporting (Di Vaio & Varriale, 2019; Gunawan *et al.*, 2019; Erin & Bamiboye, 2021) have evaluated annual reports of companies to draw conclusions regarding their SDG reporting efforts.

Content analysis is an organised and structured method for systematically consolidating numerous texts into smaller content categories based on specific characteristics (Stemler,

2000:2). According to Krippendorff (2004:36), researchers use a content analysis as a technique to generate well-founded conclusions from the analyses of representations, texts, expressions, and images by considering their context and meaning. This approach creates a methodology that enables researchers to communicate effectively, plan, and execute their analysis of specific results (Krippendorff, 2004:17).

The annual integrated reports and sustainability reports for the financial year 2022 from the 12 South African JSE-listed food, beverage, and tobacco companies were obtained from their respective websites. Utilising the 2022 financial year, which was the most recent year-end for these companies, offered the most precise and up-to-date data regarding their compliance with SDGs. The KPMG guidance was applied to analyse the annual integrated and sustainability reports to assess overall SDG reporting compliance and *SDGs business reporting*, was utilised to provide an in-dept analysis on SDG 2 reporting. Previous studies have also employed SDG guidance frameworks, including those from KPMG, GRI, and IIRC, to evaluate annual financial statements and disclose SDG compliance (Erin & Bamigboye, 2021; Erin *et al.*, 2021; Lodhia *et al.*, 2022). A comprehensive conclusion is provided on how the 12 South African JSE-listed food, beverage, and tobacco companies communicate their contributions to SDGs, specifically SDG 2 – Zero Hunger.

1.7 Ethical considerations

In this study, publicly available annual integrated reports and sustainability reports were analysed and evaluated. The results were anonymised, and the companies were referred to as FB1, FB2, etc. Since the annual reports are already accessible on the companies' websites, no consent was required. There were no interactions with human participants, and therefore, the Protection of Personal Information Act 4 of 2013 (POPIA) was not applicable. This study received approval from the North-West University's Economic and Management Sciences Research Ethics Committee (EMS-REC) under ethics number NWU-00721-23-A4. The approval letter can be found in Appendix 1.

1.8 Chapter Overview

Chapter 1: Introduction

This chapter offers a high-level overview of SDGs and emphasises the significance of reporting on them, particularly within the South-African listed food, beverage, and tobacco companies. It also outlines the research problem, presents both the main and secondary objectives, and justifies the chosen research design. Ethical considerations mark the conclusion of this chapter.

Chapter 2: Literature review

In this chapter, literature is reviewed on the disclosure of SDGs by South African JSE-listed companies operating in the food, beverage, and tobacco sectors. The chapter further explores the disclosure of SDG compliance. Additionally, an in-depth discussion is provided of various topics, including the KPMG SDG reporting guidance, an analysis of SDG goals and targets in business reporting (*SDGs business reporting*), SDG reporting, integrated reporting, and the food, beverage, and tobacco industry.

Chapter 3: Research methodology

The Honeycomb of Research Methodology model is employed in this chapter to expand on the research design and methodology, also includes an explanation of the rationale behind the chosen approach.

Chapter 4: Results and findings

In this chapter, the main objective and secondary objectives are addressed by presenting the results of the empirical study. The findings of analysing the SDG reporting compliance of South African food, beverage, and tobacco companies are presented.

Chapter 5: Conclusion and recommendations

In the final chapter, the study is concluded, offering relevant recommendations, discussing limitations, and highlighting areas for future research.

The second chapter presents the literature review.

CHAPTER 2

2 LITERATURE REVIEW

2.1 Introduction

This chapter is designed to achieve the initial and subsequent secondary theoretical objectives outlined in Chapter 1 (refer to page 8). The first of these objectives involved an analysis of the literature pertaining to SDG sustainability guidance frameworks. The second objective focused on the examination of literature related to the food, beverage, and tobacco industries and their sustainability reporting practices.

When companies demonstrate their commitment to voluntary SDG reporting frameworks, their likelihood of addressing SDGs in their integrated reports significantly increases (Rosati & Faria, 2019:3). Understanding the various SDG sustainability frameworks is crucial for companies, as it serves as a gateway for them to report on their SDG compliance (Faria & Rosati, 2019:4) and aids in evaluating their current initiatives and identifying new objectives to further their SDG compliances (United Nations Global Compact, 2018:5). Additionally, readers should grasp the context of the food, beverage, and tobacco industry and its role in contributing to the achievement of SDGs. The layout of this chapter is illustrated in Figure 2-1:

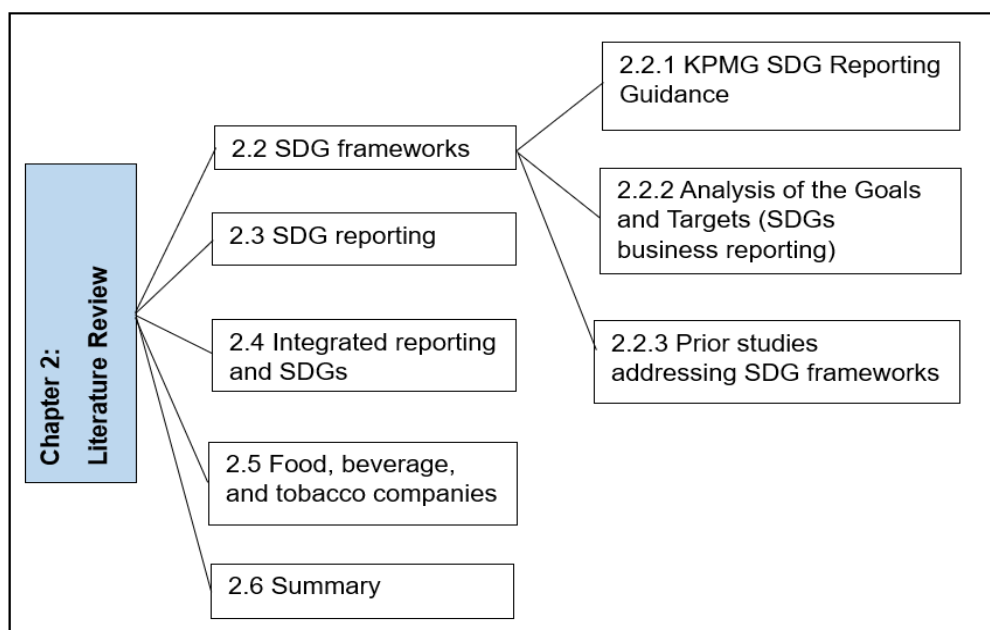


Figure 2-1: Chapter 2 layout

The second chapter commences with an introduction to various SDGs frameworks, presenting *SDGs business reporting*, KPMG SDG reporting guidance, and prior research on SDG

frameworks. Following this, it explores the significance of SDG reporting and provides a review of previous studies on SDGs reporting. Subsequently, it delves into integrated reporting, connecting it to SDGs. The chapter then proceeds with a discussion on the food, beverage, and tobacco industry, along with an overview of past research in this area. Finally, Chapter 2 concludes by summarising its content.

2.2 SDG frameworks

The following SDG frameworks are in existence: PwC framework, KPMG SDG reporting guidance (referred to as KPMG guidance), JSE disclosure guidance, Analysis of the Goals and Targets (*SDGs business reporting*), and the International Integrated Reporting Council (IIRC) framework. Among these frameworks, the two pertinent to this study are: 1) KPMG guidance, and 2) *SDGs business reporting*, which will be further discussed below.

2.2.1 KPMG SDG Reporting Guidance

Since the introduction of SDGs in September 2015, there has been a significant surge in companies' interest in these goals (KPMG, 2018:3). Despite many companies establishing networks and tools to facilitate SDG reporting, a universally accepted baseline or standard for understanding and reporting on the SDGs remains absent (KPMG, 2018:3). To address this urgent challenge, KPMG published a checklist in 2018, encompassing nine criteria, titled "How to report on the SDGs". They incorporated segments of the SDG compass and leveraged global sustainability expertise with support from the IIRC (KPMG, 2018). The primary goal of KPMG's SDG reporting guidance is to furnish companies with quality standards for SDG reporting, allowing them to report on their SDG compliance effectively (KPMG, 2018:3).

The KPMG guidance, as of 2018, assists investors who are concerned with environmental, social, and governance (ESG) information to understand the SDG reporting they should request from the businesses they invest in (KPMG, 2018:3). This includes information on SDG-specific risks and opportunities related to a company, as well as the company's positive and negative impacts on SDGs and global issues through its business activities.

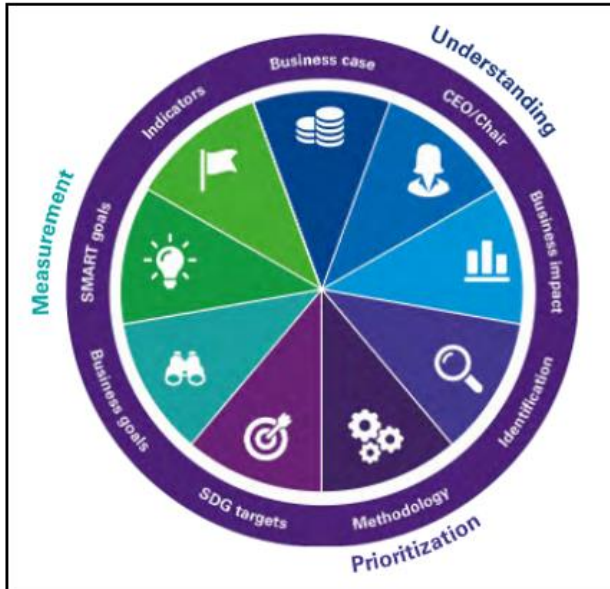


Figure 2-2: Nine criteria for SDG reporting

Source: KPMG (2018)

To assess and contrast companies' SDGs reporting maturity, KPMG experts have developed a comprehensive set of nine criteria, categorised into three sections (refer to Figure 2-2): 1) understanding, 2) Prioritising, and 3) measurement (KPMG, 2018:4). These nine criteria are framed as questions, and can be found under each respective section (see Table 2-1):

Table 2-1: Nine criteria of KPMG guidance

	Criteria
Understanding	1.1 Does the reporting demonstrate the business case for taking action on the SDGs?
	1.2 Does the CEO and/or Chair's message talk about the SDGs?
	1.3 Does the reporting assess the business's impact on SDGs?
Prioritisation	2.1 Does the reporting identify priority SDGs for the company?
	2.2 Does the reporting explain the methodology the company used to prioritize the SDGs?
	2.3 Does the reporting identify specific SDG targets that are relevant to the business?
Measurement	3.1 Does the reporting disclose SDG performance goals for the company?
	3.2 Does the reporting set SDG performance goals that are SMART?
	3.3 Does the reporting detail the indicators the company is using to measure the progress of its SDG activities?

Source: KPMG (2018)

In conclusion, KPMG's SDGs reporting guidance fosters transparency in a company's SDG compliance, thereby instilling confidence in their customers (KPMG, 2023). Furthermore, it empowers companies to report on their SDG actions and offers valuable guidance on improving these disclosures, while facilitating the measurement of their SDG performance (KPMG, 2018:29).

This study assessed the SDG reporting of 12 South African JSE food, beverage, and tobacco companies, using the KPMG SDG reporting guidelines. This guidance was chosen, because it offers comprehensive criteria for evaluating the overall SDG reporting of these companies. Notably, Lodia *et al.* (2022) is the sole study that utilised the KPMG (2018) framework, focusing on evaluating the commitment to SDG reporting by the top 50 Australian companies. The findings from this study are elaborated on in section 2.2.3.

2.2.2 Analysis of the goals and targets (*SDGs business reporting*)

Companies have a vital interest in the achievement of the 17 SDGs for the 2030 Agenda, comprising 169 targets — this is particularly crucial in a society plagued by instability, poverty, and inequality, as highlighted by the United Nations Global Compact (2018:5). Several businesses are already taking action and disclosing their efforts related to the SDGs. This reporting not only helps them evaluate their current SDG-related initiatives but also identifies new priorities to advance the SDG's realisation (United Nations Global Compact, 2018:5).

The concept of *SDGs business reporting* serves as a foundational step towards a standardised methodology that aids companies in reporting on the SDGs in a consistent, efficient, and practical manner. The goal is to enable the collection of relevant data from diverse companies and industries, thereby facilitating better comparison and utilisation by all stakeholders (United Nations Global Compact, 2022:9).

The *SDGs business reporting*, established in July 2022, represents an updated list of disclosures and internationally recognised frameworks. It incorporates new sources, such as the GRI Universal Standards from 2021, GRI Sector Standards, and the GRI Topic Standards (United Nations Global Compact, 2022:9). This compilation offers a comprehensive list of potential disclosures for reporting on SDGs, encompassing both qualitative and quantitative aspects. The primary aim behind its creation is to aid companies of all sizes in enhancing their performance and reporting on SDGs (United Nations Global Compact: CEO Water Mandate, 2017) with the overarching goal of fostering long-term value creation and growth.

Moreover, the *SDGs business reporting* actively promotes transparency, a key driver of improved overall performance (United Nations Global Compact, 2022:10). This initiative builds upon and replaces the 2017 publication, titled “An Analysis of the Goals and Targets” (*SDGs business reporting*), which was a collaborative effort between GRI and the UN Global Compact, supported by PwC. The previous publication served as a strategic and technical guide for companies looking to report effectively on SDGs (United Nations Global Compact: CEO Water Mandate, 2017).

The revised *SDGs business reporting* offers several key components. First, it presents a set of approved disclosures that companies can use to report on their SDG objectives. Second, it highlights areas where validated disclosures are still outstanding. Lastly, it includes a table developed by the UN-backed Inter-agency Expert Group on SDG Indicators (IAEG-SDG). This table outlines the relevant indicators that governments can use to assess how a company’s SDG compliance aligns with national-level SDG governmental performance (United Nations Global Compact, 2022:11).

This *SDGs business reporting* should be utilised alongside “Integrating the SDGs into corporate reporting: A practical guide”, which outlines a three-step strategy for integrating the SDGs into existing reporting procedures (United Nations Global Compact, 2018:6):

1. Prioritise and select SDGs which the company should adhere to and report on.
2. Examine how the company should choose disclosures, define corporate goals, and measure performance.
3. Provide suggestions and direction for reporting and enhancing SDG performance.

This three-step strategy not only assists companies in integrating the SDGs into their existing corporate social responsibility (CSR) and sustainability reporting initiatives but also integrates innovative business models and risk management processes — this integration can further support the contributions to SDGs (United Nations Global Compact, 2018:3).

The practical guide, founded on the SDG compass developed by the World Business Council for Sustainable Development (WBCSD), GRI, and the UN Global Compact, details the “principled prioritisation” technique. This technique aids companies in highlighting and pinpointing SDG targets, taking action toward these targets, and reporting on them (United Nations Global Compact, 2018:3). “Principled Prioritisation” enables companies to achieve the following: 1) Aligning the company’s strategy, initiatives, and resource allocation with SDG objectives that reflect their significance; 2) identifying any additional actions required to meet the necessary SDG

compliance; and 3) avoiding the selection of goals and objectives based on convenience rather than what represents the greatest priority (United Nations Global Compact, 2018:8).

The guidance for reporting on SDG 2 – Zero Hunger in the food and beverage sector is derived from two primary sources: 1) Global Investors for Sustainable Development (GISD): Sector-Specific SDG-Related Metrics for Corporate Reporting, and 2) Sustainability Accounting Standards Board Food and Beverage Sector (SASB FB) (United Nations Global Compact, 2022:39). GISD offers measurement metrics that enable companies to assess their contributions to SDGs within a specific sector, and these disclosures are crucial to stakeholders who rely on them to inform their investment decisions (GISD, 2021:1). Notably, GISD provides metrics for disclosures in the consumer staples sector, encompassing food, beverage, and tobacco companies. These disclosures play a pivotal role in advancing SDG 2, thereby supporting efforts to improve nutrition, ensure food security, promote sustainable agriculture, and enhance ecosystem quality and biodiversity (GISD, 2021:10).

The Sustainability Accounting Standards Board (SASB), an independent standards-setting organisation, was established in 2011 (Bockay *et al.*, 2021:36). In 2023, the SASB Standards (2023:4) were transferred to the International Sustainability Standards Board (ISSB) of the IFRS Foundation, which, since August 2022, has been responsible for overseeing the SASB Standards and introducing an updated industry standard version to improve the quality of sustainability disclosures (SASB Standards, 2023:4). The ISSB of the IFRS Foundation has also made a commitment to sustain, enhance, and further develop the SASB Standards, and it encourages companies to continue using these standards (SASB Standards, 2023:2). The 2023 version aligns with the June 2023 issued IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1) and IFRS S2 Climate-related Disclosures (IFRS S2) (SASB Standards, 2023:2). IFRS S1 encourages companies to incorporate SASB Standard disclosure topics and metrics into their determination of which sustainability-related risks and opportunities to disclose (SASB Standards, 2023:2). The new 2023-06 SASB Standard is slated for implementation starting on 1 January 2024, with voluntary early adoption recommended (SASB Standards, 2023:2).

This study utilised *SDGs business reporting* in conjunction with SASB Standards for the agricultural products industry, food retailers and distributors industry, meat, poultry, and dairy industry, and processed foods industry to assess how 12 South African JSE-listed food, beverage, and tobacco companies report on their compliance with SDG 2. The *SDGs business reporting* document offers comprehensive SDG indicators for Goal 2 – Zero Hunger. These SASB Standards provide pertinent information on disclosure related to sustainability risks and

opportunities that impact companies and stakeholders. It is worth noting that while the updated 2023-06 version of the SASB Standards will only be in effect from 1 January 2024, using these standards in conjunction with the *SDGs business reporting* to evaluate South-Africa JSE-listed food, beverage, and tobacco companies for 2022 remains relevant. This approach offers valuable insights into companies that voluntarily adhere to these standards and also reveals how companies respond to stakeholders' requests for implementation. This data serves as a baseline for assessing potential improvements in the coming years.

No previous research has been conducted on the assessment of SDG 2 using the metrics suggested by the *SDGs business reporting* alongside SASB Standards.

Since the inception of the SDGs in 2015, several SDG frameworks have emerged to support companies in their SDG reporting. This has resulted in a need for research on the effectiveness and application of these SDG frameworks. In the following section, previous research that has explored SDG frameworks introduced since 2015 will be delved into.

2.2.3 Prior studies addressing SDG frameworks

Since the development of the various SDG reporting frameworks mentioned in section 2.2 (page 16), several studies have explored the different SDG frameworks. These include the PwC framework, the International Integrated Reporting Council (IIRC) framework, and the KPMG SDG reporting guidance (Curtó-Pagés *et al.*, 2021; Erin & Bamigboye, 2021; Erin *et al.*, 2021; Iazzi *et al.*, 2021; Ionascu *et al.*, 2020; Lodhia *et al.*, 2022). Even though the GRI framework was not explicitly recognised as an SDG framework, Erin and Bamigboye (2021) employed it to assess 408 global companies. Their findings revealed that the GRI framework offers robust measures for SDG performance and reporting, making it a comprehensive choice. Ionascu *et al.* (2020) also examined SDG disclosures in the real estate industry and found that only 56% of western European Union (EU) real estate companies utilise the GRI framework, albeit without using it to analyse their SDG reporting efficiency.

The only study that utilised the KPMG (2018) framework was conducted by Lodhia *et al.* (2022). In their research, the KPMG (2018) framework was used to assess the commitment of the top 50 Australian companies to SDG disclosure (Lodhia *et al.*, 2022), and they found that these companies exhibited a moderate level of SDG disclosures and suggested a need for improvements in measuring SDG disclosures. They concluded that the KPMG (2018) framework is suitable for scrutinising SDG reporting, as it establishes a baseline for the most comprehensive SDG reporting (Lodhia *et al.*, 2022).

In Lashitew's study (2021), it was argued that implementing SASB Standards voluntarily could enhance the trustworthiness and transparency of sustainability reporting by companies. Bochkay *et al.* (2022) discovered that the probability of companies using SASB Standards in their reporting is influenced by societal behaviour, company size, and the presence of sustainability-focused institutional governors. Companies that incorporate SASB Standards into their reporting have been found to exhibit improvements in sustainability performance, including reduced greenhouse gas emissions and fewer sustainability violations (Bochkay *et al.*, 2021). Consolandi *et al.* (2020) used the previous SASB ESG disclosure standard to assess the contributions of United States-based healthcare sector companies to SDG 3 – Good Health and Well-being and observed a positive correlation between the adoption of SASB Standards and ESG disclosures.

To date, there is no evidence of companies evaluating their reporting on SDG 2 using the new *SDGs business reporting* or SASB Standards as reporting frameworks, which are designed to enhance the efficiency of SDG reporting by companies. This study aimed to address this existing knowledge gap.

2.3 SDG reporting

As discussed in Chapter 1.1.3: Importance of SDG reporting (page 4), reporting on a company's compliance with the SDGs plays a crucial role in providing stakeholders with the information they need to make informed decisions and facilitating long-term value creation. Additionally, such reporting enhances a company's reputation, fosters transparency in sustainability practices, and bestows a competitive advantage in the market, ultimately bolstering its legitimacy. Finally, it serves as evidence of management's commitment to social, environmental, and economic growth (JSE, 2022).

Since the inception of the SDGs in 2015, several research studies have investigated SDG reporting in various countries (Curtó-Pagés *et al.*, 2021; Erin *et al.*, 2021; Erin & Bamigboye, 2021; Hamad *et al.*, 2022; Hummel & Szekely, 2022; Lodhia *et al.*, 2022). Curtó-Pagés *et al.* (2021) identified that Spanish-listed companies exhibited limited commitment to overall SDG reporting, with a higher prevalence of SDG reporting among those companies releasing non-financial reports. African companies, with South Africa as an exception, demonstrated subpar SDG reporting and a lack of emphasis on SDG disclosures, due to the absence of voluntary reporting and regulatory enforcement (Erin & Bamigboye, 2021).

Erin *et al.* (2021) conducted an analysis of SDG reporting among 120 companies listed on the Nigerian Stock Exchange and established a strong correlation between the presence of an audit committee and a dedicated sustainability-focused committee and the quality of sustainability

disclosures. In Malaysia, Hamad *et al.* (2022) investigated the contributions of Malaysian PLCs to SDG reporting and observed a significant increase from 14% in 2016 to 78% in 2020. Notably, there was a heightened focus on SDG 8 — Decent Work and Economic Growth, SDG 12 — Responsible Consumption and Production, and SDG 13 — Climate Action. Hummel and Szekely (2022) analysed SDG reporting in European STOXX Europe-600 index listed companies' annual integrated reports spanning from 2015 to 2018. Their research revealed a substantial improvement in SDG disclosure quality, rising from 1.78 in 2015 to 4.84 in 2018 on a scale ranging from 0–11. The study also highlighted that European companies prioritised five specific goals, namely: SDG 3 — Good Health and Well-being; SDG 8 — Decent Work and Economic Growth; SDG 9 — Industry, Innovation, and Infrastructure; SDG 12 — Responsible Consumption and Production; and SDG 13 — Climate Action. According to Di Vaio and Varriale (2019), a limited number of Italian airport corporations reported on SDGs, underscoring the significant role of sustainability reporting in aligning companies with sustainability objectives.

Several studies have explored the realm of SDG reporting across diverse industries and sectors (Arena *et al.*, 2022; Consolandi *et al.*, 2020; Hatayama, 2021; Iazzi *et al.*, 2021; Ionascu *et al.*, 2020). Arena *et al.* (2022) globally assessed the SDG reporting practices of oil and gas companies featured in the Platts Top 250 Global Energy Company Rankings for 2018. Their findings underscore the significance of this reporting, as approximately two-thirds of these companies incorporated SDGs into their reports, recognising the far-reaching socioeconomic implications and environmental concerns involved.

In the health sector, Consolandi *et al.* (2020) undertook a comprehensive evaluation of both financial and non-financial materials of companies to gauge their involvement with and reporting on SDG 3 — Good Health and Well-Being. Their research revealed that the biotechnology, pharmaceuticals, and medical equipment industries had the most pronounced impact on SDG 3, with a notable portion of their contributions arising from non-material aspects.

Hatayama (2021), through an analysis of SDG reports from 61 metal companies, determined that the metal industry primarily emphasized SDGs 8 — Decent Work and Economic Growth, SDG 3 — Good Health and Well-Being, and SDG 12 — Responsible Consumption and Production. However, they found that certain goals, including SDG 14 — Life Below Water, SDG 2 — Zero Hunger, and SDG 1 — No Poverty, received relatively limited attention within the industry's SDG reporting practices.

The SDGs emphasise the importance of nutrition and agriculture, particularly through SDG 2 — Zero Hunger, which addresses objectives, such as food security, eradicating world hunger, and advancing sustainable agriculture (United Nations, 2015). Moreover, it plays a crucial role in poverty alleviation and the promotion of productive, sustainable food production systems (Iazzi *et al.*, 2021). Consequently, it is imperative for companies to disclose their contributions toward SDG2 — Zero Hunger in a transparent manner.

Several research studies have investigated the achievements and strategies related to SDG 2 (Bizikova *et al.*, 2020; Guo *et al.*, 2022; Yonehara *et al.*, 2017). For instance, Vogliano *et al.* (2021) examined the progress of Melanesia, a sub-region of Oceania in the southwestern Pacific Ocean, in attaining SDG 2 — Zero Hunger. Their findings revealed that significant strategies must be implemented to combat the rising rates of non communicable diseases (NCD) rates and ensure food security within the region.

As previously mentioned, reporting on SDGs holds pivotal importance as it empowers stakeholders with the information necessary to make informed decisions that support long-term value creation. Moreover, it enhances the company's reputation by demonstrating its commitment to the 2030 Agenda for Sustainable Development. Notably, there is currently a dearth of research on the overall SDG reporting performance, particularly with regard to in-depth reporting on SDG 2 — Zero Hunger, by South African JSE-listed companies operating in the food, beverage, and tobacco industry.

Since March 2010, integrated reporting has been made compulsory for JSE-listed companies. The importance of SDG reporting is more evident in companies that release integrated reports as opposed to those that only provide standalone sustainability reports, leading to increased long-term value (Curtó-Pagès *et al.*, 2010). Consequently, assessing the integrated reports of 12 South African JSE-listed companies operating in the food, beverage, and tobacco industry offered valuable insights into their compliance with SDG reporting requirements.

2.4 Integrated reporting

As the global economy continually evolves in response to heightened universal competition, companies are increasingly compelled to fulfill the demands of their stakeholders (Flower, 2015). Stakeholders are placing growing pressure on companies to address environmental and social concerns, and the concept of integrated reports, which focus on the six capitals (human, natural, social, financial, intellectual, and manufactured), may serve as the driving force behind this ongoing transformation (Conway, 2019). Curtó-Pagès *et al.* (2021) have substantiated that SDG reporting garners more recognition and fosters the creation of sustainable value in companies

that release integrated reports, as opposed to those that exclusively issue annual reports or standalone sustainability reports. The evaluation of integrated reports from the 12 South African JSE-listed companies in the food, beverage, and tobacco industry offered, therefore, crucial insights into their compliance with SDG reporting requirements.

2.4.1 Integrated Reporting and SDGs

Over the past decade, the significance of integrated reporting has witnessed a substantial increase, with the mandate for all JSE-listed companies to adopt this practice from 1 March 2010 (Hoffman, 2012:1). The genesis of integrated reporting dates back to 1994 when South Africa's first king report of corporate governance principles, also known as King I, laid the foundation for this concept (Gleeson-White, 2014:151). In 2002, King II was introduced, which integrated sustainable reporting by leveraging the GRI's triple bottom line reporting, thus facilitating the exploration of new dimensions in non-financial reporting (Gleeson-White, 2014:156).

The latest iteration of integrated reporting emerged with the advent of King III in 2009, championing integrated reporting as a comprehensive and unified portrayal of a company's financial and sustainability performance (IDSA, 2010). In 2021, the International Integrated Reporting Council (IIRC), established in 2010, released the most recent version of the integrated reporting framework, building upon the version from December 2013 (IIRC, 2021).

The main objective of integrated reporting is to facilitate core value creation by promoting informed long-term decision making and integrated thinking while elevating overall reporting standards (Conway, 2019). Although measuring and integrating sustainability into reporting can be challenging, it plays a pivotal role in aligning sustainability with financial disclosures, seamlessly incorporating sustainability into decision-making processes and planning (Adams, 2014). According to Hamad *et al.* (2022), integrated reporting serves as a direct contributor to the attainment of SDGs and aligns it with companies' business models through integrated reporting and thinking. Notably, integrated reporting exerts a significant influence on the quality of SDG disclosure by aligning relevant SDGs with their corresponding sustainability contributions, thereby maximising their impact on reporting to stakeholders and a company's overall value (Hamad *et al.*, 2022).

A plethora of research endeavours have been undertaken on integrated reporting since its compulsory adoption as a JSE-listing requirement in 2010 (Adams, 2014; Conway, 2019; Dumay *et al.*, 2016; Hamad *et al.*, 2022; Wilburn & Wilburn, 2016). However, the research linking integrated reporting with SDGs remains limited. In the case of Wilburn and Wilburn (2016), their study explored the impact of integrated reporting on CSR. Their findings underscored the

essential role of integrated reporting in facilitating the effective assessment of a company's CSR performance. It serves as a valuable metric for comprehensible CSR valuation and enables cross-sector comparisons of CSR performances (Willburn & Willburn, 2016).

To date, Hamad *et al.* (2022) is the sole study that delves into the relationships between SDGs and integrated reporting. They achieved this by scrutinising the integrated reports of 100 Malaysian PLCs over the period of 2016 to 2020, assessing them in conjunction with their adherence to SDGs. Their findings revealed a positive correlation, indicating that enhanced SDG disclosure is associated with more advanced integrated reporting standards – signifying the constructive impact of high-quality integrated reporting on SDG compliance (Hamad *et al.*, 2022). The study further demonstrated that as the quality of integrated reporting improves, a greater number of SDGs are emphasised, and companies are driven to implement initiatives that align with these objectives, thus adapting their sustainability frameworks to align with the 2030 Agenda for sustainable development. In the context of this study, the evaluation encompassed both integrated reports and their corresponding sustainability reports, if addressed within the integrated reports, to gauge the SDG reporting compliance of South African companies in the food, beverage, and tobacco sectors.

Given the substantial use of land, energy, and water in the manufacturing processes of food, beverage, and tobacco companies, their operations yield a considerable influence on overall sustainability. It is, therefore, imperative for these companies to incorporate their contributions to the SDGs in their integrated reporting. Doing so not only offers evidence of their dedication to the sustainable utilisation of natural resources and the retention of carbon footprint but also signifies their commitment to promoting food security and poverty reduction.

2.5 South African companies in the food, beverage, and tobacco industry

Globally, one in ten individuals faces the challenge of food insecurity (United Nations, 2022:9). The ongoing Ukrainian war, climate shocks, and soaring food costs have further exacerbated this issue, leaving 735 million individuals without access to food (United Nations, 2023c).

In Chapter 1, section 1.1.2, the critical importance of the South-African food, beverage, and tobacco industry is emphasised in addressing food security as a linchpin of sustainable development. Food security entails ensuring that individuals have access to nutritious, sufficient, and high-quality food supply to lead healthy lives (FAO, 1996). The operations of the food, beverage, and tobacco industry exert a significant impact on sustainability, due to their utilisation of land, energy, chemicals, and water in the production process. To transition toward more sustainable practices, it becomes imperative for food processors to embrace a paradigm shift in

their conventional food processing systems by integrating resource-efficient innovations and incorporating reusability and material recycling into their processes (Iazzi *et al.*, 2021).

Furthermore, the food, beverage, and tobacco industry has shown an increasing interest in SDGs, as they endeavour to conduct business in a more sustainable manner, setting themselves apart from competitors. This shift arises from the evolving demands of consumers, who now seek products that not only fulfill their nutritional needs but also positively impact the environment and society as a whole (Rodriguez-Sanchez & Sellers-Rubio, 2020:1).

Food insecurity in Africa has reached a critical stage, with 146 million individuals lacking access to safe and nutritious food (IFRC, 2022:3). South Africa, with its extensive expertise in the agricultural sector and significant production of grain products like maize, stands as the main contributor to the food and beverage industry in Africa (LRS, 2022). The South African food, beverage, and tobacco industry, therefore, plays a vital role in enhancing accessibility to nutritious food and bolstering food security across the African continent.

A multitude of studies have explored sustainability in the food, beverage, and tobacco industry (Akanmu *et al.*, 2023; Garzón-Jiménez & Zorio-Grima, 2022; Long *et al.*, 2018; Matthes & Zatoński, 2019; Rodriguez-Sanchez & Sellers-Rubio, 2020). Akanmu *et al.* (2023) conducted an evaluation of the potential impact of implementing total quality management (TQM) on the sustainability compliance of Malaysian food and beverage companies. Their findings highlighted that the successful adoption of quality assurance, facility design, benchmarking, and ongoing process development significantly enhances sustainability compliance.

In a study by Long *et al.* (2018), critical success factors (CSF) for the Dutch food and beverage industry's successful transition from traditional business plans to sustainability-focused plans were examined. The research identified visual acuity, persistent innovation, partnership, and a sustainable foundation as pivotal CSFs for this transition. Garzón-Jiménez and Zorio-Grima (2022) investigated the financial implications of improved environmental disclosures in the food and beverage industry. Their analysis revealed that food and beverage companies with enhanced environmental reporting tend to have a reduced cost of equity. Matthes and Zatoński (2019) focused on tobacco production and utilisation, highlighting the misalignment with SDGs. They suggested that advancing tobacco control efforts directly contributes to the achievement of SDGs.

In recent years, a limited number of studies have delved into the SDG disclosures of food and beverage companies (Iazzi *et al.*, 2021; Vallet-Bellmunt *et al.*, 2023). Vallet-Bellmunt *et al.* (2023) discovered that Spanish food wholesalers tended to under-emphasise their contributions to SDG 12 — Responsible Consumption and Production Contributions. Their primary focus leaned

towards sustainable production rather than sustainable consumption. Iazzi *et al.* (2021) unveiled a global commitment among food and beverage companies to the UN Agenda 2030 goals for sustainable development, with a particular emphasis on reducing workplace inequalities. To date, no studies have assessed the overall SDG compliance reporting of South African JSE-listed food, beverage, and tobacco companies. Furthermore, there remains a gap in evaluating these companies' adherence to SDG 2 – Zero Hunger.

2.6 Summary

This chapter was dedicated to addressing the first and second secondary theoretical objectives established in Chapter 1. These objectives encompassed a comprehensive analysis of the literature pertaining to SDG sustainability frameworks and an exploration of the literature surrounding the food, beverage, and tobacco industry in relation to their disclosures. Within the chapter, two SDG frameworks, specifically the KPMG guidance and the *SDGs business reporting* framework, were examined, shedding light on their origins, and intended purposes. The main goal of the KPMG SDG reporting guidance is to provide companies with a robust set of standards for SDG reporting, comprising nine distinct criteria to facilitate effective reporting on SDGs. Concurrently, the *SDGs business reporting framework* emerged as a compilation of disclosures designed to aid companies in enhancing their SDG performance and reporting. This framework empowers companies to offer stakeholders superior comparative information and grants access to a wealth of pertinent data sourced from various industries. Moreover, it is worth noting that the SASB has developed 77 industry-specific sustainability accounting standards. These standards have been established to empower companies to disclose their sustainability-related risks and opportunities, with a specific focus on their respective industries.

In this chapter, the significance of SDG reporting was thoroughly examined, highlighting its role in furnishing stakeholders with essential information vital for making informed decisions that, in turn, facilitate long-term value creation. Additionally, it was emphasised that SDG reporting contributes to bolstering a company's reputation by offering tangible evidence of their commitment to SDGs and global objectives, thus enhancing their overall legitimacy.

The chapter also delved into the specifics of SDG reporting disclosures within various sectors and across different countries, shedding light on the diverse approaches and practices employed. Furthermore, the impact of integrated reporting on SDGs was a focus point of discussion. It was elucidated that the quality of integrated reporting has a direct correlation with the emphasis placed on SDGs, leading to the formulation and implementation of measures aimed at achieving these SDGs.

At present, a staggering 345 million individuals are grappling with the challenge of inadequate access to healthy and nutritious food. This chapter extensively explored the dynamics within the food, beverage, and tobacco industry. It was revealed that South Africa's food industry plays a pivotal role in ensuring food security across the African continent. This is attributed to the industry's robust agricultural productivity and substantial grain production capabilities.

This chapter concluded by underscoring the imperative for companies to adopt resource-efficient technologies and recycling methods as a means to progress toward achieving the SDGs. Notably, it was highlighted that no prior research has been conducted to assess the overall SDG compliance of South African JSE-listed food, beverage, and tobacco companies, particularly with regard to their compliance with SDG 2 — Zero Hunger. This identifies a significant gap in the current body of knowledge.

In the upcoming chapter, the research design and methodology are discussed. This chapter provides a comprehensive overview of the strategies and approaches used to fulfil the first and second empirical secondary objectives, as initially outlined in Chapter 1.3.2.2.

CHAPTER 3

3 RESEARCH METHODOLOGY

3.1 Introduction

The preceding chapter offered an extensive literature review covering the KPMG guidance, *SDGs business reporting guidance*, the significance of SDG reporting, and integrated reporting within the food, beverage, and tobacco sector. The main goal of this chapter is to introduce the research methodology employed and to address, in conjunction with Chapter 4, the secondary empirical objectives, as outlined in Chapter 1 (section 1.3.2.2). These objectives involve assessing the overall compliance of South African JSE-listed food, beverage, and tobacco companies with SDG reporting, as well as their compliance with SDG 2 – Zero Hunger. The research methodology is presented within the framework of Wilson’s (2014) Honeycomb of Research Methodology, which encompasses six key elements that collectively define the research approach employed in this study.

The layout of Chapter 3 is presented in Figure 3-1:

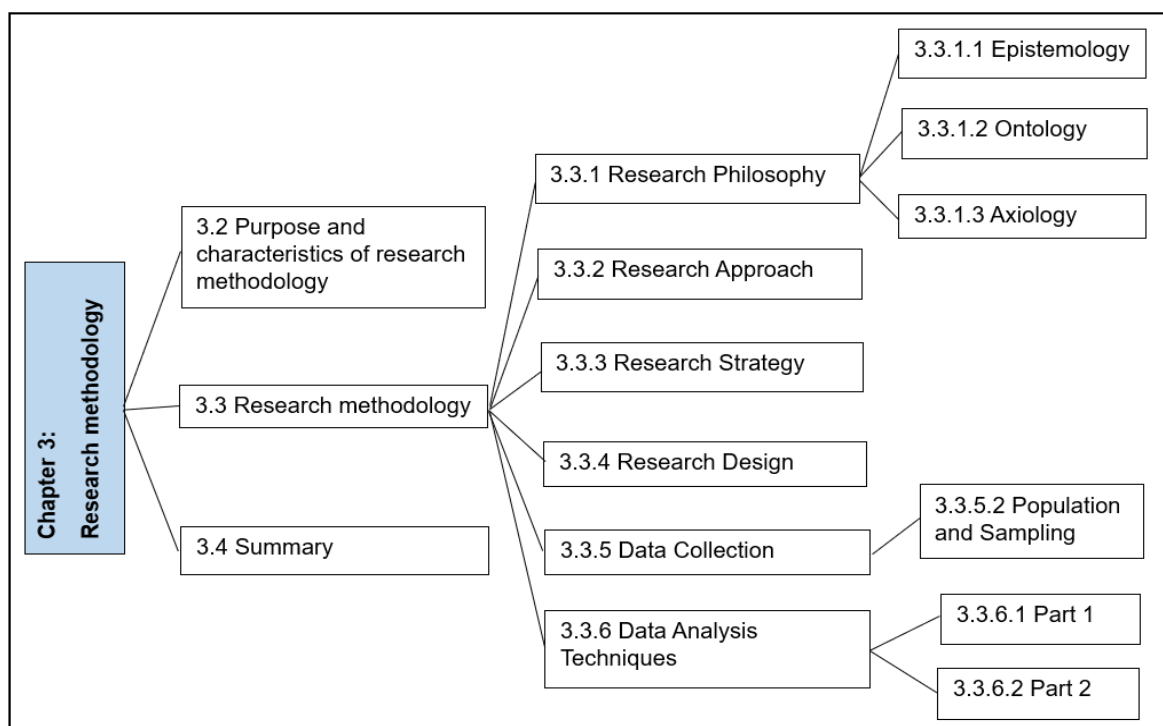


Figure 3-1: Chapter 3 layout

The third chapter commences with an exploration of the research’s purpose and its defining characteristics. Subsequently, the chapter delves into a detailed examination of the research

methodology, employing the six integral elements of the Honeycomb of Research Methodology. This discussion encompasses elucidation of the research philosophy, approach, and design. Following this, the chapter elaborates on the strategies for data collection and analysis that were employed in the execution of the empirical study. The outcomes of this data analysis are presented in Chapter 4. Chapter 3's closure involves a summary of the key findings and insights.

3.2 Purpose and characteristics of research methodology

The term 'research' holds various interpretations depending on its contextual application. In an academic context, research is defined as the systematic application of logical reasoning and existing knowledge to conduct a scientific investigation — this investigation serves the purpose of uncovering truths, addressing issues, generating insights, and contributing to novel conclusions (Bell & Waters, 2018; Walliman, 2005). Wilson (2014) characterises research as a sequential process aimed at acquiring fresh data through the collection, documentation, examination, and interpretation of information. Effective research necessitates building upon the work of other scholars to model one's own study, thereby advancing the collective understanding of our world (Mouton, 2001; Oates, 2006). Research methodology is regarded as the conceptual foundation that underpins the research process, offering the rationale for the research's objectives and the decisions pertaining to the chosen research methods and designs (Verschuren & Doorewaard, 2010).

As per Kothari (2004), research serves as a fundamental means to discover answers to questions by employing scientific methods to unveil truths that remain undiscovered. Kothari (2004) identified four main objectives of research: 1) To gain familiarity — the first objective is to establish familiarity with a phenomenon or to attain a novel understanding of it; 2) to accurately describe — the second objective is to provide precise descriptions of the attributes characterising a specific individual, situation, or group; 3) to determine frequency and relationships — the third objective is to determine how frequently an event occurs or to measure its level of correlation with another variable; 4) to investigate cause-and-effect hypotheses — the final objective is to investigate a hypothesis proposing cause-and-effect relationships between variables.

Singh (2006) has delineated 12 key characteristics derived from the definition of "research", which serve as fundamental aspects of the research process:

- (i) It involves the acquisition of new knowledge or data from primary or first-hand sources.
- (ii) It focuses on the discovery of general principles.

- (iii) It is a precise, systematic, and accurate investigation.
- (iv) It employs valid data gathering instruments.
- (v) It is characterised by logic and objectivity.
- (vi) The researcher resists the urge to seek only data that supports predetermined hypotheses.
- (vii) Personal feelings and preferences of the researcher are set aside.
- (viii) Efforts are made to organise data in quantitative terms.
- (ix) Research is a patient and unhurried endeavour.
- (x) The researcher is committed to follow the procedure, even if the conclusions may be unpopular and face social disapproval.
- (xi) Research is meticulously recorded and reported.
- (xii) Conclusions and generalisations are arrived at with care and caution.

The forthcoming section of this study details the research methodology adopted to adhere to these principles.

3.3 Research methodology

The research methodology employed in this study is grounded in the framework known as the “Honeycomb of Research Methodology”, as illustrated in Figure 3-2. This framework guided and shaped the research process by providing a structured approach to conducting this study.

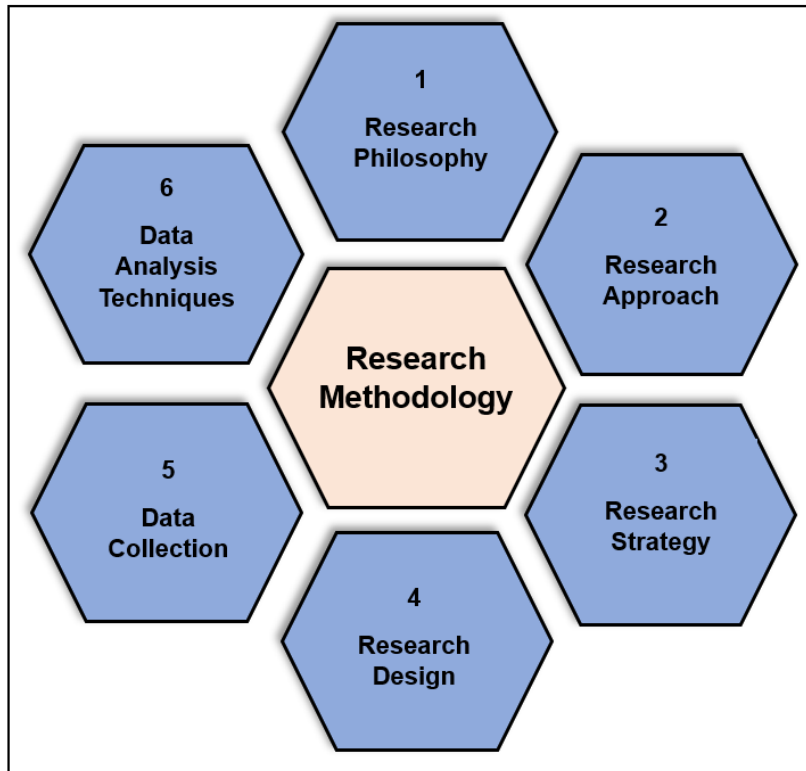


Figure 3-2: The Honeycomb of Research Methodology

Source: Wilson (2014)

The Honeycomb of Research Methodology, conceived by Wilson (2014), comprises of six fundamental elements: 1) Research philosophy; 2) Research approach; 3) Research strategy; 4) Research design; 5) Data collection; and 6) Data analysis techniques. This framework acknowledges the non-linear nature of research methodology development by visually representing these six elements as interconnected facets within the central segment of research methodology, rather than a rigid sequence of stages (Wilson, 2014). Each of these six elements is explored under separate headings in the upcoming discussion.

3.3.1 Research philosophy

The first element within the Honeycomb model (Figure 3-2) is research philosophy. Davies and Fisher (2018) argue that a deeper comprehension of research methodology necessitates a fundamental understanding of research philosophy. Research philosophy, as defined by Žukauskas *et al.* (2018), involves the expansion of research presumptions in the pursuit of new knowledge. Saunders *et al.* (2019) posit that research philosophy comprises the assumptions, patterns, and values concerning human knowledge and realities, which are used in the process of knowledge generation. These underlying assumptions shape one's understanding of the

research problem, the methodologies employed, and the interpretation of the findings (Crotty, 1998). According to Wilson (2014), there are three principal types of assumptions: epistemology, ontology, and axiology. These three categories of assumptions are further elaborated upon in the subsequent discussed.

3.3.1.1 Ontology

Ontology is defined as the philological framework that centres on our beliefs regarding existence and reality (Richards, 2003). It is concerned with the concept of “what is”, the realm of being, and the fundamental structure of reality itself (Crotty, 1998). Ontology plays a pivotal role in shaping how one perceives your research objectives and offers two primary stances, namely objectivism and subjectivism (Guba & Lincoln, 1982). Objectivism is grounded in the assumption of pure science and contends that social reality exists independently of an individual's personal experiences (Cohen *et al.*, 2011). It aligns with a realist perspective, asserting that all social entities exist autonomously, regardless of our awareness, labels, or perceptions of them (Saunders, 2019). Objectivists maintain that there is a singular, universally true social reality, unaffected by the researcher's individual experiences (Saunders, 2019). Subjectivism takes the viewpoint that social reality is constructed through the perceptions of individuals and their subsequent social behaviours (Saunders, 2019). It is influenced by the perspectives and experiences of researchers, as they adapt to and engage with their evolving understanding of reality (Cohen *et al.*, 2011).

The aim of this study was to assess the integrated and sustainability reports of South African JSE-listed food, beverage, and tobacco companies to arrive at conclusions regarding their compliance with SDGs and, specifically SDG 2 reporting. It is important to note that this study accommodated multiple potential realities, as the analysis of the reports was shaped by the researcher's personal beliefs and perceptions regarding whether the disclosure criteria were met. The researcher adopted a subjectivist stance.

3.3.1.2 Epistemology

Epistemology, as defined by Gall *et al.* (2003), is the philosophical foundation that examines the nature of knowledge and the mechanisms through which valid and verifiable knowledge is obtained. It primarily focuses on understanding the types of knowledge, how knowledge is obtained, and how it is communicated among individuals (Cohen *et al.*, 2011). Wilson (2014) posits that epistemological assumptions are integral to three distinct research paradigms: 1) positivism, 2) interpretivism, and 3) pragmatism. Positivism involves the analysis of observable realities within the social environment to generate law-like generalisations, leading to precise and

objective knowledge. This paradigm emphasises the intent to procure pure, unaltered data that remains uninfluenced by human bias, employing a scientific and empirical-based method (Saunders *et al.*, 2019). Interpretivism, in contrast, is concerned with the study of the social world inhabited by human beings, acknowledging the existence of multiple realities. It acquires knowledge through human interactions, employing a subjective perspective (Rehman & Alharthi, 2016). Pragmatism does not align with a single philosophical viewpoint (Wilson, 2014). It places the research question at the forefront and selects methods considered most suitable to achieve the deepest insights into the research objectives.

This study conducted an analysis of the integrated and sustainability reports of 12 South African JSE-listed food, beverage, and tobacco companies. Its aim was to draw conclusions regarding their compliance with SDGs and specifically SDG 2 reporting. In this process, subjective assumptions were made to assess whether the requisite disclosure criteria were satisfied. The findings were subsequently interpreted, based on the researcher's perspective, indicating that the study adopted an interpretivist approach, which inherently carries a subjective nature.

3.3.1.3 Axiology

Axiology pertains to the nature of values and ethics, focusing on what researchers deem valuable and ethically appropriate (Killam, 2013). The researchers' perspective is essential, as it enables them to express their beliefs through the manner in which they conduct their research and the choice of research methodology (Saunders, 2019). Axiology can assume one of two forms: value-free or biased (Wilson, 2014). In this study, a biased axiological stance was adopted, as the researcher's own values and ethical principles were taken into account during the analysis, interpretations, and presentation of credible results concerning the integrated reports of the 12 South African JSE-listed food, beverage, and tobacco companies.

3.3.2 Research approach

The research approach represents the second element within the Honeycomb model (Figure 3-2). According to Wilson (2014), the research approach can be categorised as either inductive or deductive. The inductive approach, as defined by Creswell and Plano Clark (2007), involves analysing collected data to discern patterns, principles, or themes. In this approach, the researcher observes and interprets data to contribute potentially to the development of new theories or insights (Wilson, 2014). The deductive approach is a more structured approach that commences with existing knowledge, hypotheses, and theories — data are then gathered to test these pre-existing theories (Creswell & Plano Clark, 2007). In this approach, the primary objective

is to gather data to investigate and potentially accept or reject an established hypothesis (Young *et al.*, 2020).

This study employed an inductive approach, which involved the development of new knowledge by identifying SDGs and SDG 2 disclosures within the integrated and sustainability reports of South African JSE-listed food, beverage, and tobacco companies. This process of inspecting the reports and drawing conclusions based on the data collected resulted in the generation of novel insights and knowledge. The study's inductive approach was particularly suited for this research, given the novelty of the study, as no similar research had been conducted previously in this specific context.

3.3.3 Research strategy

The research strategy is the third element within the Honeycomb model, encompassing two primary research components: qualitative and quantitative (Cook & Reichardt, 1979). Qualitative research focuses on understanding societal perceptions and behaviours, utilising non-numerical data to address broader research questions (Bell & Waters, 2018). This approach places an emphasis on data collection, analysis, and the observation of societal behaviours (Creswell, 2014). Saunders *et al.* (2019) characterise qualitative research as the collection of non-uniform, unstructured data through various data collection methods and analytical practices for the purpose of assessing its implications.

Quantitative research focuses primarily on measuring and analysing the relationships and generalisations between variables (Denzin & Lincoln, 2008). Bell and Waters (2018) support this by affirming that quantitative research examines the connections between factors using structured numerical data, designs, and frameworks. Saunders *et al.* (2019) characterise quantitative research as the investigation of relationships between variables, quantifying them by making use of graphs and statistics to derive information about a population. When researchers employ both qualitative and quantitative strategies within a single study, it results in a multi-strategy research approach (Tashakkori and Teddlie, 1998). This multi-strategy approach is in alignment with pragmatic research, as it does not adhere to a single paradigm. Instead, it allows researchers to select the research method they consider most appropriate for their specific research objectives (Wilson, 2014).

In this study, a qualitative research strategy was applied, involving the analysis of the annual integrated and sustainability reports of the 12 South African JSE-listed food, beverage, and tobacco companies. These reports were compared against the SDG framework criteria to assess their compliance with SDGs and, specifically SDG 2 reporting. This approach aligns with

qualitative research, as it relies on non-numerical data. Wilson (2014) elucidated the relationship between the first three elements of the Honeycomb model: 1) Research philosophy, 2) Research approach, and 3) Research strategy. The connection between these elements is illustrated in Table 3-1, and those aspects pertinent to this study have been highlighted.

Table 3-1: Relationship between research philosophy, research approach, and research strategy

Epistemology	Research approach	Ontology	Axiology	Research strategy
Positivism	Deductive	Objective	Value-free	Quantitative
Interpretivism	Inductive	Subjective	Biased	Qualitative
Pragmatism	Deductive / Inductive	Objective / Subjective	Value-free / Biased	Qualitative / Quantitative

Source: Wilson (2014)

Wilson's (2014) explanation clarifies that when the research philosophy adopts an epistemological stance of interpretivism, the associated ontological assumption tends to be subjective in nature. This aligns with an inductive research approach, as the interpretivist research philosophy underpins the subjective ontological assumption, in turn supporting the choice of an inductive qualitative research approach, which is indeed the strategy employed in this research.

3.3.4 Research design

The fourth element of the Honeycomb model is the research design, which serves as a specified plan guiding the research process to achieve its objectives (Wilson, 2014). This framework outlines how a study is conducted (Sileyew, 2019). Saunders *et al.* (2019) explain that a research design can be tailored to serve an exploratory, descriptive, evaluative purpose, or a combination of these. Explanatory research aims to establish correlations between variables by addressing "why" or "how" questions (Saunders *et al.*, 2019). Descriptive research, as noted by Wilson (2014), primarily seeks to portray current or past experiences through observation, while evaluative research places its focus on assessing the effectiveness of strategies, performances, programmes, or methods through group, period, or location comparisons (Saunders *et al.*, 2019).

The primary objective of this study was to evaluate the South African JSE-listed food, beverage, and tobacco companies' overall SDGs and SDG 2 reporting compliance. This evaluation was achieved by comparing the companies' overall SDG disclosures to the KPMG guidance criteria and the SDG 2 disclosures to the *SDGs business reporting* criteria. This research study can, therefore, be classified as evaluative in nature.

The selection of a research design for this study was primarily contingent upon its core objectives. There exists a variety of research designs to choose from, as outlined by Wilson (2014). Among the options, the following designs were deemed inapplicable to this study: Action research, case study, experimental, longitudinal, cross-sectional, and comparative designs. The growing prevalence of digitalisation in data management and the increasing adoption of open data initiatives by companies have expanded the scope for archival research strategies significantly (Saunders *et al.*, 2019).

Archival research design involves the utilisation of publicly available documents and records to conduct a study (Wilson, 2014). The data sources for this approach consist of secondary data, originally created for different purposes and existing in their original form. In this study, the archival research design was employed, with the annual integrated and sustainability reports of South African JSE-listed food, beverage, and tobacco companies serving as the data source. These reports represent secondary data, and no new data were collected explicitly for the purpose of this study.

3.3.4.1 Reliability and validity

To establish credibility in a study, it is essential to address both the reliability and validity of the research. Reliability pertains to the consistency of results provided by the study (Carmines & Zeller, 1979). Validity concerns the appropriateness of the measurement criteria employed and the accuracy of the findings (Wilson, 2014).

Conducting a pilot study contributed to the improved reliability of this research. The use of content analysis for the data analysis and recording was made more reliable by adhering to the methods proposed by Guthrie *et al.* (2004). These recommended methods consist of two essential steps: Firstly, the selection of reporting disclosures based on relevant literature, and secondly, the development of a dependable coding tool to serve as a measurement instrument. The examination of one of the sampled company's integrated reports for SDGs and SDG compliance was carried out using the *SDGs business reporting* and KPMG guidance frameworks. To ensure the reliability of the results, the supervisor assessed the findings using the same SDG framework criteria. Furthermore, to maintain consistency and bolster reliability, all of the integrated and

sustainability reports were analysed by a single individual. The validity of the measurement criteria was strengthened by providing a detailed description and rationale for the use of the KPMG and SDG business reporting frameworks in sections 2.2.1 and 2.2.2 (pages 16 and 18).

3.3.5 Data collection

In the Honeycomb model, data collection (depicted in Figure 3-2) represents the fifth element. Data, which consisted of information and facts known to the researcher, formed the basis from which conclusions and recommendations were derived. The primary purpose of collecting data was to establish an impartial foundation to support decision-making (Taylor & Cihon, 2004). Data come in two distinct types: primary and secondary data (Wilson, 2014). Primary data encompass facts and evidence collected firsthand through various data collection methods (Rabianski, 2003). It is important to note that the data obtained in this manner are unique (Wilson, 2014). The primary data collection tools, namely interviews, questionnaires, and observations, are presented in Figure 3-3:

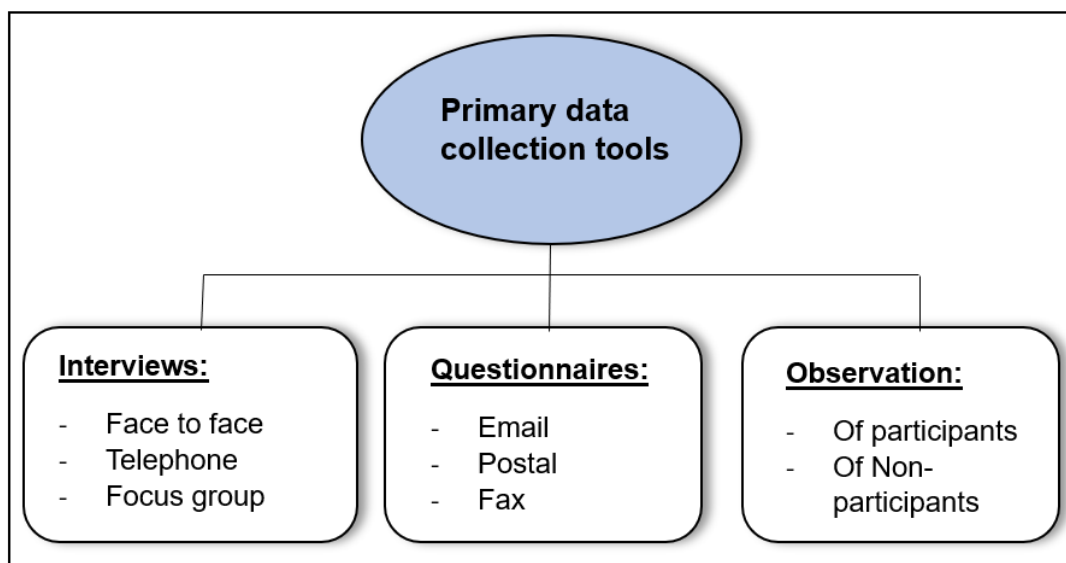


Figure 3-3: Primary data collection tools

Source: Wilson (2014)

Figure 3-3 illustrates that each data collection tool consists of various methods for gathering primary data. This study did not make use of any primary data sources.

Secondary data is described as information originally collected by other researchers for a different purpose and subsequently repurposed for a new objective (Hox & Boeijs, 2005). Documented

secondary data refers to physical or digital data that can be preserved over time and repurposed as evidence for objectives other than their initial intent (Lee, 2012).

In this research study, document secondary data were utilised. Specifically, the existing data comprised the digital integrated and sustainability reports of companies, which were used for the purpose of collecting new insights into the SDGs and SDG 2 disclosures of South African JSE-listed food, beverage, and tobacco companies. It is important to note that the document secondary data used in this study were considered raw data, as no prior processing or summarisation of the integrated reports was undertaken before their utilisation. Saunders *et al.* (2019) have provided a comprehensive list of both the advantages and disadvantages associated with the use of secondary data, which can be found in Table 3-2:

Table 3-2: Advantages and disadvantages associated with the use of secondary data

Advantages	Disadvantages
Less expensive and time consuming, as less resources are needed.	Data collected may not match the needs of researchers to fulfil their research objective.
Given that the data were previously collected, they provide an unobtrusive measure.	Access to the data may be difficult or costly.
Useful to provide comparative data.	Aggregations may not be suitable.
Analysing existing data can yield unexpected discoveries and fresh insights.	Difficult to verify the reliability of data.
Secondary data are readily and permanently available.	The initial purpose of the data may affect how the data are presented.

Source: Saunders *et al.* (2019)

The primary objective of presenting integrated reports is to enhance value creation by improving the decision making of stakeholders and elevating the overall quality of reporting (Conway, 2019). When considering the disadvantages associated with utilising secondary data as outlined in Table 3-2, it is important to note that the first disadvantage, which suggests that secondary data may not align with the researcher's needs to fulfill the research objectives, was not applicable in this case. This is because the examination of digital integrated and sustainability reports of the South-

African JSE-listed food, beverage, and tobacco companies effectively fulfilled the research objective of analysing their SDGs and SDG 2 reporting compliance. Similarly, the second disadvantage, which relates to the accessibility of data, was also not relevant. This is due to the fact that these reports are publicly available on the companies' websites, and they are accessible free of charge. JSE-listed companies are mandated to adopt and publish their integrated reports publicly (IIRC, 2021). Moreover, the primary purpose of these companies' integrated and sustainability reports, which is to enhance reporting standards, did not affect the suitability of the data for this study. These integrated and sustainability reports were utilised in their raw form, without any information processing, to evaluate the quality of SDGs and SDG 2 reporting by these companies.

3.3.5.1 Population and sampling

As explained in Chapter 1, section 1.6.1 (page 11), the population refers to the complete set of objects and entities that exhibit the characteristics of interest to the researchers (Elfil & Negida, 2017). A sample is a subset of the population chosen by the researchers to represent the entire population (Acharya *et al.*, 2013). According to Tyrer and Heyman (2016), the sampling procedure should be precise to ensure the smallest margin of bias and error. In alignment with Chapter 1, section 1.6.1., the population for this study comprised 15 JSE-listed food, beverage, and tobacco companies, as detailed in Table 3-3. These companies were further categorised into five distinct sectors: 1) Brewers, 2) farming, fishing, ranching, and plantations (FFRP), 3) food products, 4) sugar, and 5) tobacco (Business Day, 2023). The sample selected for this study encompassed 12 South African JSE-listed food, beverage, and tobacco companies. A detailed list of the companies included and excluded from the sample can be found in the third and fourth columns of Table 3-3:

Table 3-3: Population and sample of this study

JSE-listed food, beverage, and tobacco companies (population)	Departments	Company INCLUDED in the sampling	Company EXCLUDED in the sampling
All Joy Foods Proprietary Limited (AH-Vest)	Food products	Yes	
Anheuser-Busch InBev SA/NV (AB InBev)	Brewers		Yes

AVI Foods Limited (Astral)	FFRP	Yes	
Ltd (AVI)	Food products	Yes	
British American Tobacco plc (BATS)	Tobacco		Yes
Crookes Brothers Ltd (Crookes)	FFRP	Yes	
Libstar Holdings Ltd (Libstar)	Food products	Yes	
Oceana Group Ltd (Oceana)	FFRP	Yes	
qua Fishing Brands Ltd (PFB)	Food products	Yes	
Quantum Foods Holdings Ltd (Quantum)	FFRP	Yes	
RCL Foods Ltd (RCL)	FFRP	Yes	
RFG Holdings Ltd (RFG)	Food products	Yes	
Sea Harvest Corporation (Pty) Limited (Sea Harvest)	FFRP	Yes	
Tiger Brands Ltd (Tiger Brands)	Food products	Yes	
Tongaat Hulett Ltd (Tongaat Hulett)	Sugar		Yes

Source: Business day (2023)

The sample for this study excluded the following companies: AB InBev; BATS; and Tongaat Hulett. The selection criteria for inclusion focused on companies effectively managed and incorporated in South Africa. AB InBev was omitted due to its incorporation and effective management in Belgium. Similarly, BATS was excluded because it was originally founded and incorporated in America, though it maintains a subsidiary in South Africa. Tongaat Hulett was also removed from the sample as they voluntarily entered business rescue as from October 27, 2022, and therefore lacked an integrated report for the 2022 financial year (Tongaat Hulett, 2023). The remaining companies, totalling 12, constituted the sample for this study, and are all South African JSE-listed companies in the food, beverage, and tobacco sector. The study adopted the 2022

financial year-end as the sample period, since it offered the most recent financial data available, ensuring the latest SDG and SDG 2 compliance reporting for the selected companies. This approach aligns with the methodology employed by other researchers who also selected the most recent financial year available as their sampling period in studies on SDG compliance within specific industries, such as oil and gas (Arena *et al.*, 2022) and the metal industry (Hatayama, 2022). The main objective of the study was to assess the specific SDG and SDG 2 compliance reporting within the food, beverage, and tobacco industry.

3.3.6 Data analysis techniques

In the Honeycomb model, the final element is data analysis techniques (Figure 3-2). The significance of a well-structured and meaningful data analysis cannot be overstated when aiming to produce high-quality research (Saunders *et al.*, 2019). As noted by Taylor and Cihon (2004), data analysis techniques encompass the various methods used to analyse data — transforming it into valuable information that facilitates informed decision making.

Studies focused on evaluating the substance of companies' reporting often employ content analysis as a method for gathering empirical data (Guthrie *et al.*, 2004). Content analysis is a systematic and scientific approach to examine data and communication (Stemler, 2000). This method not only aids in identifying patterns within the data, but also facilitates the interpretation of results, allowing researchers to delve into the context and structure of the analysed data (Merton & Kendall, 1949). Content analysis entails the categorisation of both qualitative and quantitative data into predefined categories, with the objective of revealing commonalities in how data are reported and presented (Guthrie *et al.*, 2004).

In Wilson's (2014) work, three key advantages of content analysis are identified:

1. Ease of implementation — it is a relatively straightforward method to employ.
2. Non-intrusive data collection — researcher can analyse data without actively participating in or altering the data collection process.
3. Insights into meaning of communication — it provides valuable insights into how meaning is conveyed through language.

Previous studies have employed content analysis as a research technique to assess SDG reporting (Erin & Bamigboye, 2021; Hatayama, 2022; Ionaşcu *et al.*, 2020; Lodhia *et al.*, 2022).

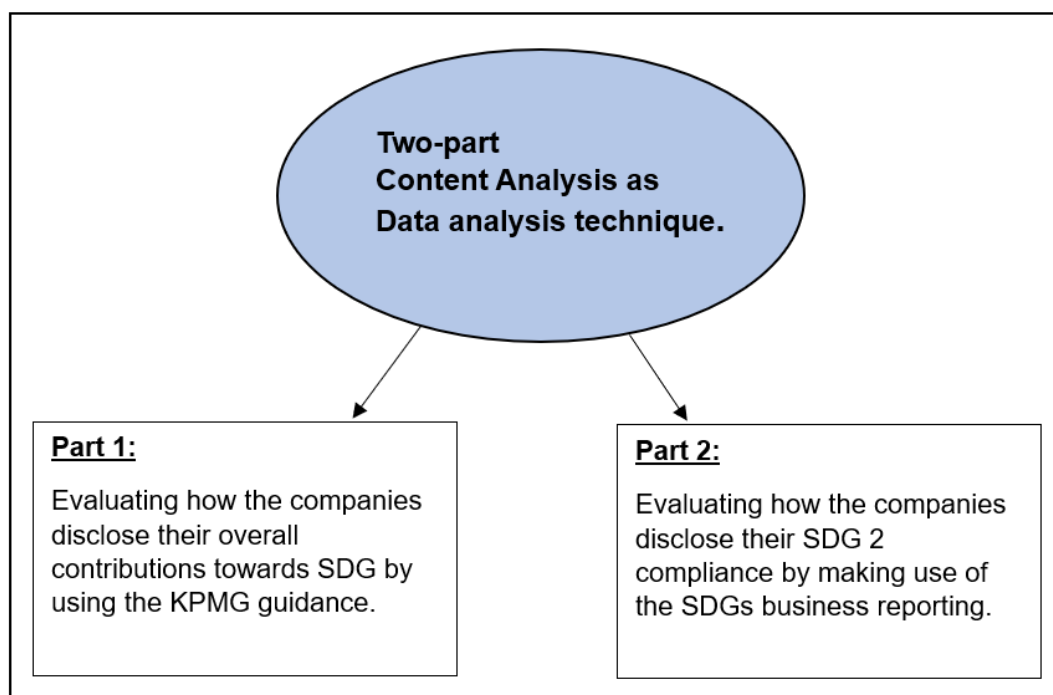


Figure 3-4: Two-part content analysis adopted

This study utilised a two-part content analysis technique illustrated in Figure 3-4. Each part is discussed in the following section.

3.3.6.1 Part 1: Assessing the overall SDG reporting compliance by making use of the KPMG guidance

In Part 1, a content analysis was employed to assess the overall SDG compliance reporting of South African JSE-listed food, beverage, and tobacco companies. The evaluation was carried out by making use of the KPMG guidance (see Chapter 2, section 2.2.1). To gather the necessary data, the annual integrated reports and corresponding sustainability reports for the 2022 financial year from the 12 South African JSE-listed food, beverage, and tobacco companies were acquired directly from the companies' websites.

The nine criteria presented in Table 2-1 of the KPMG guidance have been categorised into three distinct parts: understanding, prioritisation, and measurement, as listed in the first column of Table 3-4. To facilitate the evaluation of each company's overall SDG reporting compliance, nine evaluation questions were formulated. Each of these questions corresponds to one of the nine criteria, and their creation was guided by the explanations provided for the KPMG guidance criteria (KPMG, 2018:3) These nine evaluation questions are detailed in Table 3-4. It is important to note that the primary objective of this evaluation process was to determine the overall SDG reporting compliance of the companies, rather than assessing the quality of their SDG reporting.

The evaluation of reporting quality has been identified as a potential area for future research (as discussed in Chapter 5 section 1.7).

Table 3-4: KPMG guidance criteria and evaluation questions

	Criteria	Evaluation question
Understanding	1. Does the reporting demonstrate the business case for taking action on the SDGs?	Did the reporting carefully examine the SDG business risks and opportunities?
	2. Does the CEO and/or Chair's message talk about the SDGs?	Did the CEO or Chair's message talk about their commitment to SDGs as part of their long-term strategy?
	3. Does the reporting assess the business's impact on SDGs?	Did the reporting communicate their positive and negative impacts on SDGs – "contributing to global problems, as well as helping to solve them"?
Prioritisation	4. Does the reporting identify priority SDGs for the company?	Did the company identify specific SDGs that are most relevant to the company and its stakeholders?
	5. Does the reporting explain the methodology the company used to prioritise the SDGs?	Did the company communicate the applicable method they use to identify and prioritise the most relevant SDG?
	6. Does the reporting identify specific SDG targets that are relevant to the business?	Did the reporting disclose which of the 169 UN SDG targets are most relevant to the company?
Measurement	7. Does the reporting disclose SDG performance goals for the company?	Did the company set specific performance targets to evaluate their contribution towards each of the relevant SDGs?
	8. Does the reporting set SDG performance goals that are SMART?	Did the company set performance targets that are SMART (specific, measurable, achievable, relevant, and time-bound)?
	9. Does the reporting detail the indicators the company is using to measure the progress of its SDG activities?	Did the company describe indicators to enable the company to report on its SDG performance by measuring its progress against key performance indicators (KPIs)?

Source: KPMG (2018)

The nine evaluation questions derived from the KPMG guidance served as a framework for assessing the overall SDG disclosures made by the respective companies. To conduct this assessment, a thorough review of the integrated and sustainability reports was carried out. The determination of compliance was based on whether the reports specifically addressed the SDG

requirements outlined in the respective guidance documents. Notably, references to environmental, social, and corporate governance (ESG) were not taken into consideration during the evaluation.

The evaluation of the integrated and sustainability reports was performed by applying the questions presented in Table 3-4. When an evaluation question yielded an affirmative response, a score of “1” was assigned to that criterion. Conversely, if the answer to the question was negative, a score of “0” was assigned. As an example, for “Understanding” criterion 2 (as outlined in Table 3-4): “Does the CEO and/or Chair’s message talk about the SDGs?” — if the Chair or CEO message demonstrated a commitment to the SDGs within their long-term strategy, a score of “1” was granted; if not, a score of “0” was assigned.

To assess overall SDG compliance reporting, the obtained scores were recorded in a Microsoft Excel spreadsheet. These scores were then used to calculate an overall score, which was subsequently converted into a percentage (%). This allowed the researcher to draw conclusions regarding the companies’ overall SDG compliance reporting performance. Additionally, an in-depth analysis of the integrated and sustainability reports was conducted to determine which SDGs were most frequently addressed by the South African food, beverage, and tobacco companies. For this purpose, another Microsoft Excel spreadsheet was utilised. A score of “1” was assigned if a specific SDG, such as SDG 1 – No Poverty, was addressed in the respective reports. A score of “0” was assigned if the report did not discuss that particular SDG. This process was carried out for each of the 17 SDGs, and the results were used to calculate percentages (%). The analysis of these results revealed which SDGs were most and least frequently addressed by these companies.

Furthermore, as detailed in section 3.3.4.1 (page 38), a pilot test was conducted to evaluate the SDG reporting against the nine evaluation questions. The results of this pilot test were reviewed by the supervisor, and the comparison demonstrated their accuracy and reliability.

3.3.6.2 Part 2: Assessing compliance with SDG 2 – Zero Hunger through *SDGs business reporting guidance*

Part 2 of the empirical study involved conducting a content analysis to assess the reporting compliance of South African JSE-listed food, beverage, and tobacco companies regarding SDG 2. This assessment was carried out using the *SDGs business reporting guidance* as the measuring instrument. SDG 2 encompasses eight specific targets (United Nations, 2023b):

1. Target 2.1 – Achieving universal access to safe and nutritious food.
2. Target 2.2 – Eradicating all forms of malnutrition.

3. Target 2.3 – Doubling the productivity and incomes of small-scale food producers.
4. Target 2.4 – Promoting sustainable food production and resilient agricultural practices.
5. Target 2.5 – Maintaining genetic diversity in food production.
6. Target 2.6 – Investing in rural infrastructure, agricultural research technology, and gene banks.
7. Target 2.7 – Preventing agricultural trade restrictions, market distortions, and export subsidies.
8. Target 2.8 – Ensuring stable food commodity markets and timely access to information.

The main objective of SDG 2 is to achieve food security, enhance nutrition, and ultimately eradicate hunger. Within this study, the focus was specifically on targets 2.1 through 2.4. Targets 2.1 and 2.2 were selected for inclusion in the study because their primary objectives align with ensuring access to an adequate and nutritious food supply and eliminating malnutrition. Moreover, targets 2.3 and 2.4 were included in this research study, because they are relevant to the core objectives of most of the companies. These companies are primarily engaged in manufacturing or production activities rather than being focused on distribution or primary agriculture (Table 3-5):

Table 3-5: South African JSE-listed food, beverage, and tobacco companies' core objectives

Company	Manufactures / Producers – core objective	Distributor – core objective	Agriculture – core objective
Astral	Yes – poultry producers	No	No
Crookes	Yes – agriculture producers	No	Yes
Oceana	Yes – processing seafood	Yes – distributing seafood products	No
Premier	Yes – processing seafood	Yes – distributing seafood products	No
Quantum	Yes – animal feeds, eggs, and poultry products	No	No
RCL	Yes – food manufacturer	No	No
Sea Harvest	Yes – frozen/chilled seafood products	No	No
AVI	Yes – consumer goods	Yes – consumer goods	No
AH-Vest	Yes – food manufacturer	No	No

Libstar	Yes – manufacturers of food products	Yes – food, beverages, and personal care items	No
RFG	Yes – convenience meals	Yes – Convenience meals	No
Tiger Brands	Yes – consumer goods	Yes – consumer goods	No

The *SDGs business reporting* guidance includes a total of 124 ‘available business disclosures’ related to targets 2.1 through 2.4. For the purpose of this study, these available business disclosures were specifically filtered to extract information relevant to the sector and industry under investigation. Disclosures pertaining to the food, beverage, and tobacco industry were chosen, as the study primarily examined SDG 2 reporting compliance within this sector. To refine this selection, ‘available business disclosures’ from the following industry categories were incorporated into the *SDGs business reporting* criteria: agriculture products; food retailers and distributors; meat, poultry, and dairy; and processed foods. Alcoholic beverage; non-alcoholic beverage; and restaurant industries were excluded from the *SDGs business reporting* criteria. This exclusion was made based on the fact that none of the companies evaluated in this study were within these specific industries.

The relevant ‘available business disclosures’ for the business themes were acquired by extracting them from their corresponding SASB Standards sources, as outlined in Table 3-6. To ensure the uniqueness of the criteria, any duplicate disclosures related to SDG 2’s targets 2.1 through 2.4 were eliminated. The business disclosures, as originally published in the SASB Standards sources, served as the foundation for creating 40 evaluation question criteria (Table 3-6). Similar to the approach described in Part 1 of the empirical analysis (see section 3.3.6.1), these questions were then employed to assess the South African JSE-listed food, beverage, and tobacco companies’ compliance with SDG 2 reporting. It is important to note that the focus of this assessment was on reporting compliance, not the quality of the disclosures presented. For instance, SASB Standards include the business theme ‘customer welfare’ and the ‘available business disclosure’ related to product health and nutrition, specifying the disclosure criteria as “The entity shall discuss its process to identify and manage products and ingredients related to nutritional and health concerns among consumers” (SASB Standards, 2023). This disclosure criterion was used to create evaluation question criterion two: “Did the entity discuss its process to identify and manage products and ingredients related to nutritional and health concerns among consumers?”.

Table 3-6: SDGs business reporting guidance evaluation criteria

Business theme	Available business disclosure	Source		Evaluation question criteria
Customer welfare	Product health & nutrition	SASB FB-FR-260a SASB FB-NB-260a SASB FB-PF-260a	1	Did the entity disclose the total revenue from the sales of its products that are labelled and/or marketed to promote health and nutrition attributes?
			2	Did the entity discuss its process to identify and manage products and ingredients related to nutritional and health concerns among consumers?
Product quality and safety	Food safety	SASB FB-AG-250a SASB FB-FR-250a SASB FB-MP-250a SASB FB-PF-250a	3	Did the entity disclose the rate of high-risk food safety violations?
			4	Did the entity disclose the total amount, in metric tons, of food products subject to recalls?
			5	Did the entity disclose the number of units of food products that were subject to food safety-related recalls it issued?
			6	Did the entity disclose the percentage of units of food products that were subject to food safety-related recalls that were private-label products?
			7	Did the entity disclose whether its facilities' faced non-conformance to Global Food Safety Initiative's (GFSI) recognised food safety certification programmes for major non-conformances, and separately for minor non-conformances?
Product quality and safety	Food safety	SASB FB-AG-250a SASB FB-FR-250a SASB FB-MP-250a SASB FB-PF-250a	8	Did the entity disclose the percentage of its supplier facilities that are certified to Global Food Safety Initiative's (GFSI) recognised certification programme?
			9	Did the entity disclose the percentage of animal production that received medically important antibiotics, by animal type (e.g., pork, beef, chicken, or turkey)?
			10	Did the entity disclose the percentage of animal production that did not receive medically important antibiotics, by animal type?
Ecosystem quality and biodiversity			11	Did the entity disclose the proportion of land assessed as facing soil erosion, reduction in soil fertility, salinisation of irrigated lands, or waterlogging in the total agriculture land as well as sea-based equivalent?

			12	Did the entity disclose the volume and intensity (as a proportion of the total cropland area owned, leased, and managed by the entity) of fertilizers used by the entity during the reporting period, by fertilizer nutrients?
			13	Did the entity disclose the volume and intensity (as a proportion of the total cropland area owned, leased, and managed by the entity) of pesticides used by the entity during the reporting period, by hazard level?
Supply chain management	Environmental & social impacts of ingredients supply chain	SASB FB-AG-430a SASB FB-AB-430a	14	Did the entity disclose the percentage of agricultural products it sourced that are certified to a third-party environmental and/or social standard?
			15	Did the entity disclose its supplier facilities' non-conformance rate with external social and environmental audit standard(s) or internally developed supplier code(s) of conduct for major non-conformances, and separately, for minor non-conformances?
Supply chain management	Management of environmental & social impacts in the supply chain	SASB FB-FR-430a SASB FB-PF-430a	16	Did the entity disclose its revenue from products third-party certified to an environmental or social sustainability standard?
			17	Did the entity disclose the percentage of revenue from eggs that originated from a cage-free environment?
			18	Did the entity disclose the percentage of revenue from pork produced without the use of gestation crates?
			19	Did the entity discuss its strategic approach to managing its environmental and social risks present within, or which may arise out of, its food and food products supply chain?
			20	Did the entity discuss its strategies to reduce the environmental impact of packaging, such as optimising packaging weight and volume for a given application, or using alternative materials, including those that are renewable, recycled, recyclable, or compostable?
Supply chain management	Environmental & social impacts of animal supply chain	SASB FB-MP-430a	21	Did the entity disclose the percentage of livestock sourced from suppliers that manage pasture and grazing land to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) conservation plan criteria or equivalent criteria?

			22	Did the entity disclose the percentage of its supplier facilities that have been verified to be operating in accordance with animal welfare standard(s)?
Ecological impacts	Land use & ecological impacts	SASB FB-MP-160a	23	Did the entity disclose the amount of animal litter and manure generated, the percentage managed according to a nutrient management plan in metric tons?
			24	Did the entity disclose the percentage of pasture and grazing land managed to Natural Resources Conservation Service (NRCS) conservation plan criteria in percentage by hectares?
			25	Did the entity disclose the animal protein production from concentrated animal feeding operations (CAFOs) in metric tons (t)?
Energy management	Energy management	SASB FB-AG-130a SASB FB-MP-130a SASB FB-PF-130a	26	Did the entity disclose the total amount of energy it consumed as an aggregate figure in gigajoules (GJ)?
			27	Did the entity disclose the percentage of energy it consumed that was supplied from grid electricity?
			28	Did the entity disclose the percentage of energy it consumed that was renewable energy?
	Greenhouse gas emissions	SASB FB-AG-110a SASB FB-MP-110a	29	Did the entity disclose the total amount of fuel consumed by its fleet vehicles as an aggregate figure in gigajoules (GJ)?
			30	Did the entity disclose the percentage of the total amount of fuel consumed by its fleet vehicles that is a renewable fuel?
			31	Did the entity disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHGs covered under the Kyoto Protocol — carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF ₆), and nitrogen trifluoride (NF ₃)?
			32	Did the entity discuss its long-term and short-term strategy or plan to manage its Scope 1 greenhouse gas (GHG) emissions and an analysis of performance against those targets?
Materials sourcing and efficiency	Ingredient sourcing	SASB FB-AG-440a SASB FB-MP-440a SASB FB-PF-440a	33	Did the entity provide an identification of principal crops and description of risks and opportunities presented by climate change?

			34	Did the entity disclose the percentage of agricultural products sourced from regions with high or extremely high baseline water stress?
			35	Did the entity provide a list of priority food ingredients and a discussion of sourcing risks related to environmental and social considerations?
			36	Did the entity disclose the percentage of food ingredients sourced that are certified to a third-party environmental or social standard?
Water and wastewater management	Water management	SASB FB-AG-140a SASB FB-MP-140a SASB FB-PF-140a	37	Did the entity disclose the amount of water, in thousands of cubic meters, withdrawn from all sources?
			38	Did the entity disclose the amount of water, in thousands of cubic meters, consumed in its operations?
			39	Did the entity describe its water management risks associated with water withdrawals, water consumption, and discharge of water or wastewater?
			40	Did the entity disclose the total number of incidents of non-compliance, including violations of a technology-based standard and exceedances of quantity or quality-based standards?

The 2022 financial year integrated, and sustainability reports of 12 South African JSE-listed food, beverage, and tobacco companies were thoroughly examined, as described in Part 1 (see section 3.3.6.1). To gauge their compliance with the 40 *SDGs business reporting* criteria, the evaluation question criteria outlined in Table 3-6 were employed as the measurement instrument. For each evaluation criterion question, a score of “1” was assigned if the answer was affirmative, while a score of “0” was assigned for a negative response. The study adhered to a stringent decision rule, awarding a score of “1” only when the entire set of *SDGs business reporting* criteria was fully met, and a score of “0” if it was only partially fulfilled. For instance, consider evaluation criterion 31 (Table 3-6), which asks, “Did the entity disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHGs covered under the Kyoto Protocol — carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), and nitrogen trifluoride (NF₃)?” If a company disclosed only the total GHG emissions or solely Scope 2 GHG emissions without including Scope 1 emissions, a score of “0” was assigned.

The individual scores were meticulously entered into a Microsoft Excel spreadsheet, and subsequently, these scores were aggregated to compute the total score. An overall percentage (%) for each company and criterion was then calculated to facilitate an assessment of the SDG 2 reporting compliance of the South African JSE-listed food, beverage, and tobacco companies that were part of the study. Prior to embarking on the empirical study detailed in Part 2, a pilot study was conducted involving one of the selected companies. The supervisor conducted a thorough review of the results, confirming their accuracy and reliability.

3.4 Summary

Chapter 3 serve the purpose of addressing the secondary empirical objective of analysing the overall SDG and SDG 2 reporting compliance of the South African JSE-listed food, beverage, and tobacco companies in conjunction with Chapter 4 to follow. The research methodology in this chapter was presented by using Wilson's (2014) Honeycomb of Research Methodology, which consists out of six key elements.

The chapter began by delving into the fundamental aspects of research methodology. It was established that research methodology serves as the foundation for the research process, encompassing the choice of methods, and the design of the research. Within this study, an interpretive epistemological approach was adopted, aligning with a subjective ontological perspective and a biased axiological viewpoint. The approach to reasoning was inductive, and the research strategy implemented was qualitative in nature.

This study employed an evaluative research design, specifically adopting an archival design approach. The research relied on existing public integrated and sustainability reports, without the collection of new data. Documented secondary data sources were used in the form of integrated and sustainability reports, which were systematically assessed to gauge the extent of the companies' overall compliance with SDG and SDG 2 reporting. Chapter 3 not only outlined the particulars but also provided the rationale behind the selection of the 12 South African JSE-listed food, beverage, and tobacco companies that constituted the study's sample.

The final section of this chapter focused on the data analysis methods, which involved a two-part content analysis. The first part explained the process of evaluating the overall SDG reporting compliance, with reference to the KPMG guidance. It also outlined the nine criteria evaluation questions from the KPMG guidance that were employed for assessing the overall SDG reporting. The second part presented the framework used for evaluating the companies' compliance with SDG 2 reporting, in accordance with the *SDGs business reporting* guidance. Additionally, it

detailed the approach for determining the 40 evaluation criteria as part of the second phase of the data analysis.

Chapter 4 provides an in-depth presentation of the findings derived from the gathered data. This presentation is structured as a two-part empirical study, aimed at fulfilling the first empirical secondary objective through the use of the KPMG guidance and addressing the secondary empirical objective via the application of the *SDGs business reporting* guidance.

CHAPTER 4

4 RESULTS AND FINDINGS

4.1 Introduction

The purpose of this chapter, in conjunction with Chapter 3, is to address the empirical secondary objectives outlined in Chapter 1 (section 1.3.2.2). These objectives involve the evaluation of South African JSE-listed food, beverage, and tobacco companies' compliance with overall SDG reporting using KPMG guidance, and an analysis of their SDG 2 reporting compliance following the *SDGs business reporting* guidance. In this chapter, the results of the empirical study on the integrated and sustainability reports of South African JSE-listed food, beverage, and tobacco companies are presented. These results formed the basis for drawing conclusions regarding their overall SDG and SDG 2 reporting compliance. In the final section, the overarching findings are summarised.

The layout of Chapter 4 is presented in Figure 4-1:

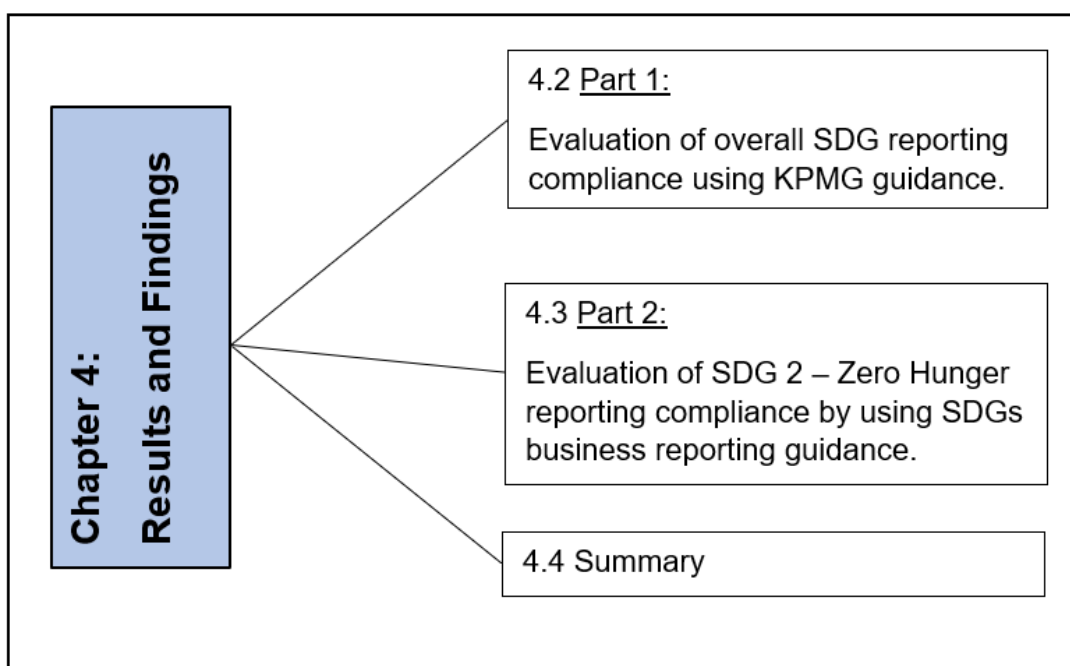


Figure 4-1: Chapter 4 layout

The fourth chapter commences by presenting the results and findings from the first part of the empirical study, which involved assessing the overall compliance with SDG reporting using KPMG guidance. Subsequently, the results and findings concerning the evaluation of SDG 2 reporting

compliance, utilising the *SDGs business reporting* guidance, are presented. In closing, this chapter wraps up with a concise summary.

4.2 Part 1: Evaluation of overall SDG reporting compliance using KPMG guidance

In Part 1 of this chapter, the researcher delves into the results and findings relating to the comprehensive assessment of SDG compliance among 12 South African JSE-listed food, beverage, and tobacco companies for the financial year 2022, using the KPMG guidance as framework.

The layout of Part 1 is presented in Figure 4-2:

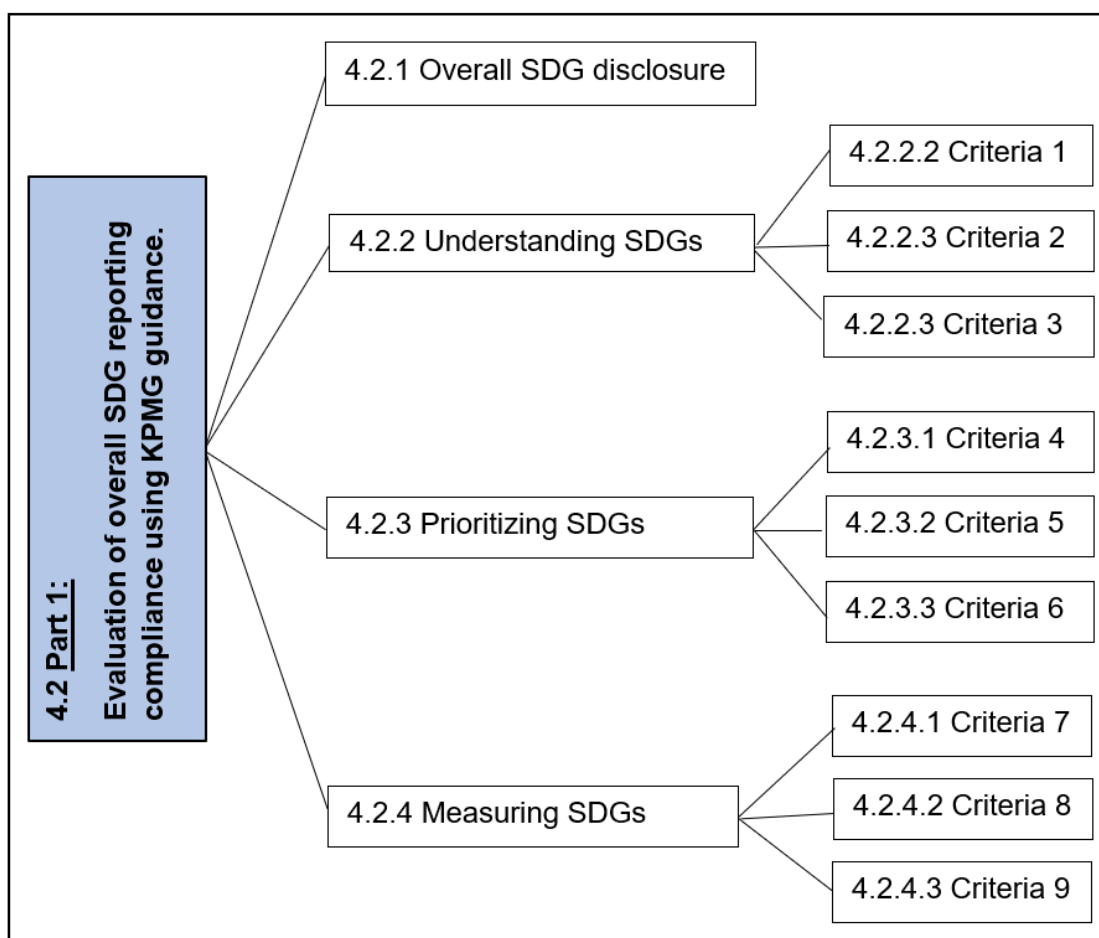


Figure 4-2: Layout of Part 1 – evaluation of overall SDG reporting compliance using KPMG guidance

In Part 1, the results and findings of overall SDG disclosure are examined. This section encompasses a comprehensive analysis of SDG reporting, employing the 2018 KPMG guidance. The discussion is organised into three distinct disclosure elements: understanding, prioritising,

and measuring. Within each of these elements, the results and findings for the three associated criteria are presented, as outlined in Table 2-1.

4.2.1 Overall SDG disclosure

In this section, the overall SDG reporting compliance of the 12 South African JSE-listed food, beverage, and tobacco companies is examined, using the KPMG guidance as a framework. The results are based on data from the latest financial year, 2022, and encompass the collective SDG disclosures of these 12 sampled companies. The analysis revealed that all 12 companies (100%) disclosed information concerning their commitment to corporate social responsibility (CSR) or sustainability commitments, as detailed in Appendix 3. This suggests that the South African food, beverage, and tobacco industry recognises its crucial role in environmental stewardship. This recognition is demonstrated by a high level of commitment to sustainability and related matters, which are essential for long-term value creation.

Excerpts from the integrated reports of the sampled companies for the year 2022 are cited, with anonymisation in accordance with the ethical clearance specified in Chapter 1.7. These quotations serve as prime illustrations of the unwavering commitment of South African food, beverage, and tobacco companies to champion and confront sustainability-related concerns. FB2 affirms:

“On 10 August 2022, the Board established an ESG Committee as part of the Group’s governance structure. The ESG Committee’ purpose is to support FB2’s ongoing commitment to sustainability, with specific emphasis on environmental stewardship, corporate governance and accountable social engagement. Long-term business sustainability is about doing all that is necessary to sustain a well-governed, well-managed and financially stable business in the short to medium term. FB2 therefore continues to keep its carbon footprint to a minimum. The Group also launched/ continued to maintain new projects aimed at sustainable water and power supply.” (FB2, 2022:13)

FB10 emphasises its commitment to sustainable business practices:

“FB10 is committed to sustainable business and responsible environmental, social and governance practices, which are essential in creating and sustaining long-term value.” (FB10, 2022:44)

The assessment of overall SDG reporting compliance for the 12 South African JSE-listed food, beverage, and tobacco companies has revealed that they have met 46 out of the total 108 KPMG criteria, as detailed in Appendix 3. This signifies that their integrated and sustainability reports

encompassed 42.59% of the criteria stipulated by KPMG for SDG and SDG-related matters. This outcome points to a relatively low to moderate level of overall SDG reporting among the sampled South African JSE-listed food, beverage, and tobacco companies, indicating a deficiency in driving SDG initiatives within the food, beverage, and tobacco industry. It aligns with the findings of Lodhia *et al.* (2022), suggesting that while these companies acknowledge their role in addressing sustainability, they may not fully grasp the significant role they play in realising the goals of the 2030 Agenda for sustainable development.

The results of the Part 1 empirical study also underline the most relevant SDGs within the South African food, beverage, and tobacco industry. These findings are displayed in Table 4-1. The numbers highlighted within the bold, two-stiped frame represent the top two most disclosed SDGs, while the numbers lined with zigzags indicate the two least disclosed SDGs.

Table 4-1: SDGs disclosed by the South African JSE-listed food, beverage, and tobacco industry

SDG disclosed	No. of companies	%
None of the SDGs addressed	2	16.67%
SDG 1 – No Poverty	6	50.00%
SDG 2 – Zero Hunger	8	66.67%
SDG 3 – Good Health and Well-being	7	58.33%
SDG 4 – Quality Education	5	41.67%
SDG 5 – Gender Equality	7	58.33%
SDG 6 – Clean Water and Sanitation	5	41.67%
SDG 7 – Affordable and Clean Energy	4	33.33%
SDG 8 – Decent Work and Economic Growth	9	75.00%
SDG 9 – Industry, Innovation, and Infrastructure	4	33.33%
SDG 10 – Reduced Inequalities	6	50.00%
SDG 11 – Sustainable Cities and Communities	3	25.00%
SDG 12 – Responsible Consumption and Production	7	58.33%
SDG 13 – Climate Action	5	41.67%
SDG 14 – Life Below Water	3	25.00%
SDG 15 – Life on Land	3	25.00%
SDG 16 – Peace, Justice, and Strong Institutions	1	8.33%
SDG 17 – Partnerships for the Goals	2	16.67%

In the South African food, beverage, and tobacco industry, SDG 8 – Decent Work and Economic Growth received the most attention, with 9 out of 12 companies (75%) addressing it. This indicates that a significant focus of these companies lies in promoting sustainable economic development,

ensuring effective employment, and providing dignified work environments for all. SDG 2 – Zero Hunger was addressed by 8 out of 12 companies (66.67%), highlighting their acknowledgment of their role in combating hunger, achieving food security, and supporting sustainable agriculture.

Conversely, SDG 16 – Peace, Justice, and Strong Institutions, and SDG 17 – Partnerships for the Goals were the least disclosed by the sampled JSE-listed companies. Only 1 out of 12 companies (8.33%) disclosed SDG 16, and 2 out of 12 companies (16.67%) disclosed SDG 17. This could suggest a lack of commitment within the South African food, beverage, and tobacco industry to promote justice, peace, and accountability for all individuals, as well as revitalising their engagement in achieving the 2030 Agenda for sustainable development.

Moreover, this study found that 2 out of 12 companies (16.67%), as shown in Table 4-1, did not mention or disclose SDGs in their integrated or sustainability reports. While reporting on SDGs is currently voluntary, this finding raises concerns about a potential lack of responsibility in contributing to the success of the 2030 Agenda for sustainable development. This may be attributed to the fact that SDGs are not mandatory requirement for JSE listing.

Part 1 of the empirical analysis utilised three key elements established by the KPMG guidance in 2018: understanding, prioritisation, and measurement. These elements encompass the nine criteria detailed in Table 2-1. Table 4-2 provides a breakdown of the number of companies that addressed each of these elements:

Table 4-2: Number of companies addressing the three key elements of KPMG guidance

Element addressed	No. of companies	%
None of the 9 criteria addressed	2	16.67%
Understanding	10	83.33%
Prioritisation	9	75%
Measurement	8	66.67%

Out of the 12 companies, two (16.67%) did not address any of the elements in their integrated and sustainability reports. However, 10 out of the 12 companies (83.33%) demonstrated a clear understanding of SDGs. Moreover, a total of 9 out of the 12 companies (75%) detailed their approaches to prioritising SDGs and 8 out of the 12 companies (66.67%) addressed the methods they employ to measure their SDG performance. These results indicate that the South African food, beverage, and tobacco industry places more emphasis on understanding and acknowledging their commitment to SDGs than on prioritising these goals and measuring their progress. These findings are consistent with the observations made by Lohdia *et al.* (2022), who also noted that companies tend to prioritise understanding and acknowledging SDGs over

measuring their achievements. The detailed results and findings of the overall SDG reporting compliance of South African food, beverage, and tobacco are discussed in relation to each of these three key elements in the following section.

4.2.2 Understanding SDGs

Understanding the significance of SDGs forms the foundation for effective SDG reporting (KPMG, 2018). According to the KPMG (2018) guidance, “understanding” SDGs involves demonstrating the business case for taking action to achieve them, incorporating SDGs into top management messages, and assessing the positive and negative impacts on SDGs. Table 4-3 provides an overview of the number of companies addressing these criteria related to understanding SDGs.

The evaluation uncovered that 4 out of the 12 companies (33.33%) addressed the business case for engaging with SDGs. This number increased to 7 out of the 12 companies (58.33%) where the CEO or chair mentioned SDGs in their messages. Additionally, 6 out of the 12 companies communicated how their operations impact SDGs. Further examination revealed that only 2 out of the 12 companies addressed all three criteria of “Understanding SDGs”. These findings suggest that while companies acknowledge their general commitment to SDGs, they may not have delved into the finer details concerning the risks and opportunities associated with these goals.

Table 4-3: Number of companies addressing the “understanding” element

Elements	Criteria no.	Evaluation question	No. companies	%
Understanding	1	Did the reporting carefully examine the SDG business risks and/or opportunities?	4	33.33%
	2	Did the CEO or chair's messages talk about their commitment to SDGs as part of their long-term strategy?	7	58.33%
	3	Did the reporting communicate their positive and/or negative impacts on SDGs — "contributing to global problems, as well as helping to solve them"?	6	50.00%

The results for each of the criteria elements are discussed separately. This element encompasses criteria 1, 2, and 3.

4.2.2.1 Criterion 1: Did the reporting carefully examine the SDG business risks and/or opportunities?

This study unveiled that a relatively small portion of the South African food, beverage, and tobacco companies (33.33%) communicated their business case for engaging with SDGs. These companies integrated SDGs into their strategies, yet they did not provide an in-depth identification of the associated risks and opportunities. An illustration of a company disclosing their “business case for taking action on SDGs” is:

“Challenges: As we work towards achieving the UN SDGs, it is important to acknowledge that one of the key objectives is to promote sustainable consumption and production patterns. This presents the Group with a significant challenge, as we strive to balance the growing demands of our customers with the need to maintain sustainable production practices. Opportunities: We promote our products as healthy and environmentally sustainable and contributing to the well-being of our customers and the planet. Our commitment to these principles is aligned with the UN SDGs of good health and well-being, as well as life below water.” (FB11, 2022:65)

A significant number of companies discussed the opportunities linked to SDGs but failed to address corresponding risks and challenges, resulting in a somewhat one-sided presentation of their business case for SDGs. For instance:

“FB10 can have a material impact on specific SDGs through innovation and new markets, by looking at the evolving priorities of current and future customers with a view to improving societal impact.” (FB10, 2022:1)

The business cases presented by these companies for SDGs lack clear delineation and do not align seamlessly with their long-term strategies. This misalignment potentially leads to missed opportunities for companies, especially as consumers increasingly prioritise environmental consciousness.

4.2.2.2 Criterion 2: Did the CEO or chair's messages talk about their commitment to SDGs as part of their long-term strategy?

This criterion emphasises the commitment of leaders to incorporate SDGs as an integral component of their long-term value creation vision (KPMG, 2018). The findings revealed a moderate commitment from leadership to address SDGs, with 58.33% indicating a modest level of top-management interest in achieving SDGs. Companies communicated their commitment to aligning SDGs with their long-term actions by disclosing:

“We will also focus on aligning our key initiatives with the UN Sustainable Development Goals in the coming year.” (FB5, 2022:2)

“The board and management believe that encouraging progress has been made on sustainability issues. However, as the risks posed by climate change, socio-economic challenges and political instability have become more apparent, the importance of further incorporating SDGs into the business has been highlighted.” (FB10, 2022:1)

The fact that the CEO or directors of the South African food, beverage, and tobacco companies did not address SDGs in their communications (41.67%) could raise questions about the commitment of top leadership to SDGs, potentially undermining their credibility. This perspective was assessed through the implementation of legitimacy theory (Chapter 1.1.4), as it is expected that companies report on their SDG compliance to align their operations with societal norms and values aimed at improving their social, environmental, and sustainability practises. Companies should ensure, therefore, that their top management is more extensively involved in embedding SDGs within their long-term strategies.

4.2.2.3 Criterion 3: Did the reporting communicate their positive and negative impacts on SDGs — “contributing to global problems, as well as helping to solve them”?

To enhance the credibility of both their financial and non-financial reports, companies should adopt transparency by revealing how they influence SDGs, including both their positive and negative impacts (KPMG, 2018). Among the sampled South African food, beverage, and tobacco companies, a moderate number, 50%, disclosed their impact on SDGs. However, the reporting on these impacts was skewed, as the majority of companies emphasised their positive contributions to SDGs while neglecting their negative contributions. For example:

“2022 Achievement for priority SDG 2, SDG 3, and SDG 17 are R76 million spent on marketing health and nutrition products and ± 50% of our portfolio meets EWLW nutritional standards for healthier product categories “improved-for-you” and “good-for-you”. (FB12, 2022:14)

Nonetheless, only a limited number of companies proffered insights into their negative impacts on SDGs, and even when they did, the explanations were often generic in nature. For instance:

“Africa’s natural resources are precious, and we want to preserve and allow the regeneration of these as far as possible. This includes understanding and minimising any negative social and environmental impacts of products and services within our value chain. According to our responsible investment code, we will: take appropriate actions to

mitigate environmental risks, ameliorate environmental damage, and enhance positive effects by working overtime to apply the relevant International Finance Corporation policies and guidelines, with appropriate targets and timetables for improvements.” (FB8, 2022:58)

Only a small fraction of the companies openly acknowledged their adverse effects on SDGs, as illustrated by:

“The Group saw an overall increase in the number of injuries reported during the year, largely as a result of the inclusion of incidents from newly acquired businesses. The Group’s disabling injury frequency rate was slightly above our target of zero at 0.05 for the year. Regrettably, we had one fatality, where an employee slipped during the process of launching a net during fishing operations. We extend our condolences to the family and loved ones.” (FB11, 2022:106)

The next element of the KPMG guidance that is discussed is “prioritising”.

4.2.3 Prioritising SDGs

Prioritising SDGs is of the utmost importance, as it serves as a roadmap for addressing global challenges, such as poverty, hunger, and inequality. Not all 17 SDGs are equally relevant to the food, beverage, and tobacco industry, so identifying and prioritising the pertinent SDGs are crucial for effective action. Table 4-4 provides an overview of the number of companies that have identified and prioritised the relevant SDGs along with their corresponding SDG targets:

Table 4-4: Number of companies addressing the “prioritising” element

Elements	Criteria no.	Evaluation question	No. companies	%
Prioritising	4	Did the company identify specific SDGs that are most relevant to the company and its stakeholders?	9	75.00%
	5	Did the company communicate the applicable method they use to identify and prioritise the most relevant SDG?	2	16.67%
	6	Did the reporting disclose which of the 169 UN SDG targets are most relevant to the company?	3	25.00%

Nine out of the twelve companies (75%) identified the SDGs that are most relevant to their operations. However, only 2 out of the 12 companies (16.67%) provided information about the

methodology they used to determine the most relevant SDGs. Additionally, 4 out of the 12 companies (33.33%) reported their prioritised SDG targets. Disturbingly, only 1 out of the 12 companies (8.33%) disclosed all three criteria for “Prioritising SDGs”, which is a cause for concern. This singular instance may indicate a lack of commitment to prioritise SDGs in their long-term strategy and a lack of understanding of the KPMG guidelines provided to evaluate their SDG contributions.

In summary, the findings revealed that while the majority of the sampled food, beverage, and tobacco companies do prioritise SDGs, their reporting often may lack transparency regarding the methods employed to identify these SDGs. This element covers criteria 4, 5, and 6.

4.2.3.1 Criterion 4: Did the company identify specific SDGs that are most relevant to the company and its stakeholders?

The majority of companies (75%) demonstrated their commitment by identifying the SDGs that are pertinent to their operations. This indicates their commitment to take action and contribute substantially to the achievement of these relevant SDGs. The following excerpts from the companies’ integrated or sustainability reports showcase their commitment to identifying these significant SDGs:

“FB7 has identified several of these goals as being pertinent and is actively engaged in implementing them. They are GOAL 1: No Poverty, GOAL 2: Zero Hunger, GOAL 3: Good Health and Well-being, GOAL 4: Quality Education, GOAL 5: Gender Equality, GOAL 8: Decent Work and Economic Growth, GOAL 9: Industry, Innovation, and Infrastructure, GOAL 10: Reduced Inequality, GOAL 11: Sustainable Cities and Communities, GOAL 12: Responsible Consumption and Production and GOAL 14: Life Below Water. Of all the UN SDGs, this resonates the most. We support in its entirety that “conservation and sustainably protecting our oceans and marine resources is essential. The achievement of this is by reducing marine pollution, protecting, and restoring our eco-systems, ending illegal fishing and over-fishing by utilising science-based management plans to restore fish stocks and repair the oceans.” (FB7, 2022:22)

“We are committed to playing our role, as a private sector company, in the attainment of the following five United Nations Sustainable Development Goals (UN SDGs) that we have prioritised, working alongside government, communities and other businesses, namely SDG 14, SDG 8, SDG 2, SDG 1 and SDG 3.” (FB6, 2022:7)

The nine companies, as referenced in Table 4-4, which identifies the SDGs most relevant to their operations, have positioned themselves to allocate their resources in the most efficient and effective manner.

4.2.3.2 Criterion 5: Did the company communicate the applicable method they use to identify and prioritise the most relevant SDG?

Only a small fraction of the companies (16.67%) have disclosed their methodology to identify and rank the most pertinent SDGs for their business operations. Among the South African food, beverage, and tobacco companies, the predominant methodologies used for this evaluation encompass: 1) Addressing the procedures related to value creation; 2) analysing ESG-related risks; 3) evaluating the interests of material stakeholders; and 4) employing global reporting frameworks, such as the JSE guidance. One disclosed methodology entails:

“First, we considered developments in terms of global reporting frameworks and standards, including new JSE guidance for sustainability and climate disclosures. Second, we reviewed the findings from the ESG audit, our risk register (in terms of ESG and our value chain) as well as other stakeholder input received during the year. Third, in a working session we identified the core UN SDGs where the business can have most impact. We identified targets and future priorities. Fourth, the reporting team proposed an integrated report structure to the Board, including recommended reporting on UN SDGs and TCFD. The Board approved the direction and intent.” (FB8, 2022:49)

The findings showed that most of the companies primarily identify priority SDGs without providing detailed insights into the methodology employed during the identification process. This lack of transparency undermines the credibility of the identified relevant SDGs.

4.2.3.3 Criterion 6: Did the reporting disclose which of the 169 UN SDG targets are most relevant to the company?

A mere 25% of the companies disclose the SDG targets that hold the most relevance for their operations. These findings raise concerns about the commitment of these companies to achieve their prioritised SDGs, especially when no specific SDG targets have been identified. As an illustration, one company that has identified relevant SDG targets:

“FB10’s corporate social investments support SDG target 2.1 which aims to end hunger and ensure access by all people to safe, nutritious and sufficient food all year round. The support FB10 provides to the various programmes also supports SDG target 17.H which encourages effective partnerships.” (FB10, 2022:12)

4.2.4 Measurement of SDGs

The KPMG guidance highlights the significance of measuring SDGs as the third essential component. Establishing methods for assessing their SDG contributions is crucial for companies, as it transforms their commitment into concrete, quantifiable, and attainable goals (KPMG, 2018). In contrast to the KPMG (2018) study's findings, the results revealed that the majority of companies (66.67%) did meet at least one of the three measurement criteria, thereby indicating their efforts to measure their contributions to SDGs in various ways.

Table 4-5 presents data on the number of companies that assessed their SDG performance based on specific criteria. Among the 12 companies surveyed, 8 out of 12 (66.67%) established performance targets aimed at contributing to SDGs. However, only 4 out of 12 (33.3%) set performance targets that adhere to the SMART criteria, which stands for specific, measurable, achievable, relevant, and time-bound. A total of 25% (3 out of 12 companies) integrated their SDG contributions into their key performance indicators (KPIs). The results revealed that a significant portion of the sampled companies disclosed measurement criteria for addressing ESG concerns but did not translate these goals into measurable actions for SDGs. The study also revealed that 25% (3 out of 12 companies) successfully addressed all three criteria within the “measurement of SDGs” framework. Overall, the findings underscore that South African food, beverage, and tobacco companies are indeed measuring their contributions to SDGs by establishing performance targets. However, there remains a gap in ensuring that these goals are SMART and linked to purpose-designed KPIs.

Table 4-5: Number of companies addressing the “measurement” element

Elements	Criteria no.	Evaluation question	No. companies	%
Measurement	7	Did the company set specific performance targets to evaluate their contribution toward each of the relevant SDGs?	8	66.67%
	8	Did the company set performance targets that are SMART (specific, measurable, achievable, relevant, and time-bound)?	4	33.33%
	9	Did the company describe indicators to enable the company to report on its SDG performance by measuring its progress against key performance indicators (KPIs)?	3	25.00%

This element covers criteria 7, 8, and 9.

4.2.4.1 Criterion 7: Did the company set specific performance targets to evaluate their contribution toward each of the relevant SDGs?

Establishing performance measures to work toward the achievement of SDGs serves multiple purposes, including enhancing resource allocation, promoting accountability, and motivating progress by offering clear guidance on how these goals can be realised. Notably, 66.67% of the companies have implemented performance targets to contribute actively to the attainment of their relevant SDGs. This indicates that these companies are not just identifying SDGs but are proactively planning and working toward their achievement. An example of such performance targets set to achieve SDGs is provided in the following quote:

“2030 targets to achieve priority SDG 1, 5, 8, 10 and 17 is: Invest in 20 sustainable community enterprises, support 1 000 black enterprises, create 4 000 jobs, generate ESD fund of R400 million through partnerships, prioritise local/regional sourcing of agricultural raw materials, have employment diversity of 50% female representation and 80% African, Coloured and Indian (ACI) representation across all management levels.” (FB12, 2022:15)

4.2.4.2 Criterion 8: Did the company set performance targets that are SMART (specific, measurable, achievable, relevant, and time-bound)?

Establishing SMART (specific, measurable, achievable, relevant, and time-bound) performance goals is instrumental in enabling companies to monitor, measure, and persuasively communicate their contributions to SDGs in a methodical manner. However, only a minority of the companies (33.33%) have implemented SMART performance goals. An illustrative example of a SMART performance target can be located in the integrated report of one of the sampled companies:

“FB10’s water efforts support SDG target 12.5 which aims to substantially reduce waste generation through prevention, reduction, recycling and reuse by 2030. The waste management metric: achieve 0.01 tons of waste generated/ton of production: Measures the amount of waste sent to landfill, for every ton of production, by 2025.” (FB10, 2022: 71, 72)

The goals mentioned above satisfy all five SMART criteria. They specify the metric for waste management, with the amount of waste sent to landfills measured. This company can, therefore, attain the SDG 12.5 goal, which aims to decrease waste generation significantly through prevention, reduction, recycling, and reuse by 2030, thanks to the existing waste recycling metrics. These goals have a time-bound aspect, with a requirement to accomplish them by 2025. Moreover, they hold relevance for the company, given its waste generation during production

processes and its commitment to adhere to SDG 12, which advocates responsible consumption and production.

FB6 (2022) developed SMART roadmap (Figure 4-3) designed to address their GHG emissions, and make a meaningful contribution to mitigate climate change and combating global warming:

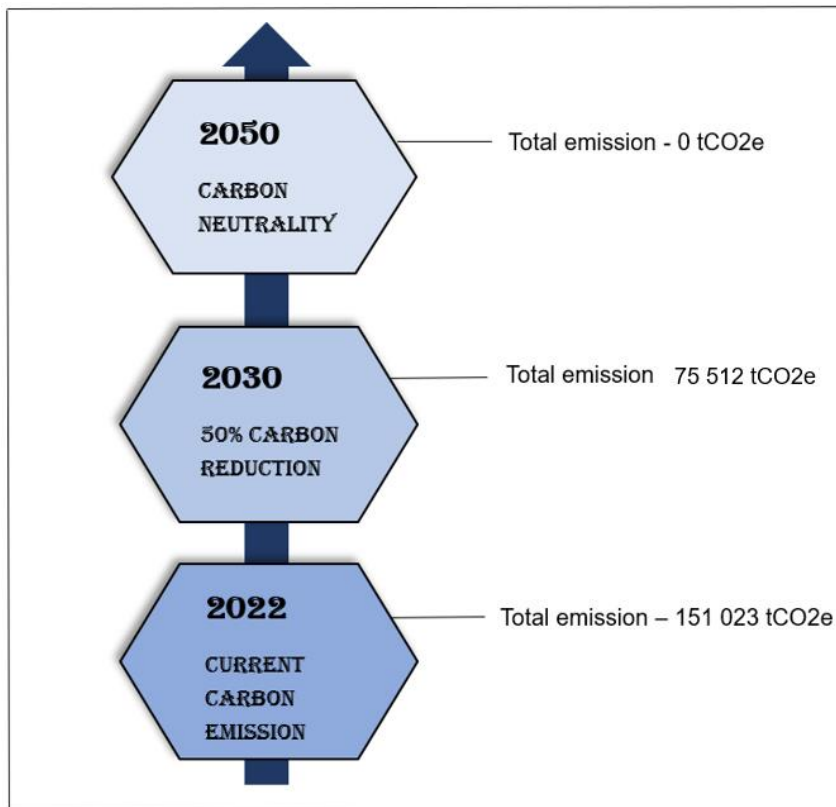


Figure 4-3: SMART SDG performance target set by South African food, beverage, and tobacco company

Source: FB6 (2022:8)

This roadmap exhibits specificity by clearly outlining its target, which is the reduction of GHG emissions, and measuring progress in tCO₂e. This goal is realistically attainable, with FB6 aiming to reduce 50% of its GHG emissions by 2030 in pursuit of carbon neutrality by 2050. Moreover, it holds relevance by addressing the management of GHG emissions generated during the company's operations, aligning with SDG 13 – Climate Action. It is also time-bound, as the objective of achieving carbon neutrality is set for 2050.

When companies establish overly broad performance targets, it becomes exceedingly challenging to assess and measure their contributions to the SDGs.

4.2.4.3 Criterion 9: Did the company describe indicators to enable the company to report on its SDG performance by measuring its progress against key performance indicators (KPIs)?

While most of the sampled South African food, beverage, and tobacco companies recognise the SDGs relevant to their operations and impact, only a limited number of the companies provide KPIs to measure their progress quantitatively toward achieving these goals effectively. FB10 highlighted, for example:

“Understanding that food production and agriculture is natural resource intensive, and that environmental factors such as climate change put our natural resources under stress, the group has implemented reduction targets under four key environmental performance areas (KPAs). The KPAs are aligned to five of the SDGs which the group has identified as priorities: SDG 6 – Clean water and sanitation, SDG 7 – Affordable and clean energy, SDG 12 - Responsible consumption and production, SDG 13 – Climate action and SDG 15 – Life on land. The KPAs identified are: 1. Waste management 2. Water consumption 3. Energy consumption 4. Air emissions management. Overall group reduction targets for each KPA have been set for 2025 and data capture and processing systems have been established to monitor the group’s environmental performance and progress on the target.” (FB10, 2022: 2)

Some of the companies do utilise existing sustainability frameworks to report on their sustainability performance, they do not explicitly connect this reporting to their performance in relation to the SDGs, for example:

“The Sustainability Reporting Guidelines developed by the Global Reporting Initiative (GRI), the recommendations of King IV, as well as the criteria of the Sustainability Reporting Index (SRI) of the JSE Limited, have been used to compile this sustainability report.” (FB9, 2022:2)

The findings underscore the importance of giving greater attention to the establishment of KPI's as a means to enhance the measurement of overall SDG performance. This approach is crucial for effective SDG management, and for fostering continual improvements in SDG performance.

This marks the conclusion of the first part of the empirical analysis. The second part unveils the outcomes of the evaluation of SDG 2 – Zero Hunger.

4.3 Part 2: Evaluation of reporting compliance regarding SDG 2 – Zero Hunger by using SDGs business reporting guidance

In the second part of the empirical study, the results and findings of the evaluation conducted on the reporting compliance of the 12 sampled South African JSE-listed food, beverage, and tobacco companies for the financial year 2022, with respect to SDG 2 – Zero Hunger, are presented. This assessment was carried out using *SDGs business reporting guidance*.

The structure of Part 2 is depicted in Figure 4-4:

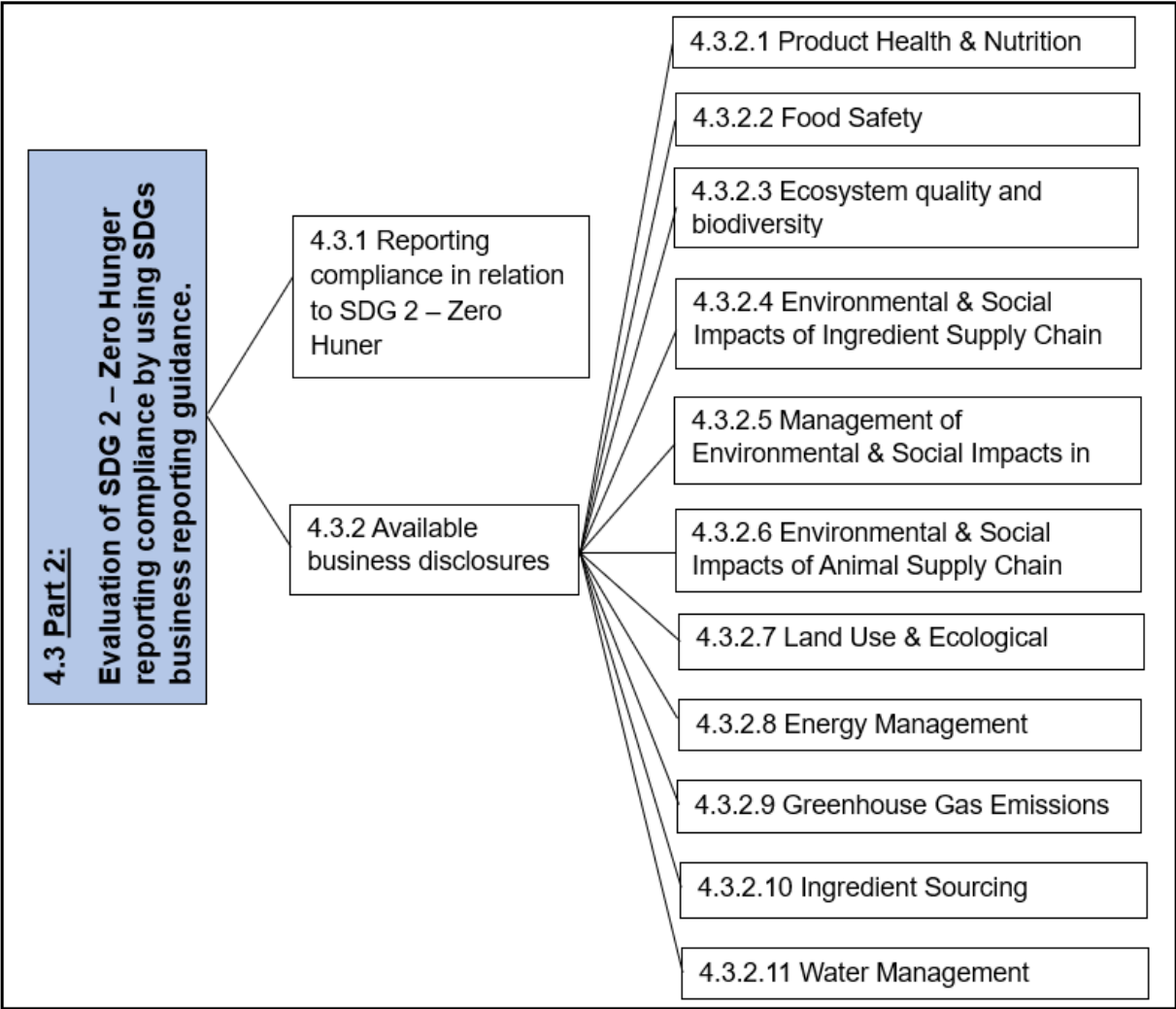


Figure 4-4: Structure of Part 2: Evaluation of reporting compliance regarding SDG 2 – Zero Hunger using *SDGs business reporting guidance*

Part 2 commences with an overview of the comprehensive reporting compliance of the sampled South African food, beverage, and tobacco companies in relation to SDG 2. Subsequently, it

delves into a detailed discussion of the compliance with each criterion within the 11 “available business disclosures” outlined in Chapter 3.

4.3.1 Reporting compliance in relation to SDG 2 – Zero Hunger

Reporting on SDG 2 holds immense significance as it emphasises a company’s commitment to world without hunger and malnutrition. The results of the empirical analysis of the integrated and sustainability reports of the 12 South African food, beverage, and tobacco companies revealed that collectively the 12 companies only achieved 141 out of the 480 *SDGs business reporting* criteria (as detailed in Appendix 4). This indicates that merely 29.38% of these companies addressed their impacts on SDG 2 in their 2022 reporting. This low level of SDG 2 reporting among the sampled JSE-listed food, beverage, and tobacco companies suggests a disappointing level of commitment toward achieving universal access to safe food by 2030. This is particularly concerning given South Africa’s prominent role in contributing to food security in the African continent, owing to its agricultural experience and capabilities (USAID, 2023). The findings emphasise the need for South African food, beverage, and tobacco companies to place greater emphasis on disclosing their efforts to reduce malnutrition and provide nutritious food through their operational practices.

4.3.2 Available business disclosures

The *SDGs business reporting* guidance outlines criteria for SDG 2, which are categorised into 11 “available business disclosures” as presented in Table 3-6. For the evaluation of South African food, beverage, and tobacco companies’ SDG 2 reporting compliance, only the business disclosures relevant to this sector were taken into consideration.

Table 4-6 provides a breakdown of the number of companies that addressed each of these 11 “available business disclosures”.

Table 4-6: Number of companies that addressed each of the 11 “available business disclosures”

Available business disclosure addressed	No. of companies	%
Product Health and Nutrition	4	33.33%
Food Safety	7	58.33%
Ecosystem Quality and Biodiversity	0	0.00%
Environmental and Social Impacts of Ingredient Supply Chain	8	66.67%
Management of Environmental and Social Impacts in the Supply Chain	9	75.00%

Environmental and Social Impacts of Animal Supply Chain	3	25.00%
Land Use and Ecological Impacts	3	25.00%
Energy Management	9	75.00%
Greenhouse Gas Emissions	10	83.33%
Ingredient Sourcing	11	91.67%
Water Management	11	91.67%

Among the 12 companies evaluated, the level of disclosure regarding their contributions to various aspects of SDG 2 varied significantly: 1) Product health and nutritional information — 4 out of the 12 companies (33.33%) disclosed their contributions in this area; 2) Food safety— 7 out of the 12 companies (58.33%) addressed these aspects in their integrated and sustainability reports; 3) Environmental, and social impacts of their ingredient supply chain 8 out of the 12 companies (66.67%) disclosed their contributions in this field 4) Ecosystem quality and biodiversity — none of the 12 companies provided any information relating to this category; 5) Management of environmental and social impacts in the supply chain and energy management — 9 out of the 12 companies (75%) discussed these areas; 6) Land usage and ecological impacts, and social impacts in the animal supply chain — only 3 out of the 12 companies (25%) addressed these aspects; 7) GHG emissions – 10 out of the 12 companies (83.22%) reported on their GHG emissions in their integrated and sustainability reports 8) Ingredient sourcing and water management — a significant majority, 11 out of 12 companies (91.67%), discussed their approaches in these areas.

The notable emphasis on managing energy and water usage and sourcing ingredients from environmentally or socially certified suppliers is positive. However, the limited attention given to the environmental management of the animal supply chain and land and ecological impacts raises concerns, as it may indicate a lack of commitment to animal welfare standards and the sustainability of resources for future generations. The low contributions regarding product health and nutrition are also concerning, particularly given that SDG 2 aims to ensure access to healthy and nutritious food for all individuals, which is a fundamental expectation from the food industry.

The results and findings of the South African food, beverage, and tobacco industry were examined individually under each of the 11 “available business disclosures”, as listed in Table 4-6.

4.3.2.1 Product health and nutrition

The significance of product health and nutrition cannot be overstated, as it not only guarantees customer well-being but also plays a crucial role in fostering a healthier society. Table 4-7

provides an overview of the number of companies that disclosed their contributions to product health and nutrition. This particular business disclosure encompasses two criteria (1 and 2).

Table 4-7: Number of companies meeting the “Product Health and Nutrition” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Product Health and Nutrition	1	Did the entity disclose the total revenue from the sales of its products that are labelled and/or marketed to promote health and nutrition attributes?	3	25.00%
	2	Did the entity discuss its process to identify and manage products and ingredients related to nutritional and health concerns among consumers?	4	33.33%

Several of the companies claimed that their products have nutritional value, but they did not disclose the revenue generated from these sales (Criterion 1). For instance:

“Lucky Star products provided over 4 million affordable nutritional meals.” (FB6, 2022:15)

Out of the 12 companies, only 3 (25%) revealed their total revenue from sales of products marketed for health and nutrition. An extracted quote from one of the companies that disclosed their revenue is provided:

“We spent R76 million on marketing healthier products (10.2% of our total marketing spend), and generated revenues in excess of R500 million from our health and nutrition focused innovation launches in the fiscal.” (FB12, 2022:7)

The findings exposed a deficiency in transparency and specificity regarding the revenue generated from products marketed as healthy and nutritious. It is imperative to prioritise the development of healthy and nutritious products, and diligently document the details related to these nutritional offerings.

Out of the 12 companies, 4 (33.33%) provided information on how they identify and manage products with health and nutritional concerns among their customers (Criterion 2). For example:

“Food safety is of utmost importance to ensure the safety of the consumer. The contamination or spoiling of foods, nutritional concerns and concerns relating to health, is a liability to the well-being of the consumer and a risk to the business’ reputation. How is FB2 mitigating the risk or managing the material matter? Increased monitoring and testing.

Enhanced cleaning programmes. All processing facilities FSSC22 000 certified. Traceability/product recall exercises. Regular audits performed by independent risk consultants, customers and independent standards authorities and hygiene awareness programme.” (FB2, 2022:36)

The relatively low disclosure rate of 33.33% is a cause for concern, as it may be interpreted as a lack of attentiveness to customers’ health and nutritional concerns, as these concerns are not adequately addressed and mitigated. The food, beverage, and tobacco industry should place greater emphasis on addressing and resolving the health and nutritional concerns of consumers to promote a healthy society and maintain the industry’s reputation.

4.3.2.2 Food safety

Addressing and reporting on food safety is crucial as it safeguards the well-being of society and plays a pivotal role in mitigating food insecurity. Table 4-8 outlines the number of companies that have disclosed their contributions in the context of food safety:

Table 4-8: Number of companies meeting the “Food Safety” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Food Safety	3	Did the entity disclose the rate of high-risk food safety violations?	0	0.00%
	4	Did the entity disclose the total amount, in metric tons, of food products subject to recalls?	0	0.00%
	5	Did the entity disclose the number of units of food products that were subject to food safety-related recalls it issued?	2	16.67%
	6	Did the entity disclose the percentage of units of food products that were subject to food safety-related recalls that were private-label products?	0	0.00%
	7	Did the entity disclose whether its facilities' faced non-conformance to Global Food Safety Initiative's (GFSI) recognised food safety certification programmes for major non-conformances, and separately for minor non-conformances?	2	16.67%
	8	Did the entity disclose the percentage of its supplier facilities that are certified to the Global Food Safety Initiative (GFSI) that is a recognised certification programme?	7	58.33%
	9	Did the entity disclose the percentage of animal production that received medically important antibiotics, by animal type (e.g., pork, beef, chicken, or turkey)?	0	0.00%

	10	Did the entity disclose the percentage of animal production that did not receive medically important antibiotics by animal type?	0	0.00%
--	----	--	---	-------

This business disclosure comprises eight criteria (3 to 10). None of the South African food, beverage, and tobacco companies included in the sample disclosed the extent of high-risk food safety violations (Criterion 3). This outcome suggests a potential lack of transparency regarding food safety violations within these companies. Interestingly, the companies did provide information on the number of precautionary product recalls but failed to address recalls related to their food products (Criterion 4). For example:

“Once-off costs related to the precautionary recall of certain baby powder products amounted to R16 million, and largely comprise the cost of the affected stock that has been written off, as well as the logistics costs of the recall.” (FB12, 2022:61)

Furthermore, no other company in the sample disclosed the total amounts of food, measured metric tons, that were subject to recall, nor did they disclose the percentage of food recalls attributed to private-labelled products (Criterion 6).

Out of the 12 companies, only 2 (16.67%) provided information about the number of units recalled concerning their food products. The following are extracted quotes from companies that disclosed the quantity of food recalled in unit metrics:

“FB8 Foods experienced zero product recalls during 2022 (FY2021:0).” (FB8, 2022:60)

“The total number of public recalls for 2022 was equal to 1.” (FB12, 2022:51)

This outcome underscores the significant dearth of disclosures regarding food recalls. It is imperative for companies to prioritise the provision of information pertaining to food recalls, as it signifies transparency in their public health operations, allows companies to assume responsibility for their products, and facilitates the establishment of measures to mitigate recalls through the enhancement of food safety policies.

The Global Food Safety Initiative (GFSI) is a private organisation comprised of food safety experts, with its primary mission being to guarantee that food companies manufacture safe food products for consumers (Safe Food Alliance, 2023). Only 2 out of the 12 companies (16,67%) provided disclosure about whether they had any non-compliance with GFSI-recognised certification programmes (Criterion 7), which is notably low. An example of a company disclosing

whether they faced any non-conformances to GFSI food safety certificate requirements is as follows:

“All international canned products and ingredient suppliers certified to a Global Food Safety Initiative (“GFSI”) recognised standard (such as FSSC 22 000), which experiences zero incidences of critical non-conformance.” (FB6, 2022:37)

Regarding Criterion 8, 7 out of the 12 (58.33%) companies reported the number of provider facilities possess GFSI certification. The GFSI certificate programme, for instance, ensures food safety, mitigates the risk of product recalls, and provides certainty regarding the quality of food produced (World Trade Organization, 2023), for example:

“All our manufacturing units are certified to the Global Food Safety System Certification 22000 (FSSC 22000) standard, which is recognised by the Global Food Safety Initiative (GFSI). This excludes three manufacturing units which are currently on Hazard Analysis and Critical Control Points (HACCP) certification and will progress to FSSC 22000 certification by mid-2023. All suppliers are required to have food safety certification, preferably a certification recognised by the Global Food Safety Initiative (GFSI), such as FSSC 22000, British Retail Consortium (BRC) Global Standards, International Featured Standard (IFS) and Safe Quality Food (SQF) Programme. Hazard Analysis and Critical Control Points (HACCP) certification is also conditionally accepted as a minimum.” (FB12, 2022:50)

The presence of South African food, beverage, and tobacco companies with suppliers registered in a GFSI certificate programme lends credibility to the quality of their food production. This heightened commitment to food safety reduces the incidence of food-borne illnesses, ensuring higher-quality products.

None of the 12 companies disclosed the percentage of animal production receiving medically important antibiotics, by animal type (Criterion 9), and not receiving medically essential antibiotics (Criterion 10). Companies solely addressed antibiotic usage without establishing a connection to either medical or non-medical practices, as exemplified here:

“Antibiotics are used under strict veterinary supervision for prevention, control and treatment of specific conditions in order to reduce stress, pain and suffering of the birds.” (FB2, 2022:54)

This emphasises the deficiency in disclosure concerning the utilisation of antibiotics in animal products, hindering customers from making informed decisions about their purchase choices. The

overall dearth of disclosure in the realm of food safety is concerning, especially given the growing demand from stakeholders for food and beverage companies to ensure the production and provision of safe food. The South African food, beverage, and tobacco companies should prioritise enhanced disclosure regarding the quality of their food products.

4.3.2.3 Ecosystem quality and biodiversity

Safeguarding life on Earth, mitigating GHG emissions, and ensuring access to clean water are paramount for well-being of future generations (Association of Caribbean States, 2023). Regrettably, none of the surveyed JSE-listed food, beverage, and tobacco companies addressed Criterion 11, 12, or 13. These companies failed to furnish any disclosures regarding factors, such as soil erosion, soil fertility, the usage of fertilisers in 2022, or the volume of pesticides employed during the financial year 2022. This suggests a notable lack of commitment to ecosystem and biodiversity preservation within the South African food and beverage sector.

4.3.2.4 Environmental and social impacts of ingredient supply chain

The identification and disclosure of environmental issues within the supply chain are pivotal, as they enable the appropriate addressing of issues that can adversely affect a company's stakeholders and the environment (Wolf & Seuring, 2010). This, in turn, ensures the long-term sustainability of both the environment and society. Table 4-9 presents the count of companies that disclosed their contributions concerning the environmental and social impacts of their ingredient supply chain:

Table 4-9: Count of companies meeting the “Environmental and Social Impacts of Ingredient Supply Chain” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Environmental and Social Impacts of Ingredient Supply Chain	14	Did the entity disclose the percentage of agricultural products it sourced that are certified to a third-party environmental and/or social standard?	1	8.33%
	15	Did the entity disclose its supplier facilities' non-conformance rate with external social and environmental audit standard(s) or internally developed supplier code(s) of conduct for major non-conformances, and separately, for minor non-conformances?	7	58.33%

Just 1 of the 12 companies (8.33%) disclosed the proportion of agricultural products obtained from sources adhering to an environmental or social standard certificate (Criterion 14). This company's disclosure revealed:

"Our preferred suppliers Cargill, Guan Chong, Barry Callebaut and Olam have programmes in place to lift farmers out of poverty, eradicate child labour, become carbon and forest positive, and source sustainable ingredients. All our suppliers are members of the International Cocoa Organization (ICCO), Fairtrade and the Supplier Ethical Data Exchange (Sedex) and are audited on a regular basis by these bodies to ensure compliance." (FB12, 2022:54)

A notable majority of the companies, specifically 7 out of 12 (58.33%), furnished information regarding non-conformance to external social or environmental audit standards at their supplier facilities (Criterion 15). This indicates a commendable level of transparency, and a strong commitment to environmental and social stewardship among the sampled companies, particularly in their utilisation of environmentally friendly ingredients in production. Examples of these disclosures include:

"The social and ethics committee is of the view that the Group takes its environmental, social and governance responsibilities seriously. No substantive non-compliance with legislation and regulation or non-adherence with codes of best practice, relevant to the areas within the Committee's mandate, has been brought to its attention and the Committee has no reason to believe that any such non-compliance has occurred." (FB1, 2022:26)

"In 2022, we have remained in full compliance with national regulations requiring the labelling and declaration of certain ingredients, additives, and allergens, and we continue to ensure that we practise responsible marketing in regard to children. We maintain full adherence to the on-pack nutrition labelling requirements of our Eat Well Live Well (EWLW) and Be-Nutrient-Wise initiatives. All products in our portfolio have Guideline Daily Amounts (GDAs) and/or the Be Nutrient Wise/Eat Well Live Well stamp-of-approval on-pack." (FB3, 2022:65)

Complied with all environmental, health and safety regulations. (FB7, 2022:63)

These findings suggest that the food, beverage, and tobacco industry in South Africa is committed in harmonising their operations with social and environmental standards, with a shared goal of ensuring the sustainability of our planet and communities.

4.3.2.5 Management of environmental and social impacts in the supply chain

Effectively managing the environmental and social impacts of a company's operations is essential for safeguarding the natural habitat, preserving public health by reducing pollution, and conserving our biodiversity. Table 4-10 provides information on the number of companies that have demonstrated compliance with managing the environmental and social effects arising from their supply chain. Criteria 16 to 20 are integral components of this comprehensive business disclosure.

Table 4-10: Number of companies meeting the “Management of Environmental and Social Impacts in the Supply Chain” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Management of Environmental and Social Impacts in the Supply Chain	16	Did the entity disclose its revenue from products third-party certified to an environmental or social sustainability standard?	6	50.00%
	17	Did the entity disclose the percentage of revenue from eggs that originated from a cage-free environment?	0	0.00%
	18	Did the entity disclose the percentage of revenue from pork produced without the use of gestation crates?	0	0.00%
	19	Did the entity discuss its strategic approach to managing its environmental and social risks present within, or which may arise out of, its food and food products supply chain?	9	75.00%
	20	Did the entity discuss its strategies to reduce the environmental impact of packaging, such as optimising packaging, weight, and volume for a given application, or using alternative materials, including those that are renewable, recycled, recyclable, or compostable?	5	41.67%

Half of the 12 companies, specifically 6 (50%), disclosed the amount of revenue generated from manufactured goods developed certified to environmental and/or social measures (Criterion 16), for example:

“Maintained MSC certification for Gulf menhaden and hake, and MarinTrust (formally IFFO-RS) certified accreditation for 100% of fishmeal and fish oil operations, producing revenue of R1 945 817 000.” (FB6, 2022:90,100)

One of the companies disclosed the following information:

“Free-range eggs are produced on two of our farms. Eggs are transferred to the egg business segment for supply to the market.” (FB8, 2022:9)

Regrettably, none of the South African food, beverage, and tobacco companies provided any disclosure regarding the total revenue generated from their production of free-range eggs (Criterion 17).

It is worth noting that one of the South African food, beverage, and tobacco companies disclosed a percentage of revenue generated from pork that is gestation crate-free (Criterion 18). However, this disclosure appears misleading, as none of these companies are involved in the production of pork-related products or engage in pork-related farming activities.

A significant majority of the companies, specifically 9 out of the 12 (75%), provided disclosures outlining their procedures for managing the environmental and social risks associated with their food supply chain (Criterion 19). These results reflect the South African food, beverage, and tobacco industry’s commitment to adhere to environmental laws and regulations, while also ensuring long-term environmental sustainability for future generations. An excerpt from a company’s disclosure addressing Criterion 19 reads as follows:

“Strict biosecurity measures are in place at all broiler farming facilities to mitigate the risk of outbreaks of highly pathogenic avian influenza (“HPAI”) and other poultry diseases.” (FB11, 2022:9)

A relatively low number of companies, specifically 5 out of 12 (41.67%), disclosed their strategies to mitigate the environmental impact of their packaging by incorporating renewable, recyclable, compostable, or recycled materials (Criterion 20). These findings indicate a potential shortfall in the utilisation and promotion of more sustainable packaging materials to minimise GHG emissions and satisfy environmentally conscious. An example of a company that does disclose their tactics in this regard follows:

“In the case of plastic packaging, we are committed to keeping this resource within the circular economy by ensuring that the plastics we use are 100% recyclable, 70% of our plastics packaging is actually recycled, and 30% of our packaging consists of post-consumer recycled (PCR) content. We are also actively looking for ways to eliminate the plastics we don’t need, such as by developing alternatives to non-recyclable types, or by reducing packaging weight (without compromising the integrity of our products). We redesigned our 20-litre Nola oil drums to make them ‘lighter’ on the environment while

maintaining their strength. Each drum is now 100g lighter, enabling us to eliminate 20 tons of high-density polyethylene (HDPE) each year – the equivalent of 103 fully-grown male lions.” (FB9, 2022:19)

The South African food, beverage, and tobacco industry demonstrates a commitment to addressing environmental issues, adhering to social and environmental standards, and lessening the adverse effects of packaging materials by promoting recyclable options. These disclosures serve as a testament to their commitment to conservation, the protection of natural resources, the reduction of their environmental footprint, and the promotion of overall environmental sustainability.

4.3.2.6 Environmental and social impacts of animal supply chain

Managing and mitigating the environmental and social impacts of companies’ animal supply chain is crucial, as it addresses issues, such as GHG emissions stemming from livestock operations, responsible land use for grazing, and the provision of optimal living conditions and humane slaughter practices for the animals.

Table 4-11 outlines the number of companies that have adhered to the criteria pertaining to the “Environmental and Social Impacts of Animal Supply Chain”, which include Criteria 21 and 22:

Table 4-11: Number of companies meeting the “Environmental and Social Impacts of Animal Supply Chain”

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Environmental and Social Impacts of Animal Supply Chain	21	Did the entity disclose the percentage of livestock sourced from suppliers that manage pasture and grazing land to the U.S. Department of Agriculture (USDA) or Natural Resources Conservation Service (NRCS) conservation plan criteria or equivalent criteria?	0	0.00%
	22	Did the entity disclose the percentage of its supplier facilities that have been verified to be operating in accordance with animal welfare standard(s)?	3	25.00%

None of the 12 South African food, beverage, and tobacco companies disclosed the percentage of their livestock sourced from suppliers adhering to the United States Department of Agriculture

(USDA) or Natural Resources Conservation Service (NRCS), which head offices is situated in South-Africa, conservation plans for grazing land or pasture management (Criterion 21).

However, several of these companies did provide information addressing animal welfare, as exemplified below:

“We consider the well-being of our biological assets, the chickens, and safety of derivative products (poultry meat and meat products) for human consumption as paramount. This is achieved through implementation of the SAPA’s Code of Practice that serves as a guide on standards for bird welfare.” (FB2, 2022:54)

Only 3 out of the 12 companies (25%) reported the number of their supplier facilities verified to conduct their businesses in agreement with animal welfare standards (Criterion 22). For instance:

“Our animal welfare policy statement includes our commitment to the ongoing welfare of poultry in all operations (100%) under our management. The policy statement further commits to compliance with standards as laid down by SAPA’s welfare standards and code of practice, including that birds must have access to feed and water at all times and be free from undue fear, distress, discomfort and infectious diseases.” (FB8, 2022:60)

The results highlight a notable deficiency in companies’ disclosures regarding their animal supply chain operations. It is imperative for food, beverage, and tobacco companies to prioritise sourcing from suppliers that align with animal welfare principles. This commitment ensures the humane treatment, ethical handling, and well-being of animals in terms of living conditions and transportation.

4.3.2.7 Land Use and ecological impacts

The disclosure of land usage and a company’s ecological impacts plays a pivotal role, as it empowers companies to address animal litter proactively and decrease their associated GHG emissions. The companies that have adhered to Criteria 23 to 25 are detailed in Table 4-12:

Table 4-12: Number of companies meeting the “Land Use and Ecological Impacts” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Land Use and Ecological Impacts	23	Did the entity disclose the amount of animal litter and manure generated, the percentage managed according to a nutrient management plan in metric tons?	3	25.00%

	24	Did the entity disclose the percentage of pasture and grazing land managed to Natural Resources Conservation Service (NRCS) conservation plan criteria in percentage by hectares?	0	0.00%
	25	Did the entity disclose the animal protein production from concentrated animal feeding operations (CAFOs) in metric tons (t)?	0	0.00%

Just 25% (3 out of 12) companies disclosed the amount of animal litter generated and/or manure created (Criterion 23), for example:

“Litter/ manure produced (tons) for 2022 were equal to 144 311 tons. Litter or manure is determined by the volume of birds on farms, which can be impacted by HPAI and market demand. The organic waste generated at poultry farms (mortalities) and egg packing stations (mainly shells left over from the manufacture of liquid eggs) is biodegradable. However, by turning this waste into compost through a BiobiN® system, we can reduce the volume of waste going to landfill sites.” (FB8, 2022:59,61)

However, it is noteworthy that none of the companies established a connection between the litter/manure generated and the percentage of this waste that was managed in accordance with a nutrient management plan.

None of the 12 companies disclosed their percentage of grazing land managed in line with NRCS protection plans in terms of percentage hectares or reported the quantity of animal protein sourced from concentrated animal feeding operations (CAFOs).

This result is concerning, as it reveals a deficiency in taking proactive measures to manage animal wastage and safeguard the land used in operations by the sampled South African food, beverage, and tobacco companies.

4.3.2.8 Energy management

The electricity shortage remains a significant concern in South Africa, leading to the introduction of loadshedding in 2007. Presently, loadshedding stands as the most significant impediment to South Africa’s economic growth (The Presidency Republic of South Africa, 2023:2). Prioritising energy efficiency is, therefore, crucial to guarantee energy security for the operations of South African companies. The number of companies that disclosed information related to their energy management (Criteria 26 to 28) is detailed in Table 4-13:

Table 4-13: Number of companies meeting the “Energy Management” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Energy Management	26	Did the entity disclose the total amount of energy it consumed as an aggregate figure, in gigajoules (GJ)?	9	75.00%
	27	Did the entity disclose the percentage of energy it consumed that was supplied from grid electricity?	8	66.67%
	28	Did the entity disclose the percentage of energy it consumed that was renewable energy?	8	66.67%

A significant majority of the companies, specifically 9 out of the 12 (75%), provided disclosure regarding their total energy utilisation per gigajoule in their operations (Criterion 26). Excerpts from these disclosures are as follows:

“Total direct and indirect energy consumption for 2022 – 1 253 729 GJ.” (FB10, 2022:7)

“Total direct and indirect energy consumed for 2022 3 475 842 GJ.” (FB2, 2022:104)

Eight out of the twelve companies (66,67%) disclosed the percentage of grid energy they used (Criterion 27), for example:

“Total energy used for 2022 is 807 632 120 kWh, and the percentage of energy used from grid electricity equals 100%.” (FB12, 2022:68)

Two-thirds (66,67%) of the companies, comprising 8 out of the 12, disclosed the percentage of renewable energy incorporated into their operations (Criterion 28), for instance:

“Bagasse, an energy-dense by-product of sugar production, is used to create renewable energy at our sugar mills through a process known as co-generation. The electricity generated powers our sugar manufacturing process and a portion is also sold externally. Of this, 120 GWh was used to supply 86% of our sugar mills’ electricity requirements while 8 GWh was exported to the Coega Industrial Development Zone via the Eskom grid.” (FB9, 2022:44)

These findings underscore the commitment of the South African food, beverage, and tobacco industry to mitigate the impact of loadshedding on their operations. They are achieving this by increasing the utilisation of renewable energy resources to ensure the maximisation of

shareholders' wealth and addressing South Africa's most pressing issue, which is energy shortage.

4.3.2.9 Greenhouse gas (GHG) emissions

GHG emissions play a pivotal role in climate change, global warming, and environmental instability. Consequently, it is imperative for a company to reduce and manage its GHG emissions in order to safeguard the environment by mitigating climate change and curbing the rise of global temperatures. This commitment to GHG emissions reduction aligns with Criteria 29 to 32, which pertain to business disclosure. Table 4-14 provides a breakdown of the companies that have taken steps to address their GHG emissions and related concerns:

Table 4-14: Number of companies meeting the “Global Gas Emissions” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Greenhouse Gas Emissions	29	Did the entity disclose the total amount of fuel consumed by its fleet vehicles as an aggregate figure in gigajoules (GJ)?	4	33.33%
	30	Did the entity disclose the percentage of the total amount of fuel consumed by its fleet vehicles that is a renewable fuel?	2	16.67%
	31	Did the entity disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHG emissions covered under the Kyoto Protocol — carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF ₆), and nitrogen trifluoride (NF ₃)?	10	83.33%
	32	Did the entity discuss its long-term and short-term strategy or plan to manage its Scope 1 greenhouse gas (GHG) emissions and/or an analysis of performance against those targets?	6	50.00%

Among the 12 companies, 4 of them (33.33%) provided information regarding the quantity of fuel used by their fleet vehicles in their operations, meeting the requirements of Criterion 29. An illustrative example of such disclosures is as follows:

“Mobile fuel Diesel consumed for 2022 amounted to 180 206 GJ.” (FB2, 2022:105)

A limited number of companies, specifically 2 out of the 12 (16.67%), included details about the percentage of fuel consumed in their operations attributed to renewable fuels, complying with Criterion 30). One of the companies divulged as follows:

“Total direct energy consumption, i.e., from non-renewable fuels burned (e.g., diesel, 1 636 771 petrol, etc.) (GJ). The percentage of direct energy consumption from renewable fuels amounted to 0%.” (FB11, 2022:12)

The majority of the companies, precisely 10 out of the 12 (83.33%), provided information regarding their Scope 1 GHG emissions within their integrated reports, in accordance with Criterion 31. Selected quotes from these disclosures follow:

“Our 2021 CO₂e (carbon dioxide equivalent) for scope 1 and 2 emissions was 1 045 842 tons, a decline of 1% against 2021. Our Scope 1 GHG emissions (direct emissions from our operations) were 518 861 tons CO₂e. Our Scope 2 emissions (indirect emissions from the use of purchased electricity) were 526 981 tons CO₂e.” (FB9, 2022:58)

“Total carbon emissions – Scope 1 and 2 (tonnes CO₂e) equalled 184 848 for 2022. Total carbon emissions – Scope 1 (tonnes CO₂e) amounted to 125 391 for 2022.” (FB11, 2022:12)

Exactly half of the 12 companies (50%) included their strategies for managing GHG emissions, both short and long-term, concerning their Scope 1 GHG emissions, as stipulated in Criterion 32. Below are illustrations of the plans provided:

“We aim to achieve carbon neutrality by 2050 through a number of proposed interventions. These interventions are based on feasibility studies we’ve conducted and will be adjusted according to evolving viability and technology: coal conversion to natural gas, renewable energy installation, refrigerant conversion, MGO switch to a renewable fuel source, diesel switch to a renewable fuel source, grid decarbonisation, carbon credits and hydrogen fuel.” (FB6, 2022:8)

“Total carbon dioxide emissions (CO₂e) measured in tonnes CO₂e emitted equalled to 94 771 for 2022. The Scope 1 GHG emissions were 61%. Solar power at Groot Drakenstein: A structural assessment was conducted during 2022 to determine the viability of fitting solar panels on the existing roof structures. This installation will generate 2 560 MWh per year, with an annual saving of 2 534 tonnes CO₂e. Solar thermal field at Groot Drakenstein: A feasibility study was concluded for a 7 000m² solar thermal field.

Solar collectors will be used to heat water for processes, boiler water heating and steam generation. This solar installation will yield a saving of 2 660 tonnes of CO₂e per year. Two additional solar installations will commence in 2023 at the vegetable canning facility in Limpopo and the meat facility in Krugersdorp.” (FB10, 2022:75)

The findings revealed that the South African food, beverage, and tobacco industry has identified shortcomings in their GHG contributions, particularly in areas, such as fuel consumption. However, these companies exhibit a strong commitment to transparency by disclosing their GHG emissions and outlining robust management strategies. This commitment is evident in their actions, which include the implementation of solar power systems, transitioning to alternative fuel sources, and converting coal usage to natural gas. These efforts collectively contribute to reducing global warming and fostering a healthier environment overall.

4.3.2.10 Ingredient sourcing

Sourcing ingredients in a sustainable manner not only aids in mitigating but also ensures the preservation of natural resources for future generations. Criteria 33 to 36 are designed to assess how companies source their ingredients sustainably. Table 4 provides an overview of the number of companies that have met the criteria under “Ingredient Sourcing”:

Table 4-15: Number of companies meeting the “Ingredient Sourcing” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Ingredient Sourcing	33	Did the entity provide an identification of principal crops and a description of risks and opportunities presented by climate change?	10	83.33%
	34	Did the entity disclose the percentage of agricultural products sourced from regions with high or extremely high baseline water stress?	0	0.00%
	35	Did the entity provide a list of priority food ingredients and a discussion of sourcing risks related to environmental and social considerations?	8	66.67%
	36	Did the entity disclose the percentage of food ingredients sourced that are certified to a third-party environmental or social standard?	1	8.33%

The bulk of the companies, specifically 10 out of 12 (83.33%), have successfully pinpointed their primary risks associated with climate change in line with Criterion 33. This proactive approach enables them to develop and implement effective risk mitigation strategies to address climate-

related challenges. An extracted quote from one of these companies that identified a climate risk follows:

“Climatic conditions impact fruit and vegetable crops which form a large proportion of the group’s raw material purchases for use in production for regional and international markets. Climate change has been identified by the board as a material issue which could have a significant impact on the group’s revenue and profitability. Given the nature of our business, we face the risk of natural disasters, drought and crop failure which could reduce agricultural yields, limit fruit and vegetable crops and impact product quality and output volumes.” (FB10, 2022:15)

When evaluating the disclosure in connection with Criterion 34, it is noteworthy that there is a significant gap in reporting among the sampled companies regarding their products sourced from regions with high baseline water stress. Surprisingly, none of the 12 companies included this specific disclosure in their integrated or sustainability reports.

A significant portion of the companies, specifically 8 out of the 12 (66.67%), have identified their priority food ingredients and reported on the sourcing risks associated with environmental and social factors, in alignment with Criterion 35. For example:

“Palm-oil and cocoa (liquor and butter) are important ingredients in our chocolate business. We are concerned about deforestation, loss of biodiversity, and the use of peat lands in the production of these forest commodities. To address this, we set caveats on our sourcing of these raw materials that foreground traceability and sustainable certification. This safeguard provides some assurance that our supply chains for palm-oil and cocoa are anchored by the principles and standards of sustainable production.” (FB12, 2022:54)

Out of the 12 companies, only a single company (8.33%) disclosed the percentage of food components that are sourced and environmentally or socially certified (Criterion 36). This company provided the following information:

“We fish responsibly as 85.06% of our catch by volume on SASSI green list. 58% of total catch were MSC certified (Gulf Menhaden and Hake South Africa).” (FB6, 2022:29)

The results indicate that the majority of South African food, beverage, and tobacco companies demonstrate a proactive approach by identifying risks associated with climate change and ingredient sourcing. This commitment reflects their dedication to adhering to relevant environmental regulations and underscores their efforts to pinpoint critical areas where they must

address climate and sourcing-related challenges in order to contribute to environmental conservation.

4.3.2.11 Water management

South Africa currently confronts a severe water scarcity issue, exacerbated by the fact that the total population consumes 234 litres of water per day, resulting in a per capita water consumption significantly higher than the global average of 173 litres (DBSA, 2023). This highlights a lack of public awareness and knowledge regarding water preservation and conservation. Climate change stands as the primary driver of water scarcity, with projections indicating that South Africa may face a water deficiency of 17% by 2030 (DBSA, 2023). Effective water management is crucial for a sustainable future, as it ensures the responsible and efficient use of water resources, therefore safeguarding the environment for future generations. Table 4-16 provides data on the number of companies actively managing their water resources and usage by disclosing Criteria 37 to 40:

Table 4-16: Number of companies meeting the “Water Management” criteria

Available business disclosure	Criteria No.	Evaluation question criteria	No. companies	%
Water Management	37	Did the entity disclose the amount of water, in thousands of cubic meters, withdrawn from all sources?	4	33.33%
	38	Did the entity disclose the amount of water, in thousands of cubic meters, consumed in its operations?	8	66.67%
	39	Did the entity describe its water management risks associated with water withdrawals, water consumption, and discharge of water or wastewater?	9	75.00%
	40	Did the entity disclose the total number of incidents of non-compliance, including violations of a technology-based standard and exceedances of quantity or quality-based standards?	2	16.67%

A minority of the companies, specifically 4 out of the 12 (33.33%), have disclosed the total volume of water withdrawn from all sources for use in their operations, in compliance with Criterion 37. Some examples of these disclosures follow:

“Water used in 2022 from Boreholes: 1300 794 kl, and from municipal sources: 5 179 895 kl.” (FB2, 2022:105)

“Total Municipal Water Consumption for 2022: 5 980 Megalitres, Total Borehole Consumption for 2022: 732 Megalitres, and Total Raw Water Consumption for 2022: 124 770 Megalitres.” (FB9, 2022:69)

The bulk of the companies, specifically 8 out of the 12 (66.67%), have provided disclosure regarding the total volume of water consumed in their operations (Criterion 38), for example:

“Group total water consumption (kilolitres) for 2022: 369744.” (FB6, 2022:46)

“Total water consumption for 2022: 1539176 kl. Water usage is mostly determined by bird numbers and the requirement for cooling. The acquisition of the Helderfontein broiler farm in 2021 is the main reason for increased consumption.” (FB8, 2022:59)

A significant majority of the companies, 9 out of the 12 (75%), have disclosed the water management risks associated with their operations in accordance with Criterion 39. Selected quotes that illustrate these disclosures follow:

“Water availability and the security of supply has been identified as a significant environmental risk for the business. While certain sites have a stable supply of water, the group is vulnerable to a reduction in water availability or quality. Quality initiatives are reflected under waste water.” (FB10, 2022:6)

“Water scarcity is ubiquitous where we operate in South Africa, and a key emerging strategic risk for our operations, closely linked to climate change. Approximately 74% of our facilities are in water-stressed catchments. We are aware of this emerging risk, as well as the potential for compound social and environmental risks to emerge in relation to a worsening water and climate change situation. We have a high-level understanding of the nature of the risk for our own operations, but need to get a true sense of our risk exposure and the status of the catchments within which we operate. We also need to do this for our supply chain, as we may face direct supplier-related water risk in the areas we source from, including areas outside of South Africa. We are actively identifying and implementing water-use reduction initiatives across our sites. Both our water and energy optimisation initiatives are driven by our process optimisation department.” (FB12, 2022:33)

Finally, a minority of the South African food, beverage, and tobacco companies, specifically 2 out of the 12 (16.67%), have reported incidents of non-compliance with quantity-based standards in

the previous year (Criterion 40). These companies exemplified their commitment to transparency and accountability to these standards through the following disclosures:

“Three notices received in terms of LSO’s coastal water discharge permit exceedances, that have subsequently been resolved with an improvement plan put in place.” (FB6, 2022:90)

“The Indigo Brands cosmetics and aerosol factories are ISO 9001:2015 (quality management system), ISO 22716:2007 (Cosmetics Good Manufacturing Practice) and SANS 1841 (Control of Quality: Trade Metrology Act) certified. In the year under review Indigo Brands maintained compliance against all of these certifications.” (FB3, 2022:60)

Based on the findings outlined above, it is evident that the sampled South African food, beverage, and tobacco companies recognise the critical significance of water management. The fact that a majority of these companies have disclosed information about their water consumption and water-related risks reflects their commitment to addressing key issues related to water withdrawals. This transparency is a crucial step toward the development of robust water management systems, enabling more resilient and sustainable water consumption practices. By doing so, these companies aim to reduce water waste and secure water resources for future agricultural practices, contributing to a more sustainable and responsible approach to water management.

4.4 Summary

The objective of this chapter, in conjunction with Chapter 3, was to address the empirical secondary goals of evaluating the reporting compliance of South African food, beverage, and tobacco companies concerning the SDGs and specifically, SDG 2. This assessment was carried out through a two-part content analysis of their integrated and sustainability reports for the financial year 2022. The results of this analysis were presented and discussed in two parts: The first part involved evaluating the overall SDG reporting compliance using KPMG guidance (Part 1), while the second part focused on evaluating the compliance of these companies with SDG 2, utilising the *SDGs business reporting* guidance (Part 2).

Part 1 of the empirical study has shed light on the fact that South African food, beverage, and tobacco companies are increasingly recognising their role in contributing to long-term sustainability. However, the assessment of their overall SDG compliance indicates a relatively low to moderate level of adherence. This suggests that there is still room for improvement in terms of linking their sustainability efforts with the specific goals outlined in the SDGs.

Furthermore, the evaluation of overall SDG compliance revealed that companies in the food, beverage, and tobacco industry prioritise certain SDGs more than others. Specifically, they tend to focus on SDGs 8, 2, 3, 5, and 12 to a greater extent, while SDGs 16, 17, 11, 14, and 15 receive comparatively less attention. These findings suggest that these companies place greater emphasis on understanding the SDGs rather than actively measuring and reporting on the relevant SDGs they have identified. This indicates a need for a more comprehensive and integrated approach to align their sustainability practices with the specific targets and indicators outlined in the SDGs.

The findings from Part 1 of the study unveiled several important insights. Firstly, it became apparent that the South African food, beverage, and tobacco companies, while aware of the importance of understanding the SDGs, have yet to delve into the specifics of the opportunities and threats that these SDGs may pose to their operations. Secondly, the findings highlighted that the majority of these companies prioritise the SDGs that are relevant to their specific operations. However, there is a gap in how they determine these priorities, as the methodologies used for this purpose are not clearly outlined in their reporting. Lastly, it was observed that these companies are using performance targets to assess their contributions to the SDGs. Nevertheless, there is room for improvement in making these targets more SMART and linking them to KPIs that are specially designed for the SDGs.

Part 2 of the study's findings present a concerning picture regarding SDG 2 reporting compliance among the sampled JSE-listed food, beverage, and tobacco companies. The compliance rate of 29,38% signifies a notably low level of commitment from these companies to align with the 2030 Agenda, which aims to reduce malnutrition and ensure the provision of safe and nutritious food for all individuals in Africa.

While the South African food, beverage, and tobacco industry emphasises various aspects of sustainable business practices, such as water management, ingredient sourcing, energy management, and environmental and social impact management within their operations, there is a lack of attention to the ecological impact of land usage. Moreover, the analysis suggests a limited contribution to product health and nutrition from these companies, which is problematic in the context of SDG 2's goal to ensure access to healthy and nutritious food for all. Overall, the low compliance rate in SDG 2 reporting indicates the need for these companies to increase their efforts and commitment to aligning with the SDGs.

Chapter 5 delivers a comprehensive conclusion regarding the results obtained in this study, focusing on the overall SDGs and SDG 2 reporting compliance of the South African food, beverage, and tobacco companies. Additionally, the chapter addresses any limitations that may

have influenced the study's outcomes and provides valuable recommendations for both the companies under examination and future research endeavours in this area.

CHAPTER 5

5 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In the preceding chapter, the findings and discoveries from the two-part empirical study on the 12 South African JSE-listed food, beverage, and tobacco companies were elucidated, encompassing their general SDG performance and compliance to SDG 2. The main objective of this study was to scrutinise the reporting compliance of South African food, beverage, and tobacco companies listed on the JSE concerning both SDGs and SDG 2, as appraised in their integrated and sustainability reports. This chapter's primary goal is to formulate conclusions and offer recommendations — informed by both the literature and the empirical investigation.

The layout of Chapter 5 is presented in Figure 5-1:

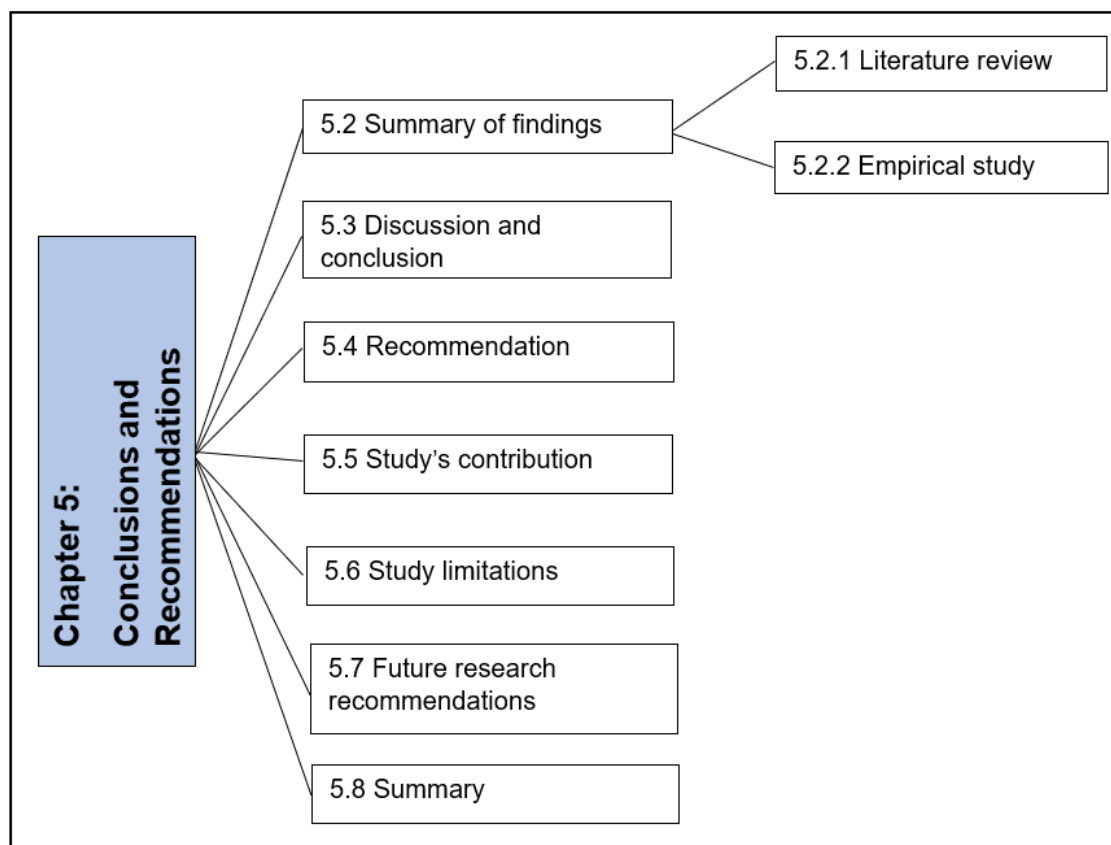


Figure 5-1: Chapter 5 layout

The chapter begins by presenting a summary of the findings stemming from the literature review and the empirical study. It then proceeds to engage in a comprehensive discussion and draw

conclusions regarding the findings associated with each specific research objective. Following this, it offers recommendations that are derived from the conclusions reached. The chapter also delves into an assessment of the study's contributions, acknowledges its limitations, and outlines recommendations for future research. Lastly, it concludes with a final summary.

5.2 Summary of findings

Below, a summary of the findings that specifically address the theoretical and empirical secondary objectives, all of which contributed support to the primary objective, is presented.

5.2.1 Literature review

The primary purpose of the literature review conducted in Chapter 2 was to address the two theoretical secondary objectives outlined in Chapter 1, section 1.3.2.1. The first theoretical objective focused on gaining a comprehensive understanding of the literature related to the KPMG and *SDGs business reporting* sustainability guidance frameworks. The secondary theoretical objective involved an analysis of literature pertaining to South African JSE-listed food, beverage, and tobacco companies and their sustainability reporting practices.

In 2018, KPMG developed a comprehensive guidance framework consisting of nine criteria, titled "How to report on the SDGs". The main objective behind the creation of this KPMG guidance was to equip companies with essential standards for SDG reporting, enabling them to enhance the effectiveness and transparency of their reporting on SDG-related activities. Interestingly, only one study, conducted by Lodhia *et al.* In 2022, employed this KPMG guidance to assess the commitment of the top 50 Australian companies to SDG reporting. This examination revealed that these Australian companies exhibited a moderate level of SDG reporting, emphasising the need for improvements in SDG measurement. It is worth noting that this study also applied the KPMG guidance to evaluate the overall SDG reporting compliance of South African food, beverage, and tobacco companies.

In 2022, the *SDGs business reporting* framework was introduced, in conjunction with the SASB Standards, offering a set of established quantitative and qualitative disclosures for each SDG. This framework empowers companies to report on SDGs in an objective manner. Notably, the SASB standards are currently voluntary guidelines for disclosure, but they will become mandatory for JSE-listed companies starting from January 1, 2024. The primary goal of this guidance is to provide a standardised approach for companies to address their SDG-related initiatives, identify relevant SDG priorities pertaining to their operations, and collect essential SDG data. This

standardised approach allows them to report on their SDG contributions in an effective and meaningful manner, ultimately fostering long-term value creation.

Previous studies have explored the impact of the SASB standards (Bochkay *et al.*, 2022; Consolandi *et al.*, 2020; Lashitew, 2021). For instance, Lashitew (2021) demonstrated that the adoption of SABS Standards can enhance the trustworthiness and transparency of sustainability reporting. Bochkay *et al.* (2022) found that factors, such as societal behaviours, company size, and the presence of sustainability-focused institutions have an influence on the adoption of SASB standards. Additionally, Consolandi *et al.* (2020) identified a positive correlation between the implementation of SASB Standards and improved SDG reporting.

Interestingly, no prior studies have delved into the evaluation of SDG 2 reporting compliance among South African food, beverage, and tobacco companies using the new *SDGs business reporting* framework or the SASB Standards. This research endeavour bridged this gap by utilising the *SDGs business reporting* guidance in conjunction with the SASB Standards to assess the SDG 2 reporting compliance of South African companies in the food, beverage, and tobacco sectors.

Reporting on SDGs is essential, as it furnishes stakeholders with the necessary knowledge for informed decision making, enhances a company's reputation and transparency, and underscores the commitment of top leaderships to economic, social, and environmental advancement. Numerous studies have investigated SDG reporting in various countries and industries (Arena *et al.*, 2022; Consolandi *et al.*, 2020; Curtó-Pagés *et al.*, 2021; Erin *et al.*, 2021; Erin & Bamigboye, 2021; Hamad *et al.*, 2022; Hummel & Szekely, 2022; Lodhia *et al.*, 2022). Erin and Bamigboye (2021) observed that SDG reporting by African companies is exceedingly limited, primarily due to its voluntary nature, with the exception of South Africa.

The SDGs emphasise the critical importance of nutrition and agriculture, particularly through SDG 2, which strives to eliminate hunger, ensure food security, and promote sustainable agricultural practices. Iazzi *et al.* (2021) have highlighted the significance of corporate reporting on the commitment of companies to SDG 2 by addressing poverty and fostering sustainable food production systems. Several studies have examined the progress and associated strategies related to SDG 2 (Bizikova *et al.*, 2020; Guo *et al.*, 2022; Yonehara *et al.*, 2017). Vogliano *et al.* (2021) concluded, after evaluating the performance of Melanesian companies concerning SDG 2, that a substantial number of strategies are still required to combat food insecurity effectively in these companies. Notably, no studies have yet investigated the overall compliance with SDG 2 reporting among South African JSE-listed companies in the food, beverage, and tobacco industry.

The food, beverage, and tobacco industry exerts a significant impact on resource consumption, making it crucial to shift their operations towards sustainable and efficient practices in order to meet the nutritional needs of present and future generations. While numerous studies have delved into sustainability within the food, beverage, and tobacco industry (Akanmu *et al.*, 2023; Garzón-Jiménez & Zorio-Grima, 2022; Rodriguez-Sanchez & Sellers-Rubio, 2020), only a limited number of researchers have explored their compliance with SDG reporting (Iazzi *et al.*, 2021; Vallet-Bellmunt *et al.*, 2022). They discovered that Spanish food wholesalers exhibit a low level of SDG 12 reporting, however they also found that global food and beverage companies are actively committed to the 2030 Agenda for sustainable development, particularly in terms of reducing workplace inequalities. Nevertheless, there remains a gap in examining the SDG 2 reporting compliance of South African food, beverage, and tobacco companies.

The accomplishment of the two theoretical secondary objectives was made possible through the aforementioned literature review.

5.2.2 Empirical study

The aim of the two-part empirical study carried out in Chapter 4 was to address the two empirical secondary objectives outlined in Chapter 1, section 1.3.2.2. The first empirical objective involved assessing the overall SDG disclosure compliance of the South African JSE-listed food, beverage, and tobacco companies, utilising the KPMG guidance. The secondary empirical objective entailed evaluating the SDG 2 reporting compliance of these JSE-listed companies, using the *SDGs business reporting* guidance framework.

The first part of the empirical study has shown that the South African food, beverage, and tobacco companies acknowledge their role in long-term sustainability. However, the results also revealed that there is a relatively low to moderate overall SDG reporting compliance among these JSE-listed companies, with only 42,59% of the prescribed KPMG criteria being met. This highlights a notable gap in these companies' efforts to incorporate SDG activities into their operations and align with the 2030 Agenda for sustainable development.

Part 1 of the empirical study concluded that South African JSE-listed food, beverage, and tobacco companies most extensively addressed SDG 8 (Decent Work and Economic Growth); SDG 2 (Zero Hunger); SDG 3 (Good Health and Well-Being); SDG 5 (Gender Equality); and SDG 12 (Responsible Consumption and Production). SDG 16 (Peace, Justice, and Strong Institutions); SDG 11 (Sustainable Cities and Communities); SDG 14 (Life Below Water); SDG 15 (Life on Land); and SDG 17 (Partnerships for the Goals) received the least attention among all of the SDGs. The low level of SDG reporting is concerning, indicating a potential lack of commitment to

the 2030 Agenda for sustainable development, possibly exacerbated by the voluntary nature of SDG reporting for JSE-listed companies as of 2023.

The first set of data analysed in Part 1 of the empirical study firstly indicated that these companies prioritised understanding the SDGs over monitoring and reporting on the relevant SDGs. While South African food, beverage, and tobacco companies were aware of the importance of understanding the SDGs, they had not sufficiently addressed the opportunities and risks associated with SDGs. Secondly, the study revealed that most of these companies prioritise the SDGs that are directly related to their operations, but they do not provide clear disclosure regarding the methods used to identify these SDGs in their reporting. Lastly, the food, beverage, and tobacco companies are utilising performance objectives to assess their contributions to the SDGs. However, these objectives still need to be made more SMART and connected to relevant KPIs that have been specifically developed for the SDGs.

SDG 2 reporting holds significant importance, as it serves as a testament to a company's commitment to building a world free from hunger and suffering. The findings from Part 2 of the empirical study unveiled an alarmingly low level of SDG 2 reporting compliance within South Africa's food, beverage, and tobacco industry, with a mere 29,38% compliance rate according to the *SDGs business reporting* guidance criteria. This is a matter of concern given South Africa's substantial potential to contribute to achieving food security for the African continent, thanks to its expertise in agricultural practices.

The South African food, beverage, and tobacco industry demonstrates a strong commitment to managing their water usage effectively, optimising energy consumption, utilising renewable energy resources, sourcing ingredients sustainably, and addressing environmental and social issues within their supply chain. However, there is a noticeable lack of commitment in addressing their environmental and social impacts related to their animal supply chain, managing ecological effects, addressing ecosystem quality, and ensuring high-quality product health and nutrition. These findings raise concerns about the industry's contribution to achieving SDG 2, which aims to eliminate hunger. It is worrisome because the food industry is expected to play a significant role in advancing this goal by ensuring the provision of nutritious and healthy food for all people.

The two secondary empirical objectives were achieved through the two-part empirical study conducted.

5.3 Discussion and conclusion

This study initially assessed the overall SDG compliance and, secondly, the SDG 2 reporting compliance among South African JSE-listed food, beverage, and tobacco companies. The first part of the empirical study disclosed a relatively low to moderate level of overall SDG compliance among the 12 South African food, beverage, and tobacco companies that were analysed. This may be attributed to the fact that, in 2022, SDG reporting was not mandatory for JSE-listed companies. The overall SDG analysis demonstrated that South African food, beverage, and tobacco companies recognise their role in contributing to decent work and economic growth (SDG 8) and ensuring zero hunger (SDG 2). However, these companies appear to lack a strong commitment and emphasis on achieving peace, justice, and strong institutions (SDG 16) and partnering with the UN to advance sustainable development (SDG 17).

The study revealed that the South African food, beverage, and tobacco companies prioritise understanding the SDGs over monitoring and reporting on SDGs relevant to their specific operations. The findings indicate that these companies acknowledge their role in addressing the SDGs but have not delved into the finer details concerning the associated risks and opportunities inherent in these SDGs. There appears to be a lack of comprehensive integration of SDGs into their long-term strategies, which could result in missed opportunities, particularly as consumers have become more environmentally conscious. The fact that a majority of these companies' top management does not actively address SDGs can give rise to significant scepticism regarding their commitment to achieving the SDGs, potentially damaging their credibility and legitimacy.

The majority of the South African food, beverage, and tobacco companies give priority to the SDGs that align with their core operations. However, their reporting fails to provide insight into the methodologies used for identifying these specific SDGs. This suggests that while these companies do recognise the importance of pinpointing relevant SDGs to allocate their resources efficiently, the criteria for selecting these SDGs may lack credibility and consistency compared to other companies in the food and beverage industry. Additionally, only a limited number of these companies have identified the specific SDG targets that are most relevant to their operations. This shortfall in target identification can give rise to scepticism regarding their dedication to achieving these relevant SDGs, particularly as no corresponding targets were specified in their reporting.

The bulk of the South African JSE-listed food, beverage, and tobacco companies have implemented some form of measurement to assess their contributions to the SDGs, demonstrating their commitment to achieving the relevant SDGs they have identified. However, it is noteworthy that only a minority of these measurement goals meet the criteria of being SMART,

which implies that many of their goals are too broad in scope. This can potentially make it challenging to evaluate their SDG contributions effectively. Furthermore, there is still a gap when it comes to linking these measurement goals to KPIs specifically designed for the relevant SDGs. This gap in alignment between measurement goals and SDG-specific KPIs can lead to inaccuracies in SDG performance measurement results.

Reporting on SDG 2 compliance by companies is of the utmost importance, as it signifies their dedication to the noble goal of creating a world free from hunger. The results of Part 2 of the empirical study have revealed a concerning deficiency in SDG 2 reporting compliance among the South African food, beverage, and tobacco companies. This deficiency underscores a lack of commitment from these companies toward the critical objectives of reducing hunger and ensuring food safety for all individuals.

The food and beverage industry's insufficient attention to addressing and alleviating consumers' health and nutritional concerns can be interpreted as a lack of consideration for the overall well-being of their stakeholders. Particularly concerning is the low level of food safety reporting related to food violations and product recalls within the industry. This lack of transparency regarding food violations and recalls may indicate a potential disregard for customer health and safety, raising questions about the industry's commitment to ensuring the well-being of its consumers.

The South African food, beverage, and tobacco industry demonstrates significant commitment to managing and sourcing environmentally sustainable ingredients, indicating a high level of transparency and dedication to fulfilling their environmental and social responsibilities. However, there is limited emphasis on addressing the environmental issues arising from their animal supply chain and their ecological and land impacts. This limited focus is a cause for concern and may indicate a lack of dedication to maintaining soil quality and implementing precautionary measures to manage the environmental impact of animal wastage generated through their operations. Nevertheless, the industry places strong emphasis on managing environmental issues, reducing the adverse effects of packaging materials, and adhering to environmental and social standards. This underscores their commitment to conserving natural resources, reducing their environmental footprint, and promoting environmental sustainability.

The South African food, beverage, and tobacco industry shows a strong commitment to addressing the challenges posed by loadshedding on their supply chain. They are actively adopting more renewable energy resources to address the energy shortage issues currently faced by South Africa. The majority of the South African food, beverage, and tobacco companies have dedicated sections in their integrated and sustainability reports to address their GHG emissions and the corresponding management efforts. The findings of the study have revealed

areas where improvements are needed in their GHG emissions, particularly regarding their fuel usage. However, these companies demonstrate a high level of dedication toward GHG emissions disclosure and management. They are actively taking steps to reduce their environmental footprint by switching to natural gas, replacing traditional fuel sources, and installing solar power systems — all contributing to their efforts to mitigate the impact of climate change.

The majority of the South African food, beverage, and tobacco industry players are clearly cognisant of the risks associated with ingredient sourcing and climate change. This awareness is a testament to their commitment to compliance with environmental laws and their recognition of the need to address critical areas related to climate change and its associated challenges in order to protect the environment. Additionally, these companies demonstrate extensive dedication to water management by acknowledging their water usage and potential hazards, indicating a strong commitment toward safeguarding water resources for future agricultural practices.

In the next section, recommendations for enhancing overall SDGs and SDG 2 compliance in reporting by these companies are provided, offering guidance for further improvement in their sustainability efforts.

5.4 Recommendations

Reporting on a company's overall SDGs and SDG 2 compliance is of paramount importance as it equips stakeholders with the necessary knowledge required to make informed decisions, stimulate innovation, identify SDG opportunities, and enhance the overall reputation and legitimacy of a company. The following recommendations are put forward to enhance the overall SDGs and SDG 2 reporting compliance of companies:

Overall SDG reporting:

- Companies should conduct a thorough analysis of the risks and opportunities associated with SDGs. This analysis can help them identify new possibilities for sustainable value creation.
- Companies should integrate SDGs, including SDG 2, into their long-term business strategies. Involvement of top leadership is crucial to ensure a strong commitment to these goals.
- Companies should clearly communicate the methodology used to identify priority SDGs. This transparency enables more efficient allocation of resources and fosters credibility in their reporting.

- Companies should identify and disclose the specific SDG targets relevant to their operations. This provides a foundation for addressing their priority SDGs effectively.
- Companies should establish clear performance goals to measure SDG activities. These goals provide guidance and accountability in achieving the 2030 Agenda for sustainable development.
- Companies should ensure that performance measures are SMART (specific, measurable, achievable, relevant, and time-bound) to measure accurately and credibly communicate SDG contributions.
- Companies should emphasise the development of specific KPIs related to the relevant SDGs. These KPIs provide a means to measure and monitor their SDG performance effectively.

SDG 2 – Zero Hunger reporting:

- Companies should prioritise documenting comprehensive details related to the health and nutritional products they manufacture. This documentation ensures transparency and quality in their product offerings.
- Companies should give high priority to addressing the health and nutritional concerns of their stakeholders, particularly consumers, to promote overall well-being.
- Companies should be encouraged to increase their utilisation of suppliers certified to a GFSI programme. This ensures excellent food quality and minimises the risk of foodborne illnesses.
- Companies should focus on transparently disclosing information regarding food recalls. This transparency allows them to take accountability for their products and supports the development of strategies to prevent recalls by strengthening food safety regulations.
- Companies should openly disclose information related to the food safety and quality of the products they produce. This transparency builds trust with consumers and regulators.
- Companies should emphasise the sourcing of resources from suppliers that operate in accordance with high animal welfare standards. This practice ensures humane and ethical treatment of animals throughout the supply chain.
- Companies should place emphasis on reporting their operational procedures, particularly those related to addressing hunger, poverty, and providing nutritional food products. This reporting helps in achieving these crucial sustainability goals.

- Companies should identify key risks related to their water resources and expand their water management practices. This includes reducing water wastage and safeguarding water resources for future agricultural activities, contributing to sustainable water management.

5.5 Study's contribution

The study conducted offers several key insights and benefits to various stakeholders:

- Companies in the food, beverage, and tobacco industry — this study provides valuable insights into their contributions toward the achievement of the 2030 Agenda for sustainable development. It offers a critical evaluation of their performance and highlights areas for improvement, allowing them to align their strategies with sustainability goals in an effective manner.
- Food and beverage institutions — knowledge is gained about the industry's role in reducing malnutrition and achieving zero hunger. This understanding can inform collaboration and best practices within the industry.
- Key stakeholders — government bodies, suppliers, and customers receive vital insights into the disclosures of South African food, beverage, and tobacco companies commitment toward ending poverty, ensuring food safety, reduce inequalities, and promoting prosperity for all individuals.

This study distinguishes itself from prior related research by offering a comprehensive assessment of the overall SDG reporting compliance among JSE-listed food, beverage, and tobacco companies in South Africa. It addresses a notable gap in existing literature, as not previous studies have analysed the evaluation of the compliance of companies with SDG 2, specifically focusing on zero hunger, using the *SDGs business reporting* guidance and SASB standards. The research aims to bridge this gap by providing a detailed examination of the extent of SDG 2 – Zero Hunger disclosure compliance within the South African food, beverage, and tobacco industry, thereby contributing to a deeper understanding of their commitment to this critical sustainability goal.

5.6 Limitations of this study

The limitations to this study conducted were as follows:

- Data sources — this study exclusively utilised secondary data from publicly available integrated and sustainability reports, without employing primary data collection methods, such

as questionnaires or interviews, which may pose challenges in terms of data reliability verification.

- Sample selection — The study's sample size was limited to South African JSE-listed companies, with no consideration of companies from other countries. This approach was adopted to align with the study's main objective.
- Evaluation period — the assessment of SDGs and SDG 2 reporting compliance for South African JSE-listed food, beverage, and tobacco companies was conducted for the specific financial year 2022. Comparative years were not included in the analysis.
- Focus on specific SDG targets — the study concentrated on SDG 2's Target 2.1 to 2.4 when creating the criteria for evaluating *SDGs business reporting* compliance.
- Selective business disclosures — the evaluation criteria for *SDGs business reporting* only encompassed "Available business disclosures" relevant to the food and beverage sector, with all other disclosures excluded from the assessment.

5.7 Future research recommendations

Future research can address the limitations mentioned above and explore various aspects SDG reporting compliance in greater depth. Future research recommendations include:

- Incorporate primary data sources, such as interviews and questionnaires, to gain insights into management perceptions and practices related to SDGs in companies and industries.
- Investigate the quality and depth of specific SDG compliance reporting within the food, beverage, and tobacco industry to provide a more comprehensive assessment.
- Conduct an analysis of specific SDG compliance reporting over an extended period, spanning three or more years. This approach allows for the assessment of trends and changes over time and provides valuable comparative information.
- Examine the impact of the mandatory implementation of SASB Standards, effective from 1 January, 2024, on specific SDG compliance reporting by JSE-listed companies.
- Evaluate specific SDG compliance reporting for various SDGs, such as SDG 8 (Decent work and economic growth), using the *SDGs business reporting* guidance and SASB standards, to assess compliance with different sustainability goals.

- Analyse SDG 2 reporting compliance in different sectors and compare the findings to draw conclusions about which sector reports on SDG 2 most comprehensively.
- Compare the SDG reporting of the food, beverage, and tobacco industry across different countries to identify regional variations and best practices.
- Investigate the correlation between a company's internal business strategy and the quality of their SDG reporting. This analysis can provide insights into how strategic alignment impacts reporting practices.

5.8 Summary

The primary purpose of this chapter was to draw conclusions and offer recommendations based on the findings of the study. It begins by summarising the results derived from both the literature review and the empirical study. Following this, a discussion and conclusion of these findings are presented. Subsequently, recommendations are formulated based on the conclusions, and the study's overall contribution is highlighted. The chapter also delved into the limitations encountered during the study and offers suggestions for future research. In essence, this chapter ultimately confirms the attainment of both the theoretical and empirical secondary objectives of the study.

The main objective of this study was to assess the extent to which the South African JSE-listed food, beverage, and tobacco companies report their contributions to overall SDGs and specifically SDG 2 – Zero Hunger compliance in their integrated and sustainability reports. This objective was pursued through a two-part study. The first part utilised the KPMG framework to evaluate overall SDG compliance, revealing a moderate to low level of compliance among the South African JSE-listed companies in the food, beverage, and tobacco sector. The second part of the study assessed SDG 2 – Zero Hunger reporting compliance using the *SDGs business reporting* framework and SASB Standards, uncovering a low level of compliance disclosure by these companies. In conclusion, the primary objective of this study was successfully achieved.

This study leads to a clear and impactful conclusion: Addressing and reporting on SDG 2 (Zero Hunger) is a crucial step toward cultivating a sustainable future. By nourishing the hungry, *one* report, *one* company, and *one* individual at a time, we can make a significant difference. The time to initiate positive change is now.

REFERENCES

- Acharya, A.S., Prakash, A., Saxena, P. & Nigam, A. 2013. Sampling: Why and how of it. *Indian Journal of Medical Specialties*, 4(2): 330-333. https://www.researchgate.net/profile/Anita-Acharya-2/publication/256446902_Sampling_Why_and_How_of_it_Anita_S_Acharya_Anupam_Prakash_Pikee_Saxena_Aruna_Nigam/links/0c960527c82d449788000000/Sampling-Why-and-How-of-it-Anita-S-Acharya-Anupam-Prakash-Pikee-Saxena-Aruna-Nigam.pdf
- Adams, C.A. 2015. The international integrated reporting council: a call to action. *Critical perspectives on accounting*, 27: 23-28. <https://doi.org/10.1016/j.cpa.2014.07.001>
- Akanmu, M.D., Hassan, M.G., Mohamad, B. & Nordin, N. 2023. Sustainability through TQM practices in the food and beverages industry. *International Journal of Quality & Reliability Management*, 40(2): 335-364. <https://doi.org/10.1108/IJQRM-05-2021-0143>
- Al-Ababneh, M.M. 2020. Linking ontology, epistemology and research methodology. *Science & Philosophy*, 8(1):75-91.
- All Joy Foods Proprietary Limited (AH-Vest). 2022. *Integrated Report*. https://www.sharedata.co.za/data/004028/pdfs/AH-VEST_ar_jun22.pdf Date of access: 23 Sept. 2023.
- Arena, M., Azzone, G., Ratti, S., Urbano, V.M. & Vecchio, G. 2022. Sustainable development goals and corporate reporting: An empirical investigation of the oil and gas industry. *Sustainable Development*, 31(1): 12-25. <https://doi.org/10.1002/sd.2369>
- Association of Caribbean States. 2023. *World Environment Day 2023: The Urgency of Action on World Environment Day*. <https://acs-aec.org/index.php?q=disaster-risk-reduction/world-environment-day-2023-the-urgency-of-action-on-world-environment-day> Date of access: 25 Oct. 2023.
- Astral Foods Limited (Astral). 2022. *Integrated Report*. <https://www.astralfoods.com/assets/Documents/Investor%20Centre/2022/Integrated%20Report%20for%20the%20year%20ended%2030%20September%202022.pdf> Date of access: 18 Sept. 2023.
- Bell, J. & Waters, S. 2018. *Doing your research project: a guide for first-time researchers*. Seventh ed. London: Open University Press, McGraw-Hill Education.

- Benson, E.A. 2021. 10 richest African countries in 2021 based on the gross domestic product (GDP). *Business Insider Africa*. <https://africa.businessinsider.com/local/markets/10-richest-african-countries-in-2021-based-on-gross-domestic-product-gdp/xd784tx> Date of access: 14 Mar. 2023.
- Berndt, A.E. 2020. Sampling methods. *Journal of Human Lactation*, 36(2): 224-226. <https://journals.sagepub.com/doi/pdf/10.1177/0890334420906850>
- Bizikova, L., Jungcurt, S., McDougal, K. and Tyler, S. 2020. How can agricultural interventions enhance contribution to food security and SDG 2.1?. *Global Food Security*, 26, p.100450 <https://doi.org/10.1016/j.gfs.2020.100450>
- Blanche, M.T., Durrheim, K. & Painter, D. 2006. *Research in Practice: Applied Methods for the Social Sciences*. University of Cape Town Press.
- Bochkay, K., Choi, S. & Hales, J. 2022. 'Mere puffery' or credible disclosure? The real effects of adopting voluntary ESG disclosure standards. *The Real Effects of Adopting Voluntary ESG Disclosure Standards*. <https://dx.doi.org/10.2139/ssrn.4167391>
- Bochkay, K., Hales, J. & Serafeim, G. 2021. Disclosure standards and communication norms: Evidence of voluntary disclosure standards as a coordinating device for capital markets. *University of Miami Business School Research Paper*. <https://dx.doi.org/10.2139/ssrn.3928979>
- Burlea, A.S. & Popa, I. 2013. Legitimacy theory. *Encyclopedia of corporate social responsibility*, 21:1579-1584.
- Business day. 2023. *Markets*. <https://www.pressreader-com.nwulib.idm.oclc.org/south-africa/business-day/20230424> Date of access: 24 Apr. 2023.
- Calabrese, A., Costa, R., Gastaldi, M., Ghiron, N.L. & Montalvan, R.A.V. 2021. Implications for Sustainable Development Goals: A framework to assess company disclosure in sustainability reporting. *Journal of Cleaner Production*, 319:1-10. <https://doi.org/10.1016/j.jclepro.2021.128624>
- Carmines, E.G. & Zeller, R.A. 1979. Reliability and Validity Assessment.
- Climate Disclosure Standards Board (CDSB). *The Sustainability Accounting Standards Board (SASB)*. <https://www.cdsb.net/sustainability-accounting-standards-board-sasb> Date of access: 11 Oct. 2023.

- Cohen, L., Manion, L. & Morrison, K. 2011. *Research Methods in Education*. 7th ed. London, United Kingdom: Routledge.
- Consolandi, C., Phadke, H., Hawley, J. & Eccles, R.G. 2020. Material ESG outcomes and SDG externalities: Evaluating the health care sector's contribution to the SDGs. *Organization & Environment*, 33(4): 511-533. <https://doi.org/10.1177/1086026619899795>
- Conway, E. 2019. Quantitative impacts of mandatory integrated reporting. *Journal of Financial Reporting and Accounting*, 17(4): 604-634. <https://doi.org/10.1108/JFRA-08-2018-0066>
- Cook, T.D. & Reichardt, C.S. 1979. *Qualitative and quantitative methods in evaluation research*. Beverly Hills, CA: Sage publications.
- Creswell, J.W. 2009. *Research design: qualitative, quantitative, and mixed methods approaches*. 3rd ed. Thousand Oaks: Sage Publications, Inc.
- Creswell, J.W. & Plano Clark, V.L. 2007. *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publication.
- Creswell, J.W. 2014. *Research design: qualitative, quantitative and mixed methods approaches*. 4th ed. Croydon, UK: Sage.
- Crotty, M. 2003. *The Foundations of Social Research: Meaning and Perspectives in the Research Process*. 3rd ed. London: Sage Publications.
- Crotty, M.J. 1998. *The foundations of social research: Meaning and perspective in the research process*. London: Sage Publications.
- Curtó-Pagés, F., Ortega-Rivera, E., Castellón-Durán, M. & Jané-Llopis, E. 2021. Coming in from the Cold: A Longitudinal Analysis of SDG Reporting Practices by Spanish Listed Companies Since the Approval of the 2030 Agenda. *Sustainability*, 13(3):1178. <https://doi.org/10.3390/su13031178>
- Davies, C. & Fisher, M. 2018. Understanding research paradigms. *Journal of the Australasian Rehabilitation Nurses Association*, 21(3): 21-25. <https://dx.doi.org/10.3316/informit.160174725752074>
- Denzin, N.K. & Lincoln, Y.S. 2008. *Introduction: The discipline and practice of qualitative research*. Sage publications, Inc.

Development Bank of Southern Africa (DBSA). 2023. *How can South Africa overcome its water challenges and avoid the African water crisis?* <https://www.dbsa.org/article/how-can-south-africa-overcome-its-water-challenges-and-avoid-african-water-crisis> Date of access: 24 Oct. 2023.

Di Vaio., A. & Varriale, L. 2019. SDGs and airport sustainable performance: Evidence from Italy on organizational, accounting and reporting practices through financial and non-financial disclosure. *Journal of Cleaner Production*, 249:1-10.
<https://doi.org/10.1016/j.jclepro.2019.119431>

Dowling, J. & Pfeffer, J. 1975. Organizational Legitimacy: Social Values and Organizational Behaviour. *The Pacific Sociological Review*, 18(1):122–136. <https://doi.org/10.2307/1388226>

Dumay, J., Bernardi, C., Guthrie, J. & Demartini, P. 2016, September. Integrated reporting: A structured literature review. In *Accounting Forum*, 40(3): 166-185.
<https://doi.org/10.1016/j.accfor.2016.06.001>

Elfil, M. & Negida, A. 2017. Sampling methods in clinical research; an educational review. *Emergency* :5(1). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5325924/>

Erin, O. & Asiriwuwa, O. 2019. Does public transparency and accountability impact SDG? A case study of selected African countries. *African Accounting and Finance Journal*, 2(1): 24-52.

Erin, O.A., Bamigboye, O.A. & Oyewo, B. 2021. Sustainable development goals (SDG) reporting: an analysis of disclosure. *Journal of Accounting in Emerging Economies*, 12(5):761-789. <https://doi.org/10.1108/JAEE-02-2020-0037>

Erin, O.A., Bimigoye, O.A. 2021. Evaluation and analysis of SDG reporting: evidence from Africa. *Analysis of SDG reporting*. 18(3):2 <http://dx.doi.org/10.1108/JAOC-02-2020-0025>

Estoque, R.C., 2023. Complexity and diversity of nexuses: A review of the nexus approach in the sustainability context. *Science of The Total Environment*. 854:158612.
<https://www.sciencedirect.com/science/article/pii/S0048969722057114>

FAO (Food and Agriculture Organization of the United Nations). 1996. *Food security: concepts and measurement*. <https://www.fao.org/3/y4671e/y4671e06.htm> Date of access: 27 Feb. 2023

Fleming, A., Wise, R.M., Hansen, H. & Sams, L. 2017. The sustainable development goals: A case study. *Marine Policy*, 86: 94-103. <https://doi.org/10.1016/j.marpol.2017.09.019>

- Flower, J. 2015. The international integrated reporting council: a story of failure. *Critical Perspectives on Accounting*, 27:1-17. <https://doi.org/10.1016/j.cpa.2014.07.002>
- Fukuda-Parr, S. & Muchhala, B. 2020. The Southern origins of sustainable development goals: Ideas, actors, aspirations. *World Development*, 126(1):104706. <https://doi.org/10.1016/j.worlddev.2019.104706>
- Gall, M. D., Gall, J. P., & Borg, W. R. 2003. *Educational research: An introduction*. 7th ed. Boston, MA: Pearson.
- Garzón-Jiménez, R. & Zorio-Grima, A. 2022. Sustainability in the food and beverage sector and its impact on the cost of equity. *British Food Journal*, 124(8): 2497-2511. <https://doi.org/10.1108/BFJ-05-2021-0572>
- Glauber, J.W. & Laborde Debucquet, D. 2023. *The Russia-Ukraine conflict and global food security*. IFPRI books. <https://doi.org/10.2499/9780896294394> Date of access: 10 Oct. 2023.
- Gleeson-White, J. 2014. *Six Capitals: The revolution capitalism has to have--or can accountants save the planet?*. Allen & Unwin.
- Global Investors for Sustainable Development (GISD) Alliance. 2021. *Sector-Specific*
- Guba, E.G., & Lincoln, Y.S. 1982. Epistemological and methodological bases of naturalistic inquiry. *Education Communication and Technology Journal*, 30(4):233–252. <https://doi.org/10.1007/BF02765185>
- Gunawan, J., Permatasari, P. & Tilt, C. 2019. Sustainable development goal disclosures: Do they support reasonable consumptions and productions? *Journal of clear production*, 246: 1-12. <https://doi.org/10.1016/j.jclepro.2019.118989>
- Guo, H., Liang, D., Sun, Z., Chen, F., Wang, X., Li, J., Zhu, L., Bian, J., Wei, Y., Huang, L. & Chen, Y. 2022. Measuring and evaluating SDG indicators with Big Earth Data. *Science Bulletin*, 67(17): 1792-1801. <https://doi.org/10.1016/j.scib.2022.07.015>
- Guthrie, J., Petty, R., Yongvanich, K. & Ricceri, F. 2004. Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of intellectual capital*, 5(2): 282-293. <https://doi.org/10.1108/14691930410533704>
- Hamad, S., Lai, F.W., Shad, M.K., Khatib, S.F. & Ali, S.E.A. 2023. Assessing the implementation of sustainable development goals: does integrated reporting matter?

Sustainability Accounting, Management, and Policy Journal, 14(1): 49-74.

<http://dx.doi.org/10.1108/SAMPJ-01-2022-0029>

Hatayama, H. 2022. The metals industry and the Sustainable Development Goals: The relationship explored based on SDG reporting. *Resources, Conservation and Recycling*, 178: 106081. <https://doi.org/10.1016/j.resconrec.2021.106081>

Hoffman, M. 2012. KPMG. *Integrated Reporting in practice: The South African story*. <https://assets.kpmg.com/content/dam/kpmg/pdf/2013/04/the-south-african-story.pdf> Date of access: 27 Jul. 2023.

Hox, J.J. & Boeijs, H.R. 2005. Data collection, primary versus secondary. *Encyclopedia of Social Measurement*, 1: 593-599. https://dspace.library.uu.nl/bitstream/handle/1874/23634/hox_05_data+collection,primary+versus+secondary.pdf?sequence=1

Hummel, K. & Szekely, M. 2022. Disclosure on the sustainable development goals—Evidence from Europe. *Accounting in Europe*, 19(1):152-189. <https://doi.org/10.1080/17449480.2021.1894347>

Iazzi, A., Ligorio, L., Vrontis, D. & Trio, O. 2021. Sustainable Development Goals and healthy foods: perspective from the food system. *Sustainable Development Goals and food system*, 124(4):1081-1102. <https://doi.org/10.1108/BFJ-02-2021-0197>

IFRC. 2022. *Africa: Hunger crisis*. <https://www.ifrc.org/emergency/africa-hunger-crisis> Date of access: 14 Mar. 2023.

Institute of Directors South Africa (IDSA). 2010. *King Report on Governance for South Africa 2009: King Code of Governance Principles for South Africa 2009; Companies Act 71 of 2008*. Juta and Company Ltd.

Integrated Reporting <IR>. 2011. *Towards Integrated Reporting: Communicating value in the 21st century*. http://www.integratedreporting.org/wp-content/uploads/2011/09/IR-Discussion-Paper-2011_single.pdf

International Integrated Reporting Council (IIRC). 2021. *International <IR> framework January 2021*. http://www.integratedreporting.org/wp-content/uploads/2022/08/IntegratedReportingFramework_081922.pdf Date of access: 9 May. 2023.

- Ionaşcu, E., Mironiuc, M., Anghel, I. & Huian, M.C. 2020. The Involvement of Real Estate Companies in Sustainable Development—An Analysis from the SDGs Reporting Perspective. *Sustainability*, 12(3): 798. <http://dx.doi.org/10.3390/su12030798>
- Jesson, J.K, Matheson, L. & Lacey, F.M. 2011. *Doing Your Literature Review: traditional and systematic techniques*. London: Sage Publications.
- Jimenez, D., Franco, I.B. & Smith, T. 2021. A Review of Corporate Purpose: An Approach to Actioning the Sustainable Development Goals (SDGs). *Sustainability*, 13(7):1-21
<https://doi.org/10.3390/su13073899>
- JSE (Johannesburg Stock Exchange). 2022. *Leading the way for a better tomorrow JSE Sustainability Disclosure Guidance*.
<https://www.jse.co.za/sites/default/files/media/documents/JSE%20Sustainability%20Disclosure%20Guidance%20June%202022.pdf> Date of access: 25 March 2023.
- Killam, L. 2013. *Research terminology simplified: Paradigms, axiology, ontology, epistemology and methodology*. Sunbury, ON: Lauren Killam.
- Kothari, C.R. 2004. *Research methodology: Methods and Techniques*. New Age International (P) Limited, Publishers.
- KPMG. 2018. *Reporting on SGDs*. <https://kpmg.com/xx/en/home/insights/2018/11/reporting-the-sdgs-what-good-looks-like.html> Date of access: 6 June 2023.
- Krippendorff, K. 2004. *Content analysis: An introduction to its Methodology*. 2nd ed. Thousand Oaks, CA: Sage Publications.
- Labour Research Service (LRS). 2022. *Food and Beverage Sector Report 2022*.
<https://www.lrs.org.za/wp-content/uploads/2023/01/Food-and-Beverage-Sector-Report-2022.pdf>
Date of access: 29 Jul.2023.
- Labour Research Service (LRS). 2022. *LRS Annual Report*. <https://lrs.org.za/wp-content/uploads/2023/07/LRS-Annual-Report-2022.pdf> Date of access: 5 Jun. 2023.
- Lashitew, A.A. 2021. Corporate uptake of the Sustainable Development Goals: Mere greenwashing or an advent of institutional change? *Journal of International Business Policy*, (4):184-200. <https://doi.org/10.1057/s42214-020-00092-4>

Lee, W.J. 2012. 'Using documents in organizational research', in G. Symon and C. Cassell (eds) *Qualitative Organizational Research: Core Methods and Current Challenges*. London: Sage publishers.

Libstar Holdings Ltd (Libstar). 2022. Integrated Report.

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjs8uvA3YeCAxWkWKwEAHYdhA9UQFnoECAgQAQ&url=https%3A%2F%2Fwww.libstar.co.za%2Fwp-content%2Fuploads%2F2022%2F04%2FLibstar-Integrated-Annual-Report-2021.pdf&usq=AOvVaw3q0BjRfUHc0NME4MKEVcL-&opi=89978449> Date of access: 19 Sept. 2023.

Lodhia, S., Kaur, A. & Kuruppu, S.C. 2022. The disclosure of sustainable development goals (SDGs) by the top 50 Australian companies: substantive or symbolic legitimization? *Meditari Accountancy Research*. <http://dx.doi.org/10.1108/MEDAR-05-2021-1297>

Matthes, B. & Zatoński, M. 2019. Tobacco control and sustainable development: shared challenges and future opportunities. *Journal of Health Inequalities*, 5(1): 71-79. <https://doi.org/10.5114/jhi.2019.87840>

Merton, R.K. & Kendall, P.L. (1949). The focused interview. *American Journal*

Mouton, J. 2001. How to succeed in your master's and doctoral studies: A South African guide and resource book. Van Schaik.

Oates, B. J. 2006. *Researching information systems and computing*. London: SAGE Publications.

Oceana Group Ltd (Oceana). 2022. Integrated Report.

https://oceana.co.za/pdf/Oceana_Integrated_Annual_Report_FYE_30_September_2022.pdf Date of access: 22 Sept. 2023.

Premier Fishing Brands Ltd (PFB). 2022. Integrated Report. <https://premierfishing.co.za/wp-content/uploads/2022/12/Premier-Fishing-and-Brands-IAR-Report-2022.pdf> Date of access: 23 Sept. 2022.

Quantum Foods Holdings Ltd (Quantum). 2022. Integrated Report.

<https://quantumfoods.co.za/downloads/2022/quantum-foods-integrated-report-2022.pdf> Date of access: 20 Sept. 2023.

Rabianski, J.S. 2003. Primary and secondary data: Concepts, concerns, errors, and issues. *The Appraisal Journal*, 71(1): 43-55.

RCL Foods Ltd (RCL). 2022. *Integrated Annual Report*. <https://rclfoods.com/wp-content/uploads/2022/09/2022-Abridged-Integrated-Annual-Report.pdf> Date of access: 24 Sept. 2023.

Rehman, A.A. & Alharthi, K. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, 3(8): 51-59.
<http://www.ijeionline.com/attachments/article/57/IJEI.Vol.3.No.8.05.pdf>

RFG Holdings Ltd (RFG). 2022. *Integrated Report*.
<https://www.rfg.com/app/uploads/2020/12/Integrated-Annual-Report.pdf> Date of access: 18 Sept. 2023.

RFG Holdings Ltd (RFG). 2022. *Sustainability Report*.
<https://www.rfg.com/app/uploads/2020/12/Sustainability-Report.pdf> Date of access: 18 Sept. 2023.

Richards, K. 2003. *Qualitative inquiry in TESOL*. New York, NY: Palgrave Macmillan.

Rodriguez-Sanchez, C. & Sellers-Rubio, R. 2020. Sustainability in the beverage industry: A research agenda from the demand side. *Sustainability*, 13(1): 186.
<https://doi.org/10.3390/su13010186>

Rosati, F. & Faria, L.G. 2019. Addressing the SDGs in sustainability reports: The relationship with institutional factors. *Journal of cleaner production*, 215.
<https://doi.org/10.1016/j.jclepro.2018.12.107>

Safe Food Alliance. 2023. *What is GFSI: Getting Started with the Global Food Safety Initiative (GFSI)*. <https://safefoodalliance.com/food-safety-resources/what-is-gfsi/> Date of access: 19 Oct. 2023.

SASB Standards. 2023. *Agricultural Products: Sustainability Accounting Standard*.
https://d3flraxduht3gu.cloudfront.net/latest_standards/agricultural-products-standard_en-gb.pdf
Date of access: 12 Sep. 2023.

SASB Standards. 2023. *Food Retailers & Distributors: Sustainability Accounting Standard*. https://d3flraxduht3gu.cloudfront.net/latest_standards/food-retailers-and-distributors-standard_en-gb.pdf Date of access: 12 Sep. 2023.

SASB Standards. 2023. *Meat, Poultry & Dairy: Sustainability Accounting Standard*. https://d3flraxduht3gu.cloudfront.net/latest_standards/meat-poultry-and-dairy-standard_en-gb.pdf Date of access: 12 Sep. 2023.

SASB Standards. 2023. *Processed Foods: Sustainability Accounting Standard*. https://d3flraxduht3gu.cloudfront.net/latest_standards/processed-foods-standard_en-gb.pdf Date of access: 12 Sep. 2023.

Saunders, M, Lewis, P. & Thornhill, A. 2009. *Research Methods for Business Students*. 6th ed. Pearson Education Limited.

Saunders, M., Lewis, P. & Thornhill, A. 2019. *Research Methods for Business Students*. Pearson Education, Limited, Harlow.

Sea Harvest Corporation (Pty) Limited (Sea Harvest). 2022. *Environmental, social, and governance report*. <https://seaharvestgroup.co.za/wp-content/uploads/2023/08/SHG-Environmental-Social-and-Governance-Report-for-the-Year-Ended-31-December-2022.pdf> Date of access 19 Sept. 2023.

Shocker, A.D. & Sethi, S.P. 1973. An approach to developing societal preferences in developing corporate action strategies. *California Management Review*, 15(4): 97-105. <https://doi.org/10.2307/41164466>

Shoket, M. 2014. Research Problem: Identification and Formulation. *International Journal of Research*, 1(4):512-518.

Sileyew, K.J. 2019. Research design and methodology. IntechOpen: Cyberspace.

Singh, A.S. & Masuku, M.B. 2013. Fundamentals of applied research and sampling techniques. *International journal of medical and applied sciences*, 2(4): 124-132.

Singh, Y.K. 2006. *Fundamental of research methodology and statistics*. New Age International.

Slater, S.F., Hult, G.T.M. & Olson, E.M. 2007. On the importance of matching strategic behavior and target market selection to business strategy in high-tech markets. *Journal of the Academy of Marketing Science*, (35): 5-17. <https://doi.org/10.1007/s11747-006-0002-4>

Stafford-Smith, M., Griggs, D., Gaffney, O., Ullah, F., Reyers, B., Kanie, N., Stigson, B., Shrivastava, P., Leach, M. & O'Connell, D. 2017. Integration: the key to implementing the Sustainable Development Goals. *Sustainability science*, 12: 911-919.

<http://dx.doi.org/10.1007/s11625-016-0383-3>

Stats SA (Statistics South Africa). 2019. *Sustainable Development Goals: Country report 2019*. http://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf Date of access: 15 Mar. 2023.

Stats SA (Statistics South Africa). 2020. *Measuring Food Security in South Africa: Applying the Food Insecurity Experience Scale*. https://www.statssa.gov.za/?page_id=1854&PPN=Report-03-00-19&SCH=73280 Date of access: 20 Mar. 2023.

Stats SA (Statistics South Africa). 2021. *Focus on food inadequacy and hunger in South Africa in 2021*. <https://www.statssa.gov.za/?p=16235> Date of access: 20 March 2023.

Statssa. 2022. *Food and beverages (Preliminary): July 2022*. <https://www.statssa.gov.za/publications/P6420/P6420July2022.pdf>

Stemler, S. 2000. An overview of content analysis. *Practical assessment, research, and evaluation*, 7(1):1-7. <https://doi.org/10.7275/z6fm-2e34>

Suri, H. 2011. Purposeful sampling in qualitative research synthesis. *Qualitative research journal*, 11(2): 63-75.

Tashakkori, A. & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*, *Applied Social Research Methods Series*. London: Sage publishers.

Taylor, J.K. & Cihon, C. 2004. *Statistical techniques for data analysis*. CRC Press. 2nd ed. London: CRC Press.

The Presidency Republic of South Africa. 2023. *Confronting the energy crisis: Actions to end load shedding and achieve energy security*. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiYosCgYLKCAxW1SEEAHTOhAMIQFnoECBIQAQ&url=https%3A%2F%2Fwww.thepresidency.gov.za%2Fdownload%2Ffile%2Ffid%2F2532&usq=AOvVaw1DcY2x13Km1368LrKKN93p&opi=89978449> Date of access: 23 Oct. 2023.

Tiger Brands Ltd (Tiger Brands). 2022. *Integrated Annual Report*. <https://www.tigerbrands-ir-digital.com/reports/2022/Tiger-Brands-IAR-2022/pdf/IAR-spread.pdf> Date of access: 20 Sept. 2023.

Tiger Brands Ltd (Tiger Brands). 2022. *Sustainability Report*. <https://www.tigerbrands-ir-digital.com/reports/2022/Tiger-Brands-SD-2022/pdf/SR-spread.pdf> Date of access: 20 Sept. 2023.

Tongaat Hulett. 2023. *Business Rescue*. <https://www.tongaat.com/business-rescue/> Date of access: 15 Oct. 2023.

Turpin, M. & Van Belle, J. 2021. Fast-tracking Research Methodology Immersion for Students: Experiences from a Project on Fairwork in the Gig Economy. *The Electronic Journal of Business Research Methods*, 19(2): 84-94.

Tyrer, S. & Heyman, B. 2016. Sampling in epidemiological research: issues, hazards and pitfalls. *BJPsych bulletin*, 40(2): 57-60.

United Nations Global Compact. 2015. *SDG services*. <https://www.sdg.services/principles.html> Date of access: 15 Apr. 2023.

United Nations Global Compact. 2018. *Integrating the SDGs into corporate reporting: a Practical guide*. <https://www.globalreporting.org/search/?query=Business+Reporting+on+the+SDGs+-+An+Analysis+of+the+Goals+and+targets%3a+2022> Date of access: 1 Jun. 2023

United Nations Global Compact. 2022. *An analysis of the goals and targets 2022*. <https://www.globalreporting.org/search/?query=Business+Reporting+on+the+SDGs+-+An+Analysis+of+the+Goals+and+targets%3a+2022> Date of access: 23 Apr. 2023.

United Nations Global Compact: CEO Water Mandate. 2017. *Business Reporting on the SDGs: An Analysis of the Goals and Targets (2017)*. <https://ceowatermandate.org/resources/business-reporting-sdgs-analysis-goals-targets-2017/> Date of access: 2 Jun. 2023.

United Nations. 2015. *The 17 goals*. <https://sdgs.un.org/goals> Date of access: 24 Feb. 2023.

United Nations. 2023. *Goal 2: Zero Hunger*. <https://www.un.org/sustainabledevelopment/hunger/> Date of access: 10. Oct. 2023.

United Nations. 2023. *Goal 2: Zero Hunger: The Targets*. <https://www.un.org/sustainabledevelopment/hunger/> Date of access: 16. Oct. 2023.

United Nations. 2023. *The Sustainable Development Goals Report Special edition*.
<https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf>
Date of access: 10 Oct. 2023.

United States Agency International Development (USAID). 2023. *Agriculture and food security*.
<https://www.usaid.gov/south-africa/agriculture-and-food-security> Date of access: 10 Oct. 2023.

Vallet-Bellmunt, T., Fuertes-Fuertes, I. & Flor, M.L. 2023. Reporting Sustainable Development Goal 12 in the Spanish food retail industry. An analysis based on Global Reporting Initiative performance indicators. *Corporate Social Responsibility and Environmental Management*, 30(2): 695-707. <https://doi.org/10.1002/csr.2382>

Verschuren, P. & Doorewaard, H. 2010. *Designing a research project*. 2nd ed. The Hague: Eleven International Publishing.

Vogliano, C., Murray, L., Coad, J., Wham, C., Maelaue, J., Kafa, R. & Burlingame, B. 2021. Progress towards SDG 2: Zero hunger in Melanesia—A state of data scoping review. *Global Food Security*, 29: 100519. <https://doi.org/10.1016/j.gfs.2021.100519>

Walliman, N. 2005. *Your research project: a step-by-step guide for the first-time researcher*. 2nd ed. London: Sage Publications.

Wilburn, K.M. & Wilburn, H.R. 2016. The growing importance of integrated reporting for corporate social responsibility. *Review of business & finance studies*, 7(2): 75-89.
<https://ssrn.com/abstract=2801775>

Wilson, J. 2014. *Essentials of business research: a guide to doing your research project*. 2nd ed. Los Angeles, CA: Sage.

Wolf, C. & Seuring, S. 2010. Environmental impacts as buying criteria for third party logistical services. *International Journal of Physical Distribution & Logistics Management*, 40(1/2): 84-102. <https://www.emerald.com/insight/content/doi/10.1108/09600031011020377/full/html>

World Food Programme (WFP). 2023. *A global food crisis*. <https://www.wfp.org/global-hunger-crisis> Date of access: 29 Jul.2023.

World Food Summit. 1996. *Report of the World Food Summit*.
<https://www.fao.org/3/w3548e/w3548e00.htm> Date of access: 27 Feb. 2023.

World Trade Organization. 2023. *Global Food Safety Initiative Safe food for consumers, everywhere*.

https://www.wto.org/english/tratop_e/sps_e/sps_thematic_session_31120_e/2.2_gsfi_anne_gerardi.pdf Date of access: 18 Oct. 2023.

Yonehara, A., Saito, O., Hayashi, K., Nagao, M., Yanagisawa, R. & Matsuyama, K. 2017. The role of evaluation in achieving the SDGs. *Sustainability Science*, 12: 969-973.

<https://link.springer.com/article/10.1007/s11625-017-0479-4>

Young, M., Varpio, L., Uijtdehaage, S. & Paradis, E. 2020. *The spectrum of inductive and deductive research approaches using quantitative and qualitative data*. *Academic Medicine*, 95(7):1122.

Žukauskas, P., Vveinhardt, J. & Andriukaitienė, R. 2018. *Management culture and corporate social responsibility*. London. United Kingdom: IntechOpen.

APPENDIX 1: ETHICAL CLEARANCE CERTIFICATE



Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: <http://www.nwu.ac.za>

Senate Committee for Research Ethics
Tel: 018 299-484
Feziwe.Mseleni@nwu.ac.za

18 July 2023

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the Economic and Management Sciences Research Ethics Committee (EMS-REC) on, 30/06/2023 the Economic and Management Sciences Research Ethics Committee hereby approves your study as indicated below. This implies that the North-West University Senate Committee for Research Ethics (NWU-REC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Evaluating South African JSE-listed food, beverage and tobacco companies' SDG disclosure

Study Leader/Supervisor (Principal Investigator)/Researcher: Prof S Middelberg and N Gulko

Student: E Booysen (31586899)

N	W	U	-	0	0	7	2	1	-	2	3	-	A	4
Institution			Study Number						Year			Status		

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type:

Commencement date: 18/07/2023

Expiry date: 18/07/2024

Risk: Minimal

Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.

Special in process conditions of the research for approval (if applicable):

•

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- *The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the EMS-REC:*
 - *annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and*
 - *without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.*
- *The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the EMS-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.*
- *Annually a number of studies may be randomly selected for an external audit.*
- *The date of approval indicates the first date that the study may be started.*

- n the interest of ethical responsibility, the NWU-SCRE and EMS-REC reserves the right to:*
- request access to any information or data at any time during the course or after completion of the study;*
 - to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;*
 - withdraw or postpone approval if:*
 - any unethical principles or practices of the study are revealed or suspected;*
 - it becomes apparent that any relevant information was withheld from the EMS-REC or that information has been false or misrepresented;*
 - submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and /or*
 - new institutional rules, national legislation or international conventions deem it necessary.*

The EMS-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the EMS-REC or the NWU-SCRE for any further enquiries or requests for assistance.

Yours sincerely,



Signed on behalf of Prof Mark Rathbone
Chairperson: NWU Economic and Management Sciences Research Ethics Committee

APPENDIX 2: LANGUAGE CERTIFICATE

FORMAL DECLARATION OF LANGUAGE EDITING



I, Mari Grobler, hereby declare that I have language edited the dissertation, titled:

Evaluating SDG disclosure of South African JSE-listed food, beverage, and tobacco companies

for **Elizma Booysen** for the purpose of submission as a dissertation.

Changes were suggested in the form of electronic track changes and comments. Implementation was left to the discretion of the author.

Please contact me, should there be any questions concerning the language editing of this study.

Yours sincerely

Mari Grobler

University of the Free State — BA Communication Science (English III)

Stellenbosch University — Postgraduate Diploma in Editing

STADIO — PGCE (SP & FET) English Home Language

APPENDIX 3: OVERALL SDG REPORTING RESULTS USING THE KPMG GUIDANCE

	Criteria	Criteria	Evaluation question	FB1	FB2	FB3	FB4	FB5	FB6	FB7	FB8	FB9	FB10	FB11	FB12	total	%
Understanding	1.1 Does the reporting demonstrate the business case for taking action on the SDGs?	1	Did the reporting carefully examine the SDG business risks and/or opportunities?	0	1	0	0	0	1	0	0	0	1	1	0	4	33,33%
	1.2 Does the CEO and/or Chair's message talk about the SDGs?	2	Did the CEO or Chair's message talk about their commitment to SDGs as part of their long-term strategy?	0	1	0	0	1	1	1	1	0	1	1	0	7	58,33%
	1.3 Does the reporting assess the business's impact on SDGs?	3	Did the reporting communicate their positive and negative impacts on SDGs - "contributing to global problems, as well as helping to solve them"?	0	1	0	1	0	0	0	1	1	0	1	1	6	50,00%
Prioritisation	2.1 Does the reporting identify priority SDGs for the company?	4	Did the company identify specific SDGs that are most relevant to the company and its	0	1	0	1	0	1	1	1	1	1	1	1	9	75,00%
	2.2 Does the reporting explain the methodology the company used to prioritize the SDGs?	5	Did the company communicate the applicable method they use to identify and prioritize the most relevant SDG?	0	0	0	0	0	1	0	1	0	0	0	0	2	16,67%
	2.3 Does the reporting identify specific SDG targets that are relevant to the	6	Did the reporting disclose which of the 169 UN SDG targets are most relevant to the company?	0	0	0	0	0	0	0	1	1	1	0	0	3	25,00%
Measurement	3.1 Does the reporting disclose SDG performance goals for the company?	7	Did the company set specific performance targets to evaluate their contribution towards each of the relevant SDGs?	0	1	0	0	1	1	1	1	1	1	0	1	8	66,67%
	3.2 Does the reporting set SDG performance goals that are SMART?	8	Did the company set performance targets are SMART (specific, measurable, achievable, relevant and time-bound)?	0	0	0	0	0	1	0	0	1	1	0	1	4	33,33%
	3.3 Does the reporting detail the indicators the company is using to measure the progress of its SDG activities?	9	Did the company describe indicators to enable to company to report on its SDG performance by measuring its progress against key performance	0	0	0	0	0	0	0	0	1	1	0	1	3	25,00%
Did the company's integrated or sustainability reports address sustainability or Corporate social responsibility (CSR)				1	1	1	1	1	1	1	1	1	1	1	1	12	100,00%
																46	42,59%

APPENDIX 4: SDG 2 REPORTING RESULTS USING SDG REPORTING GUIDANCE

Business theme	Available Business disclosure	Criteria	FB1	FB2	FB3	FB4	FB5	FB6	FB7	FB8	FB9	FB10	FB11	FB12		%
Customer Welfare	Product Health & Nutrition	Criterion 1	0	1	0	0	0	0	0	1	0	0	0	1	3	25,00%
		Criterion 2	0	1	0	0	0	1	0	1	0	0	0	1	4	33,33%
Product Quality & Safety	Food Safety	Criterion 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 5	0	0	0	0	0	0	0	1	0	0	0	1	2	16,67%
		Criterion 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 7	0	0	1	0	0	1	0	0	0	0	0	0	2	16,67%
		Criterion 8	0	0	1	0	1	1	0	1	1	1	0	1	7	58,33%
		Criterion 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
Ecosystem quality and biodiversity		Criterion 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 14	0	0	0	0	0	0	0	0	0	0	0	1	1	8,33%
Supply Chain Management	Environmental & Social Impacts of Ingredient Supply	Criterion 15	1	1	1	0	0	1	1	1	0	0	1	0	7	58,33%
		Criterion 16	0	1	1	0	0	1	0	1	0	0	1	1	6	50,00%
		Criterion 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
	Management of Environmental & Social Impacts in the Supply Chain	Criterion 19	0	1	1	0	1	1	1	1	1	0	1	1	9	75,00%
		Criterion 20	0	1	1	0	1	0	0	0	1	0	0	1	5	41,67%
		Criterion 21	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 22	0	1	0	0	0	0	0	1	0	0	0	1	3	25,00%
Ecological Impacts	Land Use & Ecological Impacts	Criterion 23	0	1	0	0	0	0	0	1	1	0	0	0	3	25,00%
		Criterion 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 26	0	1	1	1	0	1	0	1	1	1	1	1	9	75,00%
Energy Management	Energy Management	Criterion 27	0	1	1	1	0	1	0	1	1	0	1	1	8	66,67%
		Criterion 28	0	1	1	1	0	1	0	1	1	0	1	1	8	66,67%
		Criterion 29	0	1	0	0	0	0	0	1	1	0	1	0	4	33,33%
		Criterion 30	0	1	0	0	0	0	0	0	0	0	1	0	2	16,67%
	Greenhouse Gas Emissions	Criterion 31	0	1	1	1	1	1	0	1	1	1	1	1	10	83,33%
		Criterion 32	0	1	1	1	0	1	0	0	0	1	0	1	6	50,00%

Materials Sourcing & Efficiency	Ingredient Sourcing	Criterion 33	0	1	1	1	1	1	1	1	1	1	1	1	1	1	10	83,33%
		Criterion 34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,00%
		Criterion 35	1	1	0	1	0	1	1	1	1	1	0	0	1	1	8	66,67%
		Criterion 36	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	8,33%
		Criterion 37	0	1	0	1	0	0	0	0	1	0	1	0	1	0	4	33,33%
Water & Wastewater Management	Water Management	Criterion 38	0	1	1	0	0	1	0	1	1	1	1	1	1	1	8	66,67%
		Criterion 39	0	1	1	1	0	1	1	1	1	1	1	0	1	1	9	75,00%
		Criterion 40	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	16,67%
			2	20	15	9	5	16	5	18	14	7	12	18	141	29,38%		