

**THE RELATIONSHIP BETWEEN INTEGRATED REPORTING ASSURANCE AND  
INVESTMENT DECISION-MAKING**

by

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## DECLARATION

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### **The relationship between integrated reporting assurance and investment decision-making**

I Phoebe Danisa Mushwana declare that this dissertation is that of my personal work and that all sources used or quoted are acknowledged by full citation.

Further to that, I declare that the dissertation was submitted to originality checking software and that it falls within the accepted originality requirements.

I also declare that this work, or part of it, was not previously submitted for examination at Unisa for a different qualification or any other higher education institution.

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## **DEDICATION**

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This qualification is dedicated to my offsprings, Daniel, Zuriel and Aviella. They saw me through this journey and I am most thankful for the support and patience when I would sometimes have to take time away from spending with them to work until late hours at night in order meet my deadlines and get to the completion of this qualification.

## ABSTRACT

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Integrated reporting has received much recognition in the last decade, with many companies, mandated or not, having adopted it and made it the current frontier in corporate reporting. Integrated reporting has become of value for investment decision-making. Consequently, the need for integrated reports (IRs) to be deemed credible and reliable has also increased which has intensified the importance placed on the assurance of IRs. The study aimed to investigate the relationship between integrated reporting assurance and investment decision-making. Thus, the relationship between the independent variable and dependent variable was investigated. The study used a sample of 100 companies that have a public listing on the Johannesburg Stock Exchange (JSE) over a three-year period (2018, 2019 and 2020) to collect the secondary data used to measure the variables. The reason for choosing JSE listed companies and this period was motivated by the fact that JSE-listed companies had been publishing integrated reports since 2010 as well as the expectation that the companies are likely to have adopted the practice of assuring their IRs because they have the resources. A purposive non-probability sampling technique was applied in this study to choose a manageable sample intended to achieve a fair distribution of companies in the various industries. Using a multiple regression approach to analyse the data, the findings of this study displayed an increase in companies assuring their integrated reports and confirm a positive relationship between integrated reporting assurance and investment decision-making.

**Keywords:** Integrated report (IR), Integrated reporting, integrated reporting assurance, investment decision-making.

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# CHAPTER 1

## INTRODUCTION OF THE STUDY

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### 1.1 Background

An IR is described by the International Integrated Reporting Committee (IIRC 2013a) as a brief report that encompasses pertinent information that is both financial as well as not financial of an organisation that leads to value creation from short to long term. The integrated reporting practice has evolved rapidly since the IIRC was founded in 2010 (Rinaldi, Unerman & De Villiers, 2018:1298). The acceptance of integrated reporting is growing at an accelerated pace (Maroun, 2018:200).

In 2010, South Africa (SA) was the first country to make it mandatory for companies listed on the JSE database to prepare and publish IRs on an annual basis (Haji & Anifowose, 2016:199). Therefore, SA took a principal position in the promotion of integrated reporting (McNally, Cerbone & Maroun, 2017:483). The United Kingdom (UK) also published a strategy report in 2010, requiring all companies to provide reporting on their strategies, business models, key trends and their impact on the environment, employees and communities (Ahmed Haji & Anifowose, 2016a:918).

Even though it is only listed companies on the JSE that are mandated to publish IRs in SA, unlisted companies are voluntarily preparing and publishing integrated reports because of their perceived benefits (Briem & Wald, 2018:1462). To respond to the organisations that adopted integrated reporting early without any guidelines, the IIRC came about in 2010 and in 2013 published the International Integrated Reporting (IIR) Framework to assist companies when preparing their IRs (Miller, Fink & Proctor, 2017:5).

Goicoechea, Gomez-Bezarez and Ugarte (2019:4) maintain that, outside the importance of publishing of IRs, companies will also profit from developing integrated thinking. The growing popularity of integrated reporting has opened up calls for the assurance of IRs to be able to boost the integrity and reliability of IRs.

Roberts (2017:10) highlights the emergence of integrated reporting as a leading form of corporate reporting in SA that also created considerable number of benefits, internally and externally, for organisations that have adopted the practice. One of the benefits of adopting integrated reporting is the improvement in internal incorporation and management. According to IFAC (2017:3), integrated reporting has enhanced the manner in which companies ponder, plan and report on their business. In addition, transparent communication and transparency of IRs allow its users to make sound decisions.

The growing value of integrated reporting has made stakeholders to request for IRs to be assured (Maroun, 2018:189). However, integrated reporting assurance is currently not a regulated practice, so it is voluntary. Briem and Wald (2018:1464) believe that many companies are voluntarily assuring their integrated reports for the benefits that they derive from them, such as the enhancing the integrity and reliability of the information in the IRs, risk minimisation and reputational considerations.

Due to the limitations of the existing professional standards of integrated reporting assurance, assurance service providers are currently limited to assuring the financial part of the report (Maroun, 2018; Kilic, 2018; Briem & Wald, 2018). This is a result of the limitations in the existing professional standards and the fact that the assurance of IRs is not yet mandatory. According to Maroun (2020:199), there are steps being taken to address the limitations in the existing professional standards. The International Financial Reporting Standards (IFRS) Foundation previously broadcasted the formation of the International Sustainability Standards Board (ISSB) and the consolidation of the Value Reporting Foundation, home to the Framework of integrated reporting together with Sustainability Accounting Standards Board (SASB) Standards. Recently, the consolidation of Value Reporting Foundation was completed into the IFRS Foundation. It is in this context this study evaluated the existing position of the assurance of IRs of JSE listed companies in SA and in what way the current integrated reporting assurance practices relate with users' investment decision-making.

The rest of this chapter is presented as follows: Section 1.2 covers a brief literature review surrounding the topic; section 1.3 covers the problem statement; followed by the research

question and research objectives in sections 1.4 and 1.5. The hypothesis statement is provided in section 1.6, followed by the thesis statement in section 1.7. Section 1.8 presents delineation and limitations which are followed by section 1.9 which presents the definitions of terms and concepts and the research methodology in section 1.10. Section 1.11 presents the ethical considerations followed by section 1.12 which elaborates the significance of the study. The researcher concludes the chapter with a presentation of the chapter overview in section 1.13 and section 1.14 which provides the summary of the chapter.

## **1.2 Literature review**

The literature assessment of this study was conducted with the use of various sources, mostly journal articles. The study considered the different aspects of integrated reporting. The literature review is discussed in Chapters 2 and 3. Chapter 2 discusses integrated reporting along with the assurance of IRs, the current practice and problems faced by companies when dealing with the assurance of IRs as well as the benefits of assuring IRs. Chapter 2 also introduces the literature on the theoretical framework of this study which stakeholder theory was found to be most applicable. The challenges and benefits of integrated reporting assurance are also reviewed in Chapter 2 of this study. The review of the literature in Chapter 2 shows that the assurance of IRs influences the credibility and reliability of IRs which in turn improve investment attractiveness.

Chapter 3 of this study reviews the literature on investment, investment in SA and the importance of IRs on investment decision-making and the assurance of IRs as a landscape for investment decision-making. The concept of investment is reviewed in Section 3.2 and clearly describes the term investment and the motives that drive investors to invest. Research shows that credibility and public trust are vital to global investment and economic development (Gunn, 2007:38). Thus, the literature in Chapter 2 and 3 confirms that integrated reporting assurance improves companies' reputations, making investment decision-making more attractive to investors.

The literature on the need for the assurance of IRs is reviewed as well as the relationship

that IR assurance has with users' investment decision-making in the two chapters. The study examined the existing position of assurance of IRs of listed companies in SA and in what way the current integrated reporting assurance practices relate with users' investment decision-making. Thus, the research focused on JSE listed companies because of the mandatory requirement for the listed companies to publish their integrated reports annually. The next section discusses the problem statement of this study which is informed by the literature review of this study.

### **1.3 Problem statement**

The problem statement dealt with challenges that exist in the assurance of IRs, specifically, whether integrated reporting assurance has a relationship with users' investment decision-making and investments (Simpson, Aboagye-Otchere & Lovi, 2016; Briem & Wald, 2018; Maroun, 2018). Many integrated reports are not assured and, if they are, it is only for selected parts and not the entire report (Association of Chartered Certified Accountants [ACCA], 2015:5). Furthermore, this problem is worsened by the limitations of the existing professional standards when dealing specifically with assuring IRs (Maroun, 2018:401). Nevertheless, in spite of the existing challenges when assuring IRs, companies are voluntarily assuring their integrated reports.

In addition to the above problems, Briem and Wald (2018:1462) noted that there was a with the necessity for more in-depth analysis of assurance of IRs to recognise the importance of assurance in boosting the reliability and credibility of IRs, along with the influence that the assurance of IRs has on users' investment decision-making (Cheng, Green, Conradie, Konishi & Romi, 2014:14). A similar call was made by Goicoechea, Gomez-Bezales and Ugarte (2019:16) for the entire IR to have the same guarantees and credibility, and Borgato and Marchini (2021:49) when they called for research involving companies to explore the possible conditions and synergies between the mechanisms intended to ensure that the information disclosed in the IRs is dependable. Thus, responding to the calls of the assurance of IRs (as indicated above), the study evaluated the current state of assuring the IRs of companies in SA that are publicly listed and in what way the current integrated reporting assurance practices relate with users'

investment decision-making. This led to the research question in the following section.

#### **1.4 Research question**

The research question is:

- Does the assurance of integrated reports have a relationship with users' investment decision-making?

Based on the above question, the objectives of this research were formulated and are presented in the next section.

#### **1.5 Research objectives**

The objectives of this study are:

- a) To evaluate the current integrated reporting assurance practices of JSE listed companies;
- b) To determine the degree to which the JSE listed companies assure their integrated reports;
- c) To determine the association between the assurance of IRs of companies with a listing on the JSE and investment decision-making; and

To be able to achieve these objectives, the following hypotheses statements were considered.

#### **1.6 Hypotheses statements**

The study used “type of assurance” and “level of assurance” as proxies of assurance. In order to determine whether a relationship exists between the assurance of IRs and investment decision-making, the following hypotheses were formulated:

*H<sub>1</sub>: Type of assurance has positive relationship with investment decision-making.*

*H<sub>2</sub>: Level of assurance has a positive relationship with investment decision-making.*

## **1.7 Thesis statement**

The following thesis statement was developed for the study:

- The assurance of integrated reports will positively have a relationship with users' investment decision-making.

## **1.8 Delineation and limitations**

### **1.8.1 Delineation**

The study focused on the relationship between assuring the IRs of publicly listed companies in SA on users' investment decision-making. The population of the study was confined to JSE-listed companies only. Non-listed companies were not included. This was because of the JSE mandatory prerequisite for companies that are listed to prepare and publish IRs annually. These IRs are publicly accessible on the JSE website as well as the companies' websites.

For consistency, the study considered JSE-listed companies that have constantly published their IRs during the years of this study (2018-2020). The study population was restricted to JSE listed companies because large companies are more likely to assure their IRs.

### **1.8.2 Limitations of the study**

McGregor (2019:22) described limitations as those aspects of a research which are outside the control of the researcher but have an impact on the validity and reliability of the research. The focus of this research was on the relationship that the assurance of IRs has with investment decision-making by the users of the reports. Thus, the study was limited to JSE listed companies from different sectors that had five or more companies. Not all companies with a listing on the JSE formed part of this research. A comprehensive discussion on the limitations of this research is discussed in Chapter 6.

## 1.9 Definitions of terms and concepts

**Assurance** is a meticulous application of evidence resulting in a claim or statement by an assurance provider relating to a specified item or information for the purpose of enhancing reliance on that item or information (IoDSA, 2016:9).

**Integrated Report** is a report that is brief and describe how the organisation's strategy, governance, performance along with the outlook translates into value creation in the context of the external environment in the short to long term (IIRC, 2013a:7).

**Investment** is a term associated with financial growth or financial return (Prasetya & Yulianto, 2019; Siyanbola, Fregene & Ogbebor, 2019).

**Stakeholder** is an individual who is expected to be significantly influenced by the company's activities or results, outputs, or whose actions could significantly impair the company's ability to create value over time (IoDSA, 2016:17).

**User** refers to users of reports. The International Financial Reporting Standards (IFRS, 2018:5) Conceptual Framework Summary defines it as a company's current and potential investor and creditor.

## 1.10 Research methodology

The study intended to understand the relationship between the variables with the intention to explain the facts. Thus, the study applied a quantitative research method, using secondary data by means of content analysis. The data consisted of IRs collected directly from the JSE website and the websites of the selected companies for the period of this study (2018, 2019 and 2020). The study used two variables, namely, integrated reporting assurance and investment decision-making. IR assurance was used as the variable that is independent and investment decision-making as the variable that is dependable.

The study investigated the relationship between integrated reporting assurance and investment decision-making. This research used a quantitative research approach by means of a multiple regression analysis model to analyse the data. A multiple regression



model analysis examined the surface of the link between the variables to be able to establish whether integrated reporting assurance has the potential to increase investment decision-making since it is perceived to be credible and reliable by the users of the IRs. An in-depth discussion is dealt with in Chapter 4 of this study.

### **1.11 Ethical considerations**

It was important that the research was conscious of ethical considerations. An ethical clearance was successfully applied for by the researcher and it was granted by the Research Ethics Review Committee in the College of Accounting Sciences at the University of South Africa (UNISA) before the commencement of the research in April 2020. The ethical clearance granted is valid until April 2023. The ethical clearance was for the collection and use of secondary data obtained from the JSE website and the websites of the sampled companies (See Appendix A for the ethics clearance certificate issued by the College of Accounting Sciences Research Ethics Review Committee at UNISA. The secondary data collection started in November 2021 and was completed in December 2021.

### **1.12 Significance of the study**

There are limited scholarly studies focusing on a topic of the assurance of integrated reports, especially in SA. As a result, the nature and extent of assuring IRs is not yet clearly understood. As indicated in Section 1.2, this is worsened by the limitations of existing professional standards when dealing with integrated reporting assurance.

Integrated reporting assurance places companies that are willingly assuring their IRs in a favourable position (Akisik & Gal, 2019:318). Prior studies show that integrated reports are perceived as credible and reliable when assured and this is discussed in Chapter 2 of this study. With the need to enhance users' confidence, the study considered the appropriateness of the current integrated reporting assurance practices of JSE-listed companies.

This study may influence government and regulatory bodies to decide whether to retain

the current voluntary practice of integrated reporting assurance or to introduce mandatory regulations to compel listed companies on the JSE to assure their integrated reports. Additionally, it may also deliver the basis for the development of a standardised framework that could be utilised for assuring IRs and used by assurance service providers including audit professionals.

The study will assist in understanding the nature and extent of integrated reporting assurance practices in SA. The study will also provide pertinent insights into integrated reporting assurance, such as aspects that influence users' confidence in integrated reports that are assured.

### 1.13 Chapter outline

The rest of the chapters are briefly outlined below:

<b>CHAPTER 2</b>	<b>LITERATURE REVIEW: INTEGRATED REPORTING ASSURANCE</b>
	The chapter provides the literature review on integrated reporting assurance which was conducted using books, journal articles, frameworks and reports.
<b>CHAPTER 3</b>	<b>LITERATURE REVIEW: INVESTMENT</b>
	The chapter provides the literature review on investment as well as the relationship between integrated reporting assurance and investment decision-making which was conducted using books, journal articles and reports.
<b>CHAPTER 4</b>	<b>RESEARCH METHODOLOGY</b>
	The chapter gives a discussion on the research methods used to collect data together with the models applied.
<b>CHAPTER 5</b>	<b>PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA</b>
	The results of the study are reported and discussed in this chapter.
<b>CHAPTER 6</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>
	This chapter concludes the study by providing brief discussions of the other chapters including the findings from the research as well as provide recommendations for further studies.
<b>REFERENCES</b>	
<b>APPENDICES</b>	

### 1.14 Conclusion

This chapter gave the background outline of the study which included an introduction, highlights of the literature review, the problem statement, research objectives, hypotheses statements, thesis statement, the study's delineation and limitations, definitions of the

terms and concepts used, the methodology used, the ethical considerations as well as the significance of the research. The rest of the chapters are outlined in Section 1.13 above.

The purpose of this research was to understand the relationship between integrated reporting assurance with users' investment decision-making. Thus, the next chapter provides an overview of the literature on the assurance of IRs.

## **CHAPTER 2**

### **LITERATURE REVIEW: INTEGRATED REPORTING ASSURANCE**

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#### **2.1 Introduction**

This study began in Chapter 1 with an introductory discussion of the assurance of IRs, leading to the formulation of the research objectives, hypotheses statements and the thesis statement. These were supported by a brief overview of the delineations and limitations applicable to this study along with the significance of the study.

This study evaluated the current integrated reporting assurance practices of JSE listed companies and their relationship with users' investment decision-making. To provide a response to the question of this research, this chapter examines the available literature of integrated reporting assurance in order to show the need for organisations to assure their integrated reports. It will address the objectives of this study, which are:

- a) To evaluate the current integrated reporting assurance practices of JSE listed companies;
- b) To determine the degree to which the JSE listed companies assure their IRs;
- c) To determine the association between the assurance of IRs of companies with a listing on the JSE and investment decision-making; and

The chapter commences with Section 2.2 which provides an overview of the theoretical framework. The concept of integrated reporting is explained in Section 2.3 and integrated reporting assurance in Section 2.4 that also highlights the reasons for the need for and the benefits received from integrated reporting assurance. The chapter is concluded in Section 2.5. The review also shows the gaps in the existing literature.

#### **2.2 Theoretical framework**

Studies focusing on integrated reporting and integrated reporting assurance use the following theories, among others: stakeholder theory (Fernando & Lawrence, 2014;

Adhariani & De Villiers, 2019); legitimacy theory (Ahmed Haji & Anifowose, 2016b; Ahmed Haji & Anifowose, 2017); agency theory (Briem & Wald, 2018); and institutional theory (Briem & Wald, 2018). Deegan (2014:372) notes that the stakeholder theory is used to provide an explanation why organisations make certain social responsibility disclosures in their annual reports. While stakeholder theory discusses the expectations of a particular group (stakeholders), legitimacy theory discusses what the society in general expect (Deegan, 2014:373). Legitimacy theory is defined by Mousa and Hassan (2015:42) as a condition or status that exists when an organisation's value systems is consistent with the value system of the society to which the company it belongs.

Institutional theory focuses on the forms that organisations take and explains why organisations within a given domain tend to adopt similar characteristics and forms (Deegan, 2014:385). Additionally, institutional theory provides a link between the organisation and the social environment in which the organisation operates (Deegan, 2014:384). Lastly, agency theory is described by Panda and Leepsa (2017:76) as a theory that provides a discussion on the problems that happen in companies due to the split of owners and managers and stresses the mitigation of these problems.

Fernando and Lawrence (2014:150) argue that legitimacy, stakeholder and institutional theories are complementary and can be linked to non-financial information disclosure practices and to financial information disclosures (Deegan, 2014:342). However, for the purpose of this research, stakeholder theory is most applicable. The justification for the stakeholder theory and its applicability to IRs and assurance of IRs are discussed in the following section.

### **2.2.1 Stakeholder theory**

The theory of stakeholders describes the relationships between an organisation and its stakeholders, collectively with the overall performance results of the relationships (Jones, Harrison & Felps, 2018:371; Fernando & Lawrence, 2014:157). Under this theory, management is required to report information to stakeholders that include employees, customers, suppliers, banks, communities and shareholders (Tanggamani, Amran &

Ramayah, 2018:335).

Fernando and Lawrence (2014:157) further illustrate that stakeholders require organisations to meet the numerous expectations of various stakeholder groups, rather than only the expectations of shareholder. De Villiers (2018:57) suggests that stakeholders believe that social and environmental disclosure is important and that the non-financial information is used when making investment decisions. Furthermore, the Global Reporting Initiative and the International Integrated Reporting (IIR) Framework require organisations to identify their stakeholders to ensure that key sustainability information is disclosed in their sustainability and IRs (De Villiers, 2018:57).

According to Deegan (2014:373), stakeholder theory is presented in two different branches, namely, ethical (also known as normative) and positive (also known as managerial or instrumental) branches. The ethical branch of stakeholder theory calls for all stakeholders to be treated fairly by an organisation (Deegan, 2014:374). It is important that managers manage the business in the interests of the stakeholders. The values and beliefs of these managers can sometimes also be influenced by the moral and ethical values of society (Kilic, Uyar & Kuzey, 2020:3). Where unethical practices exist, Kilic et al. (2020:3) suggest that companies should demand sustainability guarantees to remain accountable and transparent to their shareholders and stakeholders.

The ethical branch's focus is on managing the organisation to the benefit of all stakeholders, while the managerial branch's focus is on managing the organisation to the benefit of its owners and powerful stakeholders (Deegan, 2014:379). The managerial branch affirms that organisational managers continue to ensure that the expectations of stakeholders who manage the organisation's key resources are met (Fernando & Lawrence, 2014:160). The power of the stakeholders is relevant for the managerial branch, and the stakeholders are identified based on the extent to which their desires need to be well managed in order to advance the activities of the organisation (Deegan, 2014:379). Stakeholders that have the most power have the most influence in the organisation from the managerial branch perspective. Organisations are expected to be accountable to the most economically empowered stakeholders in the managerial branch

of stakeholder theory, as opposed to the ethical branch, where all stakeholders are accounted for (Fernando & Lawrence, 2014:160).

### **2.2.1.1 Linking stakeholder theory to integrated reporting assurance**

Fernando and Lawrence (2014:157) suggest that “stakeholder theory deals with the relationship between an organisation and its stakeholders”. This made it more suitable for this study because it addressed the relationship between the assurance of IRs and investment decision-making by the users of the IRs. Management is required by this theory to report information to stakeholders. Thus, assuring IRs will give users of the integrated reports the confidence that the reported information is credible.

Stakeholder theory was considered more relevant to this study than the other theories described above because it addresses the relationship between integrated reporting assurance and users’ investment decision-making. Stakeholder theory accentuates an organisation’s accountability and the rights of stakeholders (Fernando & Lawrence, 2014:158). Integrated reporting aims to enhance accountability and stewardship (IIRC, 2021). Management is required by the stakeholder theory to report information to stakeholders hence the importance of IRs. Integrated reporting recognises the importance of reporting on more than just the financial information and encourages a long-term sustainable orientation that will benefit corporations and stakeholders (De Villiers, Hsiao & Maroun, 2017:941).

Martínez-Ferrero and García-Sánchez (2018:235) confirm that the assurance demand of sustainability information is a response to stakeholder pressure and that companies tend to be more proactive in their decision to provide assurance to all stakeholders, particularly those who are powerful and influential. Thus, the managerial branch links closest to this study because of the reasons mentioned above.

Therefore, based on the above discussion, the following hypotheses were drawn:

*H<sub>1</sub>: Type of assurance has positive relationship with investment decision-making.*



*H<sub>2</sub>: Level of assurance has a positive relationship with investment decision-making.*

A detailed discussion on the hypotheses is provided in Section 4.7 of this study. The following section reviews the relevant literature on integrated reporting.

### **2.3 Integrated Reporting**

Integrated Reporting is defined by Sarioglu, Dalkilic and Durak (2019:334) as a process that has an outcome of a combination of the existing reporting methods of both financial and non-financial information in an individual brief report. Bernabe, Giorgino and Kunc (2019:541) describe integrated reporting as a model of corporate reporting that was established by the IIRC to characterise and communicate the organisation's procedure for value creation. The IIRC defines IR as a concise report which comprises information that is both financial and non-financial of a company that leads to the creation of value, as well as the preservation or erosion of good value over a short to long term (IIRC, 2021:10).

Integrated reporting is part of an evolving corporate reporting system (IIRC, 2021:3) and has become the current frontier in corporate reporting (De Villiers & Hsiao, 2018:13). It is clear from the above definitions that IRs are concise and include both the financial and non-financial information of the company doing the reporting along with value creation.

The IIR framework was published with the intention to embed integrated thinking in business practices. The core objective of IRs is to provide an explanation to financial capital providers how organisations create value over a period of time (IIRC, 2021:5). Integrated reporting improves the quality of information which contributes to efficient capital allocation and decision-making processes of investors and shareholders (Sarioglu et al., 2019:337). As such, this study evaluated the existing state of integrated reporting assurance of JSE listed companies and how the current integrated reporting assurance practices have a relationship with users' investment decision-making.

De Villiers et al. (2017:937) maintain that integrated reporting integrates fresh ideas on reporting that has changed the corporate reporting landscape, improved the ability of

investors to assess companies' prospects and provide answers to overcome the criticisms of traditional accounting reporting models. The practice of Integrated reporting has made corporate disclosures an effective means of communication to improve efficiency in management and investment decision-making (De Villiers & Hsiao, 2018:14). Maroun (2018:400) believes that integrated reports are envisioned to be more than just a combination of financial and non-financial information and must also clearly explain how organisations create value in relation to social, economic, environmental and financial factors.

According to Dorin, Rosca, Costea and Suciu (2020:123), integrated reporting takes a wider view because it considers intellectual and social relationships, as well as human and natural capitals instead of just financial and manufactured capitals that organisations commonly report in financial reports. Integrated reporting encourages the concept of integrated thinking (Roberts, 2017:12), which facilitates a better understanding of the impact of decision making on value creation (Dorin et al., 2020:124). Integrated reports have the ability to make companies more cognisant of the impact they have and their dependence on social and environmental capitals (Malola & Maroun, 2019:117). They also have the potential to make companies incorporate as well as alter their strategy and operations in order to commit to long-term sustainability and stakeholder accountability (Malola & Maroun, 2019:117).

The essence of integrated thinking is the management of the six capitals: financial, manufactured, intellectual, human, social and natural (Roberts, 2017:12). Integrated thinking is applied in the preparation of IRs to show investors that the company's board and management are mindful of the need to ensure the ongoing viability of the business (Roberts, 2017:12). For companies to survive and thrive in today's competitive world, it is crucial that they align their decisions and practices with the interests of society and the community (Du Toit, Van Zyl & Schutte, 2017:656).

Stakeholders depend on high quality relevant information from companies to influence their decision-making (Zhou, Simnett & Green, 2017:95). Thus, according to Bernabe et al. (2019:540), the disclosure of non-financial information helps stakeholders to measure,

monitor and manage a company's performance and the impact of the company on society. As a result, integrated reporting has been increasingly adopted globally, with SA and Australia being amongst the early adopters (McNally & Maroun, 2018:1321) while companies in Japan have also contributed to the significant growth in integrated reporting (IIRC, 2018:19). In addition, SA has taken a leading position in the promoting IR (McNally et al., 2017:483).

Du Toit et al. (2017:654) reckon IRs are possibly the best approach for businesses to demonstrate their capability to create value over a long-term for stakeholders and investors. An IR provides information that enables its users to consider whether, and to what degree value has been created for the organisation and is likely to be created to add monetary value (IIRC, 2013b:12). Integrated reports communicate the responsibility taken by organisations towards human capital, the environment and the community rather than focusing only on the financial capital and maximising profits. This makes the incorporation of non-financial information in IRs essential, not only for reporting purposes, but for decision-making by stakeholders and investors also. The following section reviews the literature on integrated reporting assurance.

## **2.4 Integrated reporting assurance**

With the anticipation that the practice of integrated reporting will become the corporate reporting custom (IIRC, 2014:4), it is not surprising that the importance placed on the assurance of integrated reports has increased as IRs become more valuable for decision-making on investments (Miller et al., 2017:4). Maroun (2018:401) believes that there has been an increasing demand in recent years to assure IRs, however, ACCA (2015:5) points out that many IRs are not assured and, if they are, only selected parts of the IRs are assured and not the entire IR.

While current practice is to assure the financial part of IRs, it is also possible to assure non-financial information within IRs boosting the reliability of the information. Non-financial assurance is described by Malola and Maroun (2019:114) as one of the possible encouragers of high-quality reporting alongside the company size, industry membership,

presence of a sustainability committee, compliance with reporting frameworks and the decision to supplement IRs with independent sustainability reports. Assuring an entire integrated report means that the information can be perceived as trustworthy and reliable by stakeholders and other users of the integrated reports.

The ACCA (2015:8) believes that integrated reports will be most valued by stakeholders if there is reason to believe that the information within the IR is trustworthy and reliable. According to Kilic (2018:40), the integrity of the disclosed non-financial information is at risk if only the financial part of the report is assured. Kilic (2018:40) further argues that, without mechanisms that enhance credibility, integrated reports will fail to achieve their objective to give the users of the IR with dependable information for their decision-making purposes. Thus, the assurance of IRs will provide stakeholders and investors with a sense that the report is credible and reliable.

Maroun (2020:199) asserts that assurance is more than an opinion of the independent assurance provider. Although integrated reporting assurance is not mandatory, the benefits are crucial. Some companies are voluntarily assuring their integrated reports for the various benefits that they derive from the practice. Assuring IRs will enhance the integrity and reliability of the IR, which in turn will influence stakeholders' and investors' decision-making. If integrated reports are perceived to lack credibility, the aim of integrated reporting will likely not be achieved (IIRC, 2014:4). Goiceochea et al. (2019:2) also found that auditors and users of integrated reports deemed it vital to audit and assure the entire content of IRs. This study evaluated the current state of integrated reporting assurance of South African companies with a public listing and how the current integrated reporting assurance practices relate with users' investment decision-making.

Assurance clarifies, informs, and enables criticism while making sure the credibility of the information being used to inform management decisions is reliable (Maroun, 2020:199). Caglio, Melloni and Perego (2020:57) concur that integrated reporting assurance acts as a credibility-enhancing mechanism. However, assurance does not only boost the integrity and reliability of information within the IR, but it also improves the company's reputation. ACCA (2015:8) also is of the view that IRs will be more valued by the stakeholders

if there is reason to believe that the information being reported is trustworthy and reliable. Prior research has shown how reliance is placed on reports that are accompanied by assurance (Maroun, 2018; Briem & Wald, 2018; Maroun, 2020). Thus, this same principle should apply to integrated reports.

Organisational leadership uses financial and non-financial information to manage and direct strategies and operations (IFAC, 2017:1). External investors have also, over the years, requested more non-financial information disclosures from organisations to make well-versed investment decisions. However, without mechanisms to enhance reliability, financial and non-financial information disclosed in IRs fails to achieve the goal of providing report users information they can trust in their decision-making purposes (Kilic, 2018:40). IFAC (2017:5) believes that assurance can assist organisations to develop their systems and processes to provide high-quality organisational reporting.

Miller et al. (2017:4) believe that if standardising integrated reporting is the future of corporate reporting, the standardisation of assuring IRs should also be made possible. Integrated reporting assurance will enhance users' confidence in the information being reported (IFAC, 2017:5). It will benefit every organisation if the assurance of all the information within IRs is provided because it will boost the credibility of the IRs and also improve investment decision-making. According to Miller et al. (2017:6), the SA market for integrated reporting assurance provides an important foundation for analysing the impact and future of external assuring IRs.

The study conducted by Briem and Wald (2018:1471), on companies that publish integrated reports in Germany, established that the appreciation of non-financial information together with the validity and reliability of the published information are among the causes for the voluntary assurance of companies' IRs. The IIRC (2014:10) also emphasises that the assurance of IRs will enhance the credibility of information provided while a lack of assurance leads to doubting the credibility of IRs. Therefore, this study evaluated the current state of the assurance of IRs of SA companies with public listing and in what way the current integrated reporting assurance practices associate with users' investment decision-making. The following section outlines the benefits of

integrated reporting assurance.

#### **2.4.1 The benefits of integrated reporting assurance**

Investors make their investment decisions based on the organisation's transparency along with accuracy and reliability of the published information in the organisation's reports. Stakeholders find reliability in information that is accompanied by independent assurance hence companies would resort to the voluntary assurance of their IRs (Maroun, 2018; Simnett & Huggins, 2015). The study of Briem and Wald (2018:1472) also found that investors gain more trust in a company's non-financial information when the information is assured.

According to Maroun (2018:403), assurance over all or part of the information included in IRs can enhance the reliability and quality of information in the reports. Briem and Wald (2018:1462) maintain that the external assurance of IRs adds value, confidence and credibility in the accuracy and reliability of the published information for users. According to Simpson et al. (2016:708), assurance establishes the integrity and validity of disclosures in statements and reports. Furthermore, Briem and Wald (2018:1472) found that companies also perceived assurance as a support for data quality based on their experience of financial information. Simpson et al. (2016:708) also believe that assurance minimises risks, enhances regulatory compliance and the reputation of the company.

An auditor is expected to give an opinion on the traditional financial reports which form part of the IRs. Assuring financial reports is mandatory whilst assuring IRs is not yet mandatory. Studies addressing the assurance of IRs have recognised the demand and value of these reports (Miller et al., 2017:5). As with the assurance of financial reports, the credibility of non-financial information in the IRs will be enhanced when assured and will provide the same guarantee on integrated reports as it does in traditional financial information (Goicoechea, 2019:5). According to Brown-Libur, Cohen and Zamora (2018:276), the presence of assurance indicates that the reporting company's engagement is fairly presented and reliable. The following section looks at lessons from the assurance of financial reports.

#### **2.4.1.1 Lessons from the assurance of financial reports**

Investors rely on information in financial reports for their investment decision-making. Farewell and Pinsker (2015:14) have shown that information asymmetry between managers of an entity and investors affects investors negatively. However, according to Farewell and Pinsker (2015:14), audits are one way to ensure trust and reliability of management disclosures and to reduce the information asymmetry of financial reports thereby allowing the investor to rely on and trust the financial information reported. Chen, Jiang and Zhang (2019:204) show that investors are more prone to invest when there is assurance of the reports and that disclosing audit quality improves the usefulness of financial reports.

The use of external assurance adds credibility to the information reported (Jones & Iwasaki, 2011:5) and improves transparency and reliability. Farewell and Pinsker (2015:14) found that there was a greater likelihood that potential investors will invest when assurance is extended to integrated reports.

There are also challenges that are faced when assuring IRs. The following section presents these challenges.

#### **2.4.2 Challenges of assuring integrated reports**

Although the role of audit committee functions has been expanded to incorporate checking organisation processes past their finance reports, there is not a lot of knowledge regarding the actual role of audit committees in non-financial reporting processes, especially in integrated reporting practices (Ahmed Haji & Anifowose, 2016a:920). Goiceochea et al. (2019:5) maintain that auditors face multiple challenges when assuring non-financial information, one being the fact that companies have to improve their internal controls over non-financial information flows in order for auditors to have the ability to test and rely on the internal controls. Furthermore, neither the IIRC nor SA's codes of corporate governance have made it mandatory for IRs to be assured (Maroun, 2018:403).

The challenges faced in assuring IRs are further worsened by limitations in the existing

professional standards when dealing specifically with integrated reporting assurance (Maroun, 2018:401). The existing professional standards were not designed to take the assurance of the non-financial information, included in the IRs into consideration hence this poses a challenge when assuring integrated reports (Maroun, 2017:331). However, although the full assurance of IRs is not yet a reality, it is a practice that is certainly likely once international standard setters have resolved the matter (Roberts, 2017:12).

Maroun (2018:404) asserts that the limitations of existing professional standards do not deal with how an IR may perhaps be a subject matter of an assurance engagement. While existing assurance standards consider a wide range of subject matters, none of the standards specifically addresses all the concepts and content of an IR (IIRC, 2014:12) or enable a comprehensive assurance in a manner that benefits the stakeholder. The existing professional standards were established for a financial reporting context because transactions and balances can be quantitatively assessed and evaluated against clearly defined criteria, and only provide a broad parameter for expressing an opinion on certain non-financial information (Maroun, 2020:198). However, despite these existing challenges in the existing professional standards when dealing with integrated reporting assurance, some companies continue to voluntarily assure their integrated reports.

According to Maroun (2018:404), the assurance of selected non-financial information in IRs is accomplished in accordance with the International Standard on Assurance Engagements, referred to as International Standards of Assurance Engagements (ISAEs) (issued by the International Auditing and Assurance Standards Board [IAASB]) or AA1000 Assurance Standards, referred to as AA1000AS (issued by AccountAbility). These standards are designed to provide security for easily identifiable subject matter according to well-defined criteria (AccountAbility, 2018). This makes determining the materiality of non-financial information a challenge because professional standards were established in a financial reporting context (Maroun, 2018:12). Overcoming these limitations of the existing professional standards for the assurance of integrated reports will require more research to develop mechanisms that will promote and improve the assurance of IRs.

Another challenge is the cost of assuring IRs because of the increased complexity of the



assurance skills required that may need multidisciplinary teams (Simnett & Huggins, 2015:44). These challenges have raised concerns and have limited companies from engaging in the practice of assuring their IRs. However, Maroun (2018:411) also found that preparers of integrated reports relied on a combination of different methods to demonstrate to users the reliability of the information in the IRs. For instance, Briem and Wald (2018:1462) found that there is a need for auditors to understand the intention of companies towards IRs in order to align their assurance services.

Having presented the challenges when assuring IRs, the study evaluated the current practices of integrated reporting assurance of JSE-listed companies and how the current integrated reporting assurance practices relate with users' investment decision-making. There is a need for integrated reports to be perceived as reliable and this study also intended to determine the degree to which the companies with a JSE listing assured their IRs. The following section concludes the chapter.

## **2.5 Conclusion**

This chapter introduced the literature on the theoretical framework of this study. The chapter also reviewed the literature on integrated reporting and the assurance of IRs. The challenges and benefits of integrated reporting assurance were also presented in this chapter that also reviewed various studies on integrated reporting and integrated reporting assurance to highlight the various reasons for the need for integrated reporting assurance and why integrated reporting assurance should be a mandatory practice.

In the review of the literature shows that the assurance of IRs increases the credibility and reliability of IRs and improves an organisation's reputation and investment attractiveness. Consequently, it is important for companies to understand the importance of integrated reporting, whether mandated by a regulatory requirement or not. It is also important for organisations to provide assurance for both the financial and non-financial information included within IRs. Research has shown that the assurance of IRs will boost the integrity and reliability of information that it presented in IRs which, in turn, will have an association with users' investment decision-making.

The following chapter provides the literature on investment and the relationship between integrated reporting assurance and users' investment decision-making.

## **CHAPTER 3**

### **LITERATURE REVIEW: INVESTMENT DECISION-MAKING**

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#### **3.1 Introduction**

Chapter 2 provided the narrative on integrated reporting along with integrated reporting assurance. The research intended to evaluate the current state of integrated reporting assurance along with how the current practices of integrated reporting assurance have a relationship with users' investment decision-making. This study was anchored around two variables, integrated reporting assurance and investment decision-making. This chapter presents the literature surrounding investment and investment decision-making.

This chapter starts with unpacking the concept of investment in section 3.2, followed by section 3.3 which reviews investment in SA. Section 3.4 discusses the importance of integrated reporting on investment decision-making, followed by section 3.5 which discusses integrated reporting assurance as a landscape for investment decision-making and lastly, the conclusion of this chapter is in section 3.6.

#### **3.2 The concept of investment**

Investment is a term that is associated with financial growth or financial return (Prasetya & Yulianto, 2019; Siyanbola et al., 2019). Neeraja and Sobanraja (2020:749) describe an investor as a person, sometimes an organisation or an entity, that invests money into an entity with the objective of profiting or earning a return. Other than investing with the objective of making a profit, Brown-Liburd et al. (2018:278) mention other motives that drive investors, namely, maximising their individual shareholder wealth, actualising their personal stewardship interests and realising positive stakeholder relationships. Ncanywa, Mongale and Mphela (2017:49) believe that investment activities can create new capital goods and ensure capital stock growth.

The economy depends on various kinds of investments (Abdulla & Runco, 2018:1). Meyer and Habanabakize (2018) focus on foreign direct investment. According to Meyer and

Habanabakize (2018:777), foreign direct investment assists in economic growth and welfare, especially for the benefit of developing countries.

Abdulla and Runco (2018:1) encourage people and governments to invest in people and their talents because creativity, skills and entrepreneurship are promoted. Other investments include stocks, property and retirement. People and organisations expect a return on their investment so it is important to the investor that the product is trustworthy, reliable and will yield a return. The benefits of investment are presented below.

### **3.2.1 Benefits of investment**

Maximising wealth is the instrumental motive that drives investors (Brown-Liburd et al., 2018:278). Most investors have profitability in mind when making their investment decisions however there are other investment benefits besides profitability. Investment is an essential instrument for growth (Karolyi, Ng & Prasad, 2020; Serafeim, 2015). Investment activities are crucial for economic development and the performance of the economy (Bialowolski & Weziak-Bialowolska, 2014:1). Ncanywa et al. (2017:49) and Hungwe and Odhiambo (2019:202) show that economic growth reduces poverty through increased levels of employment.

Meyer and Habanabakize (2018:777) state that foreign direct investment can take part in a substantial part in the economies of countries in the developing phase as it assists with economic growth and welfare. Furthermore, investment activities can be used for the development of infrastructures to promote technical progress by introducing new technology (Ncanywa et al., 2017:49). The following section explores the risks around investment.

### **3.2.2 Factors that influence investments decision-making**

Ncanywa et al. (2017:50) found that taxation, economic growth, cost of capital, profitability, inflation and interest rates affect investment activities. Investment decision makers were found to be loss adverse as opposed to risk averse which shows that loss and low return in investment dominated (Olsen, 1997:63). Olsen (1997:63) ranked

business risk, liquidity, investor's level of knowledge and economic uncertainty as risk attributes. Meyer and Habanabakize (2018:778) found political instability to be one of the risks that is most likely to affect profitability and return on investments. According to Aisen and Veiga (2011:3), economic experts regard political instability as a major malaise that is detrimental to the performance of the economy. Government performance usually also influences investment actions and decisions (Bialowolski & Weziak-Bialowolska, 2014:2).

The political stability of a country as well as economic growth are some of the factors that attract foreign investment. Luiz and Charalambous (2009:4) believe that political stability is "generally the key to ensuring a stable economy and conditions conducive to the growth and development of local markets". There are several attributes that could influence the political stability of a country that include government crises, cabinet reshufflings, corruption levels, protests and riots (Abu Murad & Alshyab, 2019; Luiz & Charalambous, 2009).

Investment attractiveness is an important element for a country's economic development. Chen, Hope, Li and Wang (2018:119) note that political factors can shape economic outcomes and change financial positions. Many emerging countries still strive to reach political stability and high growth levels (UNCTAD, 2020; Meyer & Habanabakize, 2018) due to the factors mentioned above.

According to Meyer and Habanabakize (2018:778), a country's political instability can directly affect its business opportunities and its ability to service its debts, as well as its economic growth and development. Political instability can also lead to lower economic growth and higher inflation (Aisen & Veiga, 2011:3). Some of the indicators linked to political instability are protests, riots, demonstrations, chaos, government crises, various forms of violence as well as crimes (Abu Murad & Alshyab, 2019:366). FitchRatings (2021) viewed SA's record on political stability as reasonable even after the riots and violence that occurred in 2021 which had detrimental effects on many businesses and the public.

Political instability impacts development through physical and human capital

accumulation (Aisen & Veiga, 2011:4). Political instability also has the ability to influence the performance of businesses including economic outcomes negatively (Chen et al., 2018; Ncanywa et al., 2017). The concept of a “failed state”, which is associated with political instability (Abu Murad & Alshyab, 2019:366) and the growth of criminal violence, is understood as a set of institutional structures that move away from those in modern rational bureaucracies (Di John, 2010:14, 24).

The performance of businesses plays vital part in growing the economy along with the reduction of poverty (Igwe, Amaugo, Ogundana, Egere & Anigbo, 2018:182). A country must be politically stable in order to entice foreign investment.

Tax is also one of the factors that influence investments. High tax rates, which cause a high cost of capital, are perceived to be a deterrent to investment in a country (Hungwe & Odhiambo, 2019:196). Additionally, tax policies also directly influence the rate of return on an investment (Bialowolski & Weziak-Bialowolska, 2014:2). A country requires investment growth for benefits which include an increase in employment which results in the reduction of poverty (Ncanywa et al., 2017:49).

Bialowolski and Weziak-Bialowolska (2014:1) mention that market uncertainty, being unknowledgeable about the market together with being inexperienced in investment are some of the risk factors that may make companies underinvest. The term “underinvestment” is used to describe the extent to which an investor invests less when there are financial frictions than when there are no financial frictions, for a given set of investment opportunities (Hong, Kim & Lobo, 2019:259). Investors underinvest due to lower confidence levels caused by the different factors that are associated with investment decision-making.

Other factors that can affect investment include technological developments, availability of funds, interest rates and wage costs. Jung, Lee and Weber (2014:1049) found that high quality accounting reporting mitigated the risks of underinvestment. This study believes that integrated reporting and the assurance of the IRs may mitigate under-investments caused by information asymmetry. Jung et al. (2014:1050) recognise that

information asymmetry can influence companies' investment decisions, making them less efficient.

According to Meyer and Habanabakize (2018:777), most developing countries rely on external sources of finance to meet their economic goals because they do not have sufficient funds to finance their investment programmes that are heavily dependent on savings (Hungwe & Odhiambo, 2019:189). Additionally, investment has the potential to promote technical progress through the introduction of new technology (Ncanywa et al., 2017:49). Continuous investment in new technologies and innovations is vital in order to maintain international competitiveness (Novotna, Volek, Rost & Vrchota, 2021:135). The following section explores investment in SA.

### **3.3 Investment in South Africa**

Investment is an essential component for a country's economic growth. However, many developing African countries deal with a growing inability to encourage investment (Ncanywa et al., 2017:50). However, since the reintegration into the global economy in 1994, SA has remained an attractive investment destination for many foreign investors (Meyer & Habanabakize, 2018:778). Meyer and Habanabakize (2018:778) add that SA was considered an attractive investment opportunity for many years and its foreign direct investment surpassed the rest of Africa. This has made SA heavily dependent on foreign investments because of low domestic savings which also made it susceptible to international capital shift (Hungwe & Odhiambo, 2019:189).

SA is amongst the developing countries that has seen its investment growth drop in the recent years (Hungwe & Odhiambo, 2019:195). A growth in savings will result in a growth in investment. According to Meyer and Habanabakize (2018:777), countries with low savings end up relying on external sources of financing for their investment programmes to meet the countries' economic goals. Other factors that determine investment in SA include tax rates, interest rates, economic growth, confidence levels, profitability (see Section 3.2.2) and inflation. Dash (2010:16) states that inflation has improved awareness of the importance of investing wisely and Ncanywa et al. (2017:50) add that a country will

attract fewer investments if tax rates are high.

Direct foreign investment (FDI) is believed to be one of the engines for economic growth (Ngwakwe & Dzomonda, 2018:462). Africa is heavily dependent on the inflows of foreign direct investment aimed at creating a stable and long-lasting economic relationship between countries to stimulate economic developments (Qumba, 2018:341). Similarly, FDI played an extensive part in developing the SA economy (Ncanywa et al., 2017; Sunde, 2017). Sunde (2017:435) found that there was a positive causal association among FDI and economic growth.

According to UNCTAD (2020:34), FDI in SA are mostly directed to mining, manufacturing as well as services such as finance and banking. An increase in foreign direct investment is vital for advancing any country (Meyer & Habanabakize, 2018:778). Thus, as suggested by Sunde (2017:447), the South African government should accelerate all initiatives to attract more FDI because it is known to stimulate growth of the economy, cause the gross fixed capital formation to increase including increase employment. The IMF (2019:23) indicates that sub-Saharan Africa needs to create 20 million jobs per annum over a period of 20 years to absorb the growing workforce. However, SA's economic growth has not been able to produce sufficient jobs, which are necessary for the reduction of unemployment as well as reducing poverty and inequality (Mbanda & Chitiga-Mabugu, 2017:236).

Politics, as well as gross domestic product, influence a country's foreign investment (Meyer & Habanabakize, 2018). Investors have become increasingly concerned about the political stability of the country because this is likely to influence the returns on their investment (Meyer & Habanabakize, 2018:778). SA has benefited greatly from foreign direct investment since its reintegration into the global economy in 1994 (Meyer & Habanabakize, 2018:778). However, SA experienced a decline of \$4.6 billion (15% of the total) in foreign direct investment in 2019 (Hungwe & Odhiambo, 2019; UNCTAD, 2020:34).

Foreign direct investment is crucial for financial and economic growth, addressing the



structural unemployment in the country and reducing poverty. African Economic Outlook (AEO, 2021:94) suggests that, to attract vital foreign direct investment, the government needs to develop new policies that revitalise the regional economic systems through technology and competition.

Having discussed the perspective of investment in SA, the study evaluates the current state of the assurance of IRs and how it associates with users' investment decision-making. The following section explores the importance of integrated reports for investment.

### **3.4 The importance of integrated reports for investment decision-making**

The performance of capital markets is closely linked to the quality of investment decisions (Luiza, 2020:35). Research suggests that high quality accounting reporting is associated with improved investment efficiency (Luiza, 2020; Hong et al., 2019; Lin, Wang & Pan, 2016; Jung et al., 2014). Financial reports deliver valuable information about the financial position of a company along with its performance, the business success, policies and management strategies (Pepi, 2019:584). The information derived from financial reports is useful for a range of stakeholders and help in decision-making (Pepi, 2019:584).

Financial reporting of high quality is likely to bring down information asymmetries between managers and investors that could cause market frictions and lead to erroneous investment choices (Jung et al. 2014:1050; Hong et al. 2019:259; Lin et al., 2016:503). Although most studies document positive investment efficiency resulting from high quality financial reporting, none of the above studies considered the role of integrated reporting on investment decision-making. Similarly, there are limited studies that consider the role of integrated reporting on investment decision-making. This study departed from the previous studies which focused on investment decisions that result from quality financial reporting and focused on investment decision-making based on the assurance of IRs. The purpose of this section is to examine the importance of integrated reports on investment decision-making.

Prior studies have shown the position played by integrated reporting and how companies, globally, are adopting integrated reporting practices and are becoming more responsive to investor demands (Beets & Souther, 1999:129). The notion that reporting non-financial information is done only to impress management and stakeholders should be challenged (McNally & Maroun, 2018:1320). Integrated information is a tool that shows a company's commitment to sustainability and on having a positive impact on society (Goicoechea et al., 2019:4). Furthermore, integrated information makes integrated reporting a tool that enhances a company's reputation and gives users of the integrated report more confidence in the performance of their investments (Goicoechea et al., 2019:4).

According to Kilic et al. (2020:5), the transparency of companies with their stakeholders as well as the mitigation of information asymmetry should be encouraged through the promotion of the non-financial information enclosed in IRs. Maroun (2018:403) believes that integrated reporting has become an integral part of organisations' engagement with stakeholders and an important source of information for investors and other users. Furthermore, Beets and Souther (1999:141) agree that corporate environmental reports may have a positive effect on investment decisions that is appreciable.

Investors in SA perceive IRs as an upgrade of traditional yearly reports (De Villiers et al., 2017:454). Investors now demand high-quality non-financial information disclosures and companies have increasingly risen to meet these demands (Nelson, 2018:1). A high-quality IR signals to stakeholders, investors and other users of the report that the organisation is committed to open and truthful reporting (Maroun, 2018:403). Therefore, it is important that information in IRs is deemed dependable and reliable. An external verification of this information will lend substantial credibility to the report and will benefit investors by providing assurance (Beets & Souther, 1999:141). The following section explores integrated reporting assurance as a landscape for investment decision-making.

### **3.5 Integrated reporting assurance as a landscape for investment decision-making**

There is a paucity of research considering the assurance of IRs and its influence on users' investment decision-making. Most of the studies outline the benefits as well as the

challenges associated with the assurance of IRs (Briem & Wald, 2018; Maroun, 2018). Prior studies concur that investors make reasonable investment related judgements if the information presented in reports is reliable and credible (Briem & Wald, 2018; Kilic, 2018; Maroun, 2018; Cheng et al., 2014). Reimsbach, Hahn and Gürtürk (2018) also investigated whether the integration and assurance of sustainability information along with financial information influenced the decisions on investors. Briem and Wald (2018:1462) point out the need for legitimising the role of accounting firms in assuring non-financial information.

According to ACCA (2015:8), integrated reports will be most valued by stakeholders if the information being reported is credible and reliable, and therefore attractive to investors. However, according to Kilic et al. (2020:4), assured IRs will be put forward in an ethically orientated country rather than in a country where unethical habits are widespread. Jones and Iwasaki (2011:5) concur that uncertainty about the completeness and usefulness of information undermines trust and hinders economic functioning.

Assurance adds trust and provides value and reliability to management disclosures (Farewell & Pinsker, 2015:14). Farewell and Pinsker (2015:18) found that there was a significant relation between the type of assurance and the likelihood of investing as investors are more likely to trust an independent assurance than a management report. This means that entire integrated reports should be assured and not just selected parts (ACCA, 2015; Maroun, 2018).

According to Elliot, Fanning and Peecher (2020:141), investors ascribe value to companies that use high quality financial reporting and that investors will be more willing to pay a higher share price for these companies. Assurance adds credibility to information and enhances confidence in its users' investment decisions (Briem & Wald, 2018). However, there has been little guidance on assuring matters other than financial statements until the ISAE 3000 was issued by the IAASB (Jones & Iwasaki, 2011:6).

Audit engagements for selected non-financial information are generally conducted in accordance with ISAEs (Maroun, 2018:404). Nevertheless, integrated reports are still not

assured entirely which questions their credibility. The purpose of this research was therefore to evaluate the current position of integrated reporting assurance of JSE-listed companies and how the assurance practices relate with users' investment decision-making.

Despite the existing challenges in integrated reporting assurance, some companies have continued to voluntarily assure their IRs because of the benefits of doing so. Simnett and Huggins (2015:44) assert that, without suitable credibility-boosting systems, IRs may not reach their maximum potential in providing users with a large range of pertinent and reliable information when making decisions.

Reimsbach et al. (2018:559) state that investors are the key addressers of integrated reporting because of the relevance of non-financial information. Reimsbach et al. (2018:575) found that investors showed no interest in separate sustainability reports and assurance of the entire report enhances its relevance, credibility and reliability and this leads to more reliable investment related decision-making. Furthermore, integrated reporting assurance also improves companies' reputations, making investment decision-making more attractive to investors. The following section concludes the chapter.

### **3.6 Conclusion**

The chapter discussed the literature review on investment, the importance of IRs on investment decision-making along with integrated reporting assurance as a landscape for investment decision-making. The literature presented the need for the assurance of IR and that the assurance of IRs has a relationship with users' decision-making. Research shows that credibility and public trust are vital to global investment and economic development (Gunn, 2007:38). The following chapter deliberates on the research methodology applied in this study.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

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#### **4.1 Introduction**

The literature review surrounding the topic of this study was dealt with in Chapters 2 and 3. Chapter 2 of this study also emphasised the benefits of the assurance of IRs and provided an overview on the under-explored aspect of integrated reporting assurance that currently exists. Chapter 3 highlighted the relationship between integrated reporting assurance and investment decision-making by the users. The purpose of this research was to evaluate the current state of the assurance of integrated reports of companies with a listing on the JSE and how the current practice of integrated reporting assurance associates itself with users' investment decision-making.

This chapter presents the research methodology that includes the research paradigm in Section 4.2, followed by the research design in Section 4.3, population and setting in Section 4.4, sampling in Section 4.5, data collection in Section 4.6, hypothesis in Section 4.7, and data analysis in Section 4.8. The remainder of this chapter discusses the measures used to ensure the quality of the research. The chapter is concluded in Section 4.11.

#### **4.2 Research paradigm**

Saunders, Lewis and Thornhill (2009:118) define research paradigm as a way of studying social phenomena in order to gain an understanding of and attempt to explain these phenomena. Kekeya (2019:26) describes research paradigms as a theoretical net in which research is guided or conducted. Sułkowski, Lenart-Gansiniec and Bilan (2020:421) view a paradigm as a method of seeing the world rather than templates or models. According to Saunders et al. (2009:106), a research paradigm is a basic belief system that guides investigations, not only in terms of method choice but also in terms of ontology and epistemology. The research paradigm that is chosen should guide the research method and analysis (Ryan, 2018:14).

Kekeya (2019:26) describes three broad paradigms which are normally used in research as well as guide most research studies: positivism, interpretivism and critical theory (Kekeya, 2019; Ryan, 2018). According to Ryan (2018:21), interpretivism claims that truth and knowledge are subjective. Interpretivism is often associated with qualitative research (Goldkuhl, 2012:135). Positivism, on the other hand, focuses on human actions and the understanding of participants as well as processes that make meaning of everyday social situations (Kekeya, 2019:28). Critical theory lies between the positivist and interpretive research paradigms (Kekeya, 2019:31). Goldkuhl (2012:135) mentions an additional paradigm which is pragmatism that is “often associated with action, intervention and constructive knowledge”.

According to Ryan (2018:15), there are two main types of reasoning that researchers can use to understand how theories and conclusions are found within the data, namely, inductive and deductive reasoning. Ayalon and Even (2008:235) include association, creation and plausible inference among the types of reasoning. Inductive reasoning is the collecting of facts that enables new explanations to be developed (Coleman, 2019:1219). Deductive reasoning, on the other hand, entails testing of the hypotheses related to existing explanations (Coleman, 2019:1219). Deductive reasoning is the process of inferring conclusions from information that is already known (Ayalon & Even, 2008:235).

Given the focus of this research which was to evaluate the current state of the assurance of IRs of JSE-listed companies and how the current integrated reporting assurance practice associates itself with users’ investment decision-making, a positivist approach using deductive reasoning allowed for an objective measure of the relationship between assurance and investment decision-making. The positivist approach and the deductive reasoning approach are elaborated further in the following sections.

#### **4.2.1 Positivist approach**

Coleman (2019:1218) describes positivism as a scientific paradigm that is related with the study of the natural world. Positivism is associated with inferential statistics and hypothesis testing (Lee, 1991:342). Kekeya (2019:26) regards positivism as a traditional

research paradigm and Coleman (2019:1218) describes positivism as a dominant epistemological paradigm. It is commonly associated with experiments and quantitative research (Ryan, 2018:17). Although positivism can be applied to a qualitative study, it is more suited for quantitative studies (Goldkuhl, 2012:136).

According to Coleman (2019:1219), positivism prioritises epistemology over ontology that are the two branches of philosophy. Ontology refers to reality or knowledge (Kekeya, 2019:26) while epistemology refers to how that knowledge is accessed (Coleman, 2019; Kekeya, 2019). Saunders et al. (2009:119) mention the third philosophy branch called axiology that is used to study judgements on value (Saunders et al., 2009:129).

Positivist methods regularly use quantitative methods with an emphasis on the use of measurements and factor analysis (Saunders et al., 2009:17). Problems studied by positivists show the need to categorise and assess triggers that impact outcomes, such as those discovered in experiments (Creswell & Creswell, 2018:6). Coleman (2019:1219) notes that positivism insists that knowledge is derived from the practice of the world. Positivism is also viewed as an objective paradigm that views reality as relatively constant and quantifiable (Coleman, 2019:1219). Thus, the researcher adopted a positivist approach to find statistical correlations of the two variables (integrated reporting assurance and investment decision-making) and to demonstrate the relationships between them.

Coleman (2019:1220) argues that the goal of a positivist research is to find absolute knowledge about the reality of an objective through finding regular occurring events and patterns as the basis for predictions. When adopting a positivist approach, the researcher undertakes the research in a value-free way, is independent of the data and maintains an objective stance (Saunders et al., 2009:119). Leung and Shek (2018:1349) believe that a quantitative research approach has its roots in positivism which is the fundamental philosophy underlying quantitative research (Kraska, 2012:1167), hence studies on corporate social responsibility assurance adopt a positivist philosophy using signalling and stakeholder theory as a frame of reference (Maroun, 2020:205).

Other than positivism, there are three other research philosophies: realism, interpretivism and pragmatism. Realism is objective and exists independently of the human mind while interpretivism is an epistemology that advocates for researchers to understand the difference between the roles of humans and how humans make sense of the world (Goldkuhl, 2012; Saunders et al., 2009). Pragmatism is related with “action, intervention and constructive knowledge” (Goldkuhl, 2012:135). A positivist concentrates on establishing how the phenomenon occurs rather than why it occurs (Coleman, 2019:1219). Realism, on the other hand, focuses on the reality of the world being imperfectly known and measurable (Leung & Shek, 2018:1350). Additionally, positivism views reality as constant and quantifiable (Coleman, 2019:1219).

This study investigated the relationship between the assurance of IRs with investment decision-making by the users of integrated reports. Positivism and realism are two most common scientific philosophies used in quantitative studies (Coleman, 2019; Ryan, 2018; Payne & Payne, 2011). This study used a positivist approach because it falls in the category of positivist research as described and discussed above.

#### **4.2.2 Deductive reasoning**

Saunders et al. (2009:61) describe a deductive method as that adopted by the researcher who uses literature to identify theories and ideas for testing against data. It is positivist scientific research (Saunders et al., 2009:124). Deductive reasoning entails creating inferences of logical validity based on a given set of premises (Brisson & Markovits, 2020:920). A deductive reasoning approach in this study established the relationship between the variables used.

According to Saunders et al. (2009:125), deductive approach possesses the following characteristics:

- A search or need to explain causal relationship between variables;
- quantitative data collection;
- Controls that permit testing of hypotheses;



- Facts can be measured quantitatively; and
- A statistical generalisation of the conclusion.

The above-mentioned characteristics were followed in this study, together with the research methodology and the research design to attain the objectives of this study and provide answers to the research problem. The following section explores the research design.

### **4.3 Research Design**

Every research requires a research approach designed to get the appropriate data for investigating the specific research hypothesis (De Vos, Strydom, Fouche & Delport, 2011:144). A research design is described by Creswell and Creswell (2018:10) as a kind of inquest within qualitative, quantitative and mixed methods approaches that delivers specific path for procedures in a research study. The different methods serve different purposes and use different approaches to collect and analyse data. The mixed-method approach is a combination of quantitative and qualitative research methods and techniques (Saunders et al. 2009:153).

Saunders et al. (2009:136) considers a research design to be an overall plan of how to go about responding to the research question or objectives of the study. Bloomfield and Fisher (2019:27) describe research design as the overall strategy used to conduct a research study. This research made use of a quantitative research method utilising secondary data to measure the relationship between the variables of this research, integrated reporting assurance (independent variable) and investment decision-making (dependent variable).

A quantitative research approach was applied to collect numerical data which were analysed using statistical analysis to explain the research phenomena (Muijis, 2011:2). Bloomfield and Fisher (2019:27) indicate that a quantitative research method is used to test a hypothesis. Creswell and Creswell (2018:4) describe quantitative research as a method for testing objective theories by studying the relationships between variables.

Leedy and Ormrod (2015:154) indicate that a quantitative research method involves discovering possible relations among two or more phenomena.

This research employed a quantitative research method to address the objectives of this research listed in Chapter 1. The next section provides an overview of the population and setting of this study.

#### **4.4 Population and setting**

The population of this study was made up of 298 companies with a public listing on the JSE in 2018 from different sectors to which the provision of the JSE regulation applies. The JSE is amongst the top exchanges worldwide on market capitalisation. The reason for selecting JSE-listed companies was because of the JSE regulation that requires publicly listed companies to publish their IRs annually or to explain their non-compliance.

Additionally, JSE listed companies are amongst those that control a substantial amount of the economy of SA. Therefore, the listed companies are more than likely to deliver a satisfactory picture of integrated reporting practices (Ahmed Haji & Anifowose, 2016a:926) as well as integrated reporting assurance practices. Given the probability that JSE-listed companies are likely to assure their IRs because they have the resources, the population was limited to JSE-listed companies.

#### **4.5 Sampling**

De Vos et al. (2011:224) describe a sample as a small portion of an overall set of objects from which representative selections are made. Leavy (2017:76) describes sampling as the process by which researchers select a large number of individual cases from a larger population. Sampling addresses the questions of what is in the study and where the data is collected (Leavy, 2017:75).

Publicly listed companies on the JSE are mandated to publish IRs annually since 2010 or to explain their non-compliance. Mindful of this regulatory requirement along with the growing calls for the assurance of IRs (De Villiers, Rinaldi & Unerman, 2014; Ahmed Haji

& Anifowose, 2016b; Maroun, 2018; Briem & Wald, 2018), this study evaluated the current state of the assurance of IRs of companies listed on the JSE and how the current integrated reporting assurance practices associates itself with users' investment decision-making.

The sample was selected from JSE listed companies over a period of three years from 2018 until 2020. The reason for choosing this period was stirred by the fact that JSE listed companies have been publishing integrated reports since 2010 as well as the expectation that the companies are likely to have adopted the practice of assuring their IRs because they have the resources. According to Ahmed Haji and Anifowose (2016a:926), JSE-listed companies are amongst those that control a substantial amount of the South African economy and are possibly likely to deliver a clear picture of integrated reporting practices.

The study included companies from different sectors therefore the sample consisted of five companies per sector. The companies were selected based on the availability of the IRs of the companies for the period of the study (2018-2020).

The JSE-listed companies consisted of 298 companies in 2018 from 29 different sectors. However, the study focused on sectors with at least five companies or more. The decision to select five companies per sector was because of the need for the sample to be big enough for statistical analysis of the data yet also be a manageable size. Sectors that did not have at least five companies were excluded. The companies must have also published integrated reports annually for the period of the study. Companies that did not publish an IR for any year falling within the period of this study were excluded. To ensure that the data were comparable, the same reporting companies selected for the year 2018 were also used in years 2019 and 2020.

It was important for this research that the carefully chosen companies remained listed on the JSE for the period of the research. The reason for this was that this would ensure consistency, reliability and comparability of the data. If a company was delisted during the three-year period of the study, the company was excluded from the sample.

There are various ways in which a sample could be drawn for a study. Leavy (2017:78) mentions two categories of procedures in selecting a sample, namely, probability sampling and purposeful sampling. Probability sampling uses simple random sampling, systematic sampling, cluster sampling as well as stratification (Weil, 2017:99). Non-probability sampling, on the other hand, is applied when a random sample cannot be drawn (Weil, 2017:99). Non-probability sampling uses sampling that is convenient, purposive sampling and quota sampling (McGregor, 2019:17). Thus, given the nature of this study and the JSE regulatory requirement for listed companies to IRs yearly, this study applied a purposive non-probability sampling technique to choose a manageable sample of the 100 JSE-listed companies in 2018. Purposive non-probability sampling was applied to choose the sample intended to achieve a fair distribution of companies in the various industries.

### Probability Sampling

- **Random sampling** means that each subject gets an equal chance to be selected.
- **Stratified sampling** comprises categorising various strata (subgroups) and drawing from each one randomly.
- **Cluster sampling** comprises dividing the population into groups that are similar outwardly (from same population) but are different inwardly.
- **Systematic sampling** involves taking every *k*th case from the entire list of the population.

### Non-Probability Sampling

- **Convenience sampling** means subjects are chosen because of their convenient accessibility and closeness to the researcher.
- **Purposive sampling** means pick out people on purpose because they can best provide information to answer the research question.
- **Quota sampling** involves deciding ahead of time how many people are needed that meet specific characteristics, and then recruiting until the quota is filled.

Source: McGregor (2019:17)

To delineate the study to a sample that is manageable, out of the 298 listed companies from 29 sectors in 2018, 100 companies from 20 sectors were selected. Sectors were excluded if they did not contain five or more listed companies. Furthermore, companies were excluded if one or more integrated reports were not published or a company was delisted and this reduced the acceptable number of companies per sector. After cleaning the data, the sample was subsequently revised to 100 companies from 20 sectors. The following sections discuss the non-probability and purposive sampling method.

#### **4.5.1 Non-probability sampling method**

Quantitative studies use probability and non-probability sampling approaches to choose a sample (Leavy, 2017:78; McGregor, 2019:16). A probability sample population is selected such that each member of the population has an equal chance of being selected (Leedy & Ormrod, 2015:177) while non-probability samples have no guarantee that all members of the population will be selected for the sample (Leedy et al., 2015:182). Probability sampling uses a random selection (Weil, 2017:99; Leedy et al., 2015:177) and non-probability sampling is used when a random sample cannot be drawn (Weil, 2017:99).

The use of non-probability sampling for this study was justified by the above discussion as well as the nature of this study. Richard and Odendaal (2021) provide an example of a study that used purposeful non-probability sampling to select JSE-listed companies. Purposive sampling is discussed in the following section.

#### **4.5.2 Purposive sampling method**

Purposive sampling is based entirely on the researcher's judgment to select a sample composed of items that contain most of the characteristics or attributes of the population that serve the purpose of the study (De Vos et al., 2011:232). Weill (2017:99) states that "purposive sampling selects each element of the sample for a specific reason or purpose". This study evaluated the current state of the assurance of IRs of JSE-listed companies and how the current integrated reporting assurance practices associates with users' investment decision-making. The sample for this study was selected from JSE-listed companies with a mandatory requirement to publish their integrated reports annually and are most likely to assure the integrated reports. Thus, the sample included only companies that prepared and published their integrated reports for the period of the study.

The assurance of IRs is not yet compulsory however Ahmed Haji and Anifowose (2016a:926) believe that bigger companies are likely to conform to new reporting requirements including the assurance of IRs for benefits mentioned in Section 2.4.1 of Chapter 2. It was also expected that not all listed companies will provide assurance for

their integrated reports because it is not mandated. However, this study determined the extent to which JSE-listed companies assure IRs.

Given that not all the companies with a JSE listing formed part of the sample of this research and judgement had to be applied in the sampling process, purposive sampling was used to select the sampled companies from the population. A purposive sampling method was used to select the sampled companies that would be used to answer the research question and the objectives of this study.

**Table 4.1 Research population and sample**

	<b>Content Analysis</b>
Research Population	JSE-listed companies (main board)
Research Sample	100 JSE-listed companies
Information Source	Annual integrated reports
Periods covered	Year 2018, 2019 and 2020

Source: Author

Table 4.1 above summarises key information about the research population and sample. The sample criterion was that the selected companies must have been listed on the JSE and consistently published IRs over the period of the study (2017-2020). The reason for this criterion was to ensure consistency of the data and comparability. If a company did not meet this criterion, the company was excluded from the sample. The following section discusses the data collection process.

#### **4.6 Data collection**

It is imperative that researchers choose methods to make certain that the collected data are dependable and valid (Bloomfield & Fisher, 2019:29). Data for a quantitative study are in the form of numbers. According to Leedy and Ormrod (2015:94), research is a feasible approach to a problem only when data can be collected to support it. Leedy and Ormrod (2015:94) describe data as pieces of information that are simply manifestations of various physical, social, or psychological phenomena that people want to understand.

Therefore, it is important that the method be relevant to the research objectives and questions.

There are two types of data that can be collected by a researcher, namely, primary data and secondary data. According to McGregor (2019:20), primary data are collected by researchers to address their research questions. This study adopted a quantitative data collection approach using secondary data by means of content analysis. The data consisted of secondary data collected directly from the JSE database aside from the websites of the companies selected for this study for the period of three years (2018, 2019 and 2020).

#### **4.6.1 Content analysis**

Content analysis is also identified as document analysis. Leavy (2017:146) describes content analysis as a method for systematically investigating texts. Leedy and Ormrod (2015:275) define content analysis as a comprehensive and systematic investigation of the contents of a particular body of materials for the purpose of identifying patterns, themes, or bias within that material. Babbie and Mouton (2001:383) add that a content analysis method may be applied to any form of communication.

According to Setia, Abhayawansa, Joshi and Huynh (2015:410), content analysis comprises sorting the disclosed information in a source document, into groups of items that depict the aspects of particular information required for analysis. There are qualitative and quantitative approaches to content analysis (Leavy, 2017:146). This study adopted content analysis for the IRs of the selected companies. The approach was in line with other studies that adopted a similar approach such as Du Toit et al. (2017). The following section discusses secondary data.

#### **4.6.2 Secondary data**

Secondary data are defined as data that are already in existence, are obtained from previous research, and are publicly available (Sarkar, Ghosh & Petter, 2020:96; Andrei, 2018:93). Both quantitative and qualitative studies use secondary data. Secondary data



are used in both descriptive and explanatory research (Saunders et al., 2009:258). Weil (2017:125) explains that primary data collection and secondary data collection have some common approaches. Primary data collection includes an explanation of the entire data collection process and secondary data collection requires a description of the original use and intention behind the first data collection and the source of data collection (Weil, 2017:125). Although most would prefer to collect principal data, it is not always conceivable due to challenges of time, cost and effort (Sarkar et al., 2020:96). Saunders et al. (2009:272) argue that secondary data, as with primary data, must be accessible and reliable (Andrei, 2018:93).

For the purpose of this study, the JSE database was used to collect the secondary data in the form of integrated reports from the selected listed companies for the period 2018 to 2020.

#### **4.6.2.1 Advantages of using secondary data**

Costs and time saving are some of the advantages of using secondary data. Collecting secondary data uses fewer resources and consumes less time (Andrei, 2018:93). The cost of using secondary data is relatively low when compared to the cost of field research. There is also no personal contact between the researcher and the respondent(s) or the preparers of the documents when using secondary data (De Vos, Strydom, Fouche & Delport, 2002:325). Secondary data provides a source of data that is available and permanent and can easily be checked by others (Saunders et al., 2009:269). Furthermore, the use of secondary data can also reveal trends in real time which can improve decision-making (Libaque-Saenz, Chang, Kim, Park & Rho, 2016:339).

The disadvantages of using secondary data are discussed in the following sections.

#### **4.6.2.2 Disadvantages of using secondary data**

Although the use of secondary data is associated with cost savings, there could be costs involved in accessing the secondary data. The study used a database that the University of SA is subscribed to for an annual fee to access the JSE-listed companies.

De Vos et al. (2002:325) mention incompleteness and bias as some of the disadvantages of using secondary data or document study. This study used the JSE website as well as the websites of the selected companies to access the integrated reports of those companies selected for this study for the period 2018 to 2020. The study found that not all the IRs were made available by the companies. The reason for this could not be determined. Despite the perceived disadvantages of using secondary data, the JSE database was deemed reliable.

#### **4.6.2.3 Data to be collected**

The data of this study consisted of IRs of companies listed on the JSE. The IRs were downloadable from the JSE website and the websites of the companies. JSE-listed companies are expected to prepare and publish their integrated reports annually. Thus, the integrated reports were expected to be available annually for each listed company but this was not the case for some of the companies. The study required IRs of the selected companies for a period of three years (2018-2020), which made it three reports (one integrated report a year for 2018, 2019 and 2020) for each selected company. In total, the study used 300 integrated reports of the 100 selected companies.

#### **4.7 Hypothesis**

Creswell (2009:132) describes hypotheses as predictions researchers make about the expected relationship among variables. In quantitative studies, researchers use research questions, objectives and hypotheses to outline and specifically focus the purpose of the research (Creswell, 2009:132). Leavy (2017:67) explains that hypotheses statements are constructed in terms of the variables.

According to Shen, Wu and Chand (2017:271), the assurance rate for the world's major 250 companies that publish corporate social responsibility reports reached 63% in 2015 from 30% in 2005. By 2017, this rate had increased to 67% (KPMG, 2017:4). However, by 2020, the rate declined to 62% due to the rise in the number of Chinese companies in the 250 world's largest companies since 2017 (KPMG, 2020:23). These assurance

numbers are subject to independent assurance (Maroun, 2020; KPMG, 2020; KPMG, 2017). Additionally, Shen et al. (2017:272) show that the involvement and domination of the government in China shaped how the assurance of non-financial information was perceived and valued by Chinese investors.

The assurance of integrated reports is a rising area of interest for researchers, companies, assurance professionals and investors (Maroun, 2020; Goicoechea et al. 2019; Cheng et al. 2014; Brown-Liburd et al. 2018). Prior studies have shown the importance of integrated reporting assurance for investment decision-making (Maroun, 2020:190; Steinmeier & Stich, 2017; Brown-Liburd et al., 2018). However, despite the growing interest in integrated reporting assurance, there is not enough empirical studies on how integrated reporting assurance impact investors' decision-making (Cheng et al., 2014; Goicoechea et al., 2019).

Companies have for many years used financial reporting to communicate relevant information to stakeholders and investors, and to ensure that they make informed decisions (Abdullah, Joshua, Ibrahim & Mohammed, 2020:16). Empirical evidence suggests that higher quality financial reporting is associated with more efficient capital investment (Lin et al., 2016; Farewell & Pinsker, 2015; Jung et al., 2014). However, many companies have now adopted integrated reporting to communicate relevant financial and non-financial information to stakeholders and investors. The results achieved through the use of financial reporting and its assurance are shown in prior studies (Chen et al., 2019; Reimsbach et al., 2018; Bedard & Courtea, 2015; Farewell & Pinsker, 2015). Given that the assurance of IRs is not yet mandatory, this study evaluated the relationship between integrated reporting assurance and investors' decision-making.

Many companies are responding to calls for the assurance of IRs for the benefits as discussed in Section 2.4.1. Shen et al.'s (2017:272) study on social responsibility reporting and its assurance in China, found that the assurance of non-financial information increased credibility and investors' willingness to invest. Similarly, Steinmeier and Stich's (2019:178) study on the effect of sustainability assurance on sustainability investment, found that they had a positive association.

Steinmeier and Stich (2019:178) found that sustainability assurance helped to identify sustainability investment opportunities. Farewell and Pinsker (2015:14) confirm that investors are significantly more likely to invest when assurance is provided on reports. Thus, the assurance of integrated reports will similarly increase investors' willingness to invest.

While previous studies focused on the effects of assurance of the sustainability information in the integrated reports, this study extended its line of research (integrated reporting assurance and investment decision-making) by investigating the impact of integrated reporting assurance, specifically of JSE-listed companies, on investment decision-making. To meet the research objectives of this study, the hypotheses below were formulated and were used to test the relationship of integrated reporting assurance with users' investment decision-making. The hypotheses were formulated as follows:

*H<sub>1</sub>: Type of assurance has positive relationship with investment decision-making.*

*H<sub>2</sub>: Level of assurance has a positive relationship with investment decision-making.*

#### **4.8 Data analysis**

According to Saunders et al. (2009:414), quantitative data carry very little meaning to most people in a raw form. There is a need for data to be processed into information in order to be useful. Data analysis in a quantitative research paradigm involves that the data are broken down into constituent parts to obtain answers to the research questions and to test the hypotheses (De Vos et al., 2002:223). Data analysis procedures allow the researcher to determine the findings (Leavy, 2017:111). Additionally, deciding on the procedure on which the data will be presented is one of the first steps in data analysis (Weil, 2017:111).

The purpose of data analysis is mainly to lessen the data to an interpretable and easily understandable form so that the research problems can be studied, tested and conclusions can be drawn (De Vos et al., 2002:223). The data analysis is followed by data interpretation which is the final step in light of the hypotheses or research questions

(Creswell, 2009:167).

Depending on the type of research and what the researcher wants to achieve, there are numerous statistical approaches that can be run on a dataset (Leavy, 2017:111). This study adopted a multiple regression approach to analyse the data and address the objectives of this study (Section 1.5). The data comprised annual IRs of 100 JSE-listed companies for the period 2018-2020. This approach (multiple regression analysis) is discussed in section 4.8.2 of this chapter. The following section discusses the variables of this study.

#### **4.8.1 Variables**

Weil (2017:11) explains that variables are the way concepts are discussed in a study. According to Creswell (2009:150), the variables are related to the research questions or hypotheses. Quantitative variables are usually obtained by measuring or counting (De Vos et al. 2002:224). There is a need for the researcher to identify the variables measured, manipulated and controlled for the study (McGregor, 2019:14).

Leavy (2017:67) shows that a researcher needs to understand the kind of variables he/she is working with as it will influence the data analysis. Quantitative variables take on numerical values. The variables consist of independent variables, dependent variables and controlling variables. The variables of this study are discussed below.

##### **4.8.1.1 Independent variables**

Leavy (2017:67) clarifies that independent variables are likely to affect or influence other variables. Creswell (2014:52) describes independent variables as those variables that can cause or influence outcomes. An independent variable will cause a change to a dependent variable (Saunders et al., 2009:367). This study used quantitative data to test the hypothesis that predicts that the independent variables will positively influence the dependent variable. This study used one independent variable and five control variables (discussed in section 4.8.1.3) to influence the dependent variable (discussed in section 4.8.1.2). The independent variable of this study was IR assurance that was measured by

two proxies, type of assurance and level of assurance. The two proxies of assurance are discussed below.

### **Proxies of integrated reporting assurance**

There are limited studies that discuss measures of assurance. Pinsker and Wheeler (2009:33) used the availability of an assurance report as a proxy of assurance. Shen et al. (2017:280) used the availability of assurance and type of assurance provider as proxies of assurance. In the study of Shen et al. (2017:280), the research participants were assessed whether they were able to identify the availability of assurance in the report including type of assurance provider. To determine the relationship of integrated reporting assurance with investment decision-making, it was imperative that assurance in the IR was identifiable. Reimsbach et al. (2018:573) also used the availability of assurance in the integrated reports as proxy on an experimental study that investigated the impact of integrated reporting assurance on investment related decisions and judgements. Caglio et al. (2020:66) measured assurance with an indication whether a third-party assurance statement accompanied a company's integrated report.

Based on the literature discussed above, it is clear that the inclusion of assurance in IRs and the type of assurance provider are the most used proxies of assurance. Thus, the study used type of assurance using an indication of the availability of assurance of the six capitals of integrated reports along with the level of assurance. Using the level of assurance as proxy for assurance is informed by the fact that, in some integrated reports that are assured, only the financial information is assured. In some cases, the financial information and a selection of the non-financial information are assured. It was essential for this study to measure assurance by indicating the type of assurance provided. The level of assurance also links to the level of confidence (Elliott et al. 2020; Reimsbach et al. 2018; Shen et al. 2017; Martínez-Ferrero et al. 2018; Farewell & Pinsker, 2015).

### **Proxy 1 - Type of Assurance**

Prior studies have shown the role and importance of assuring IRs (Maroun, 2018; IIRC,

2014; Kilic, 2018). According to Ahmed Haji and Anifowose (2016a:920), the principal role of audit committee functions has expanded to include monitoring other company processes beyond their financial reporting given the shifting nature of the business environment, the increasing number of corporate failures and the various capitals that companies depend on for their success (IIRC, 2021:11). They comprise of financial, manufactured, intellectual, human, social and relationship, and natural capitals. This study considered the assurance of the capitals because, similar to the auditing of financial information, prior studies have shown that integrated reporting assurance is perceived as the key element of external scrutiny of the non-financial information (Maroun, 2020; Reimsbach et al., 2018; Martínez-Ferrero et al., 2016).

### **Proxy 2 - Level of Assurance**

There are two recognised assurance levels. Hoang and Trotman (2021:30) compared the effects of two different levels of assurance, namely, reasonable assurance and limited assurance. A third assurance level is mentioned by Michelon, Patten and Romi (2019:405) as a moderate level of assurance that is equivalent to a limited level of assurance. Hoang and Trotman (2021:30) found that both reasonable and limited assurance resulted in higher reliability estimate than no assurance at all. Michelon et al. (2019:400) believe that limited assurance diminishes engagement risk to a greater level than reasonable assurance. On the other hand, Ruiz-Barbadillo et al. (2020:2335) found that companies that chose a reasonable or high level of assurance were usually larger and more profitable.

Hasan, Maijoor, Mock, Roebuck, Simnett and Vanstraelen (2005:99) found that more of the assurance services provided were done with a moderate assurance level because of the nature of the subject matter, lack of appropriate criteria or performance standards, cost/benefit considerations, lack of appropriate evidence and user needs. Higher levels of assurance require a more intensive assurance process to adequately reduce the risk of an assurance engagement (Hummel, Schlick & Fifka, 2019:744). The level of assurance is therefore denoted by the different proxies, namely, limited assurance, reasonable assurance, as well as whether the assurance is combined or is provided for

by the internal auditors of the company or external auditors.

Having discussed the independent variable above as well as the two proxies of assurance, the following section discusses the dependent variable of this study.

#### **4.8.1.2 Dependent variables**

Dependent variables are described by Leavy (2017:68) as “variables that are affected or influenced by another variable”. Dependent variables will change due to the reaction from the independent variables (Saunders et al., 2009:367) as they are the results of the influence of independent variables (Creswell, 2014:52). Thus, the dependent variables depend on the independent variables. The dependent variable of this study was investment decision-making.

#### **Proxies of investment decision-making**

Investment decision-making can be measured through various proxies. Adam and Goyal (2008:42) discuss the four main proxy variables for investment which are: market to book asset ratio; market to book equity ratio; earnings price ratio; and the ratio of capital expenditures over the net book value of plant, property, and equipment. In addition to the four proxies, Burton (2003:439) also includes the company share price as well as all-share index to the list of proxies that measure investment. According to Pinsker and Wheeler (2009:25), share price is discounted in the absence of independent assurance on company-initiated disclosures and increased in the presence of such assurance. These proxy variables have also been utilised in other studies (Bushee & Noe, 2000; Moikwatthai, Yasseen & Omarjee, 2019; Serafeim, 2015).

Siyanbola et al. (2019:63) consider the volume of shares, market value of shares in addition to volume of new shares issued for the period to measure investment decisions but found the volume of shares and market value of shares to be most appropriate. Prasetya and Yulianto (2019:17) maintain that company’s investment decisions are directly influenced by cash flow and profitability. Burton (2003:437) includes dividends yield as a measure for investment growth. Amongst the characteristics mentioned by



Steinmeier and Stich (2019:191) that are likely to be associated with investment decision-making is profitability (return on assets).

Informed by the literature discussed above, this study used four proxy variables to measure investment decision-making. These proxies were: earnings; the number of shares issued; market-to-book asset ratio; and dividend yield. These proxies were also deemed appropriate by Elliot et al. (2020), Pinsker and Wheeler (2009) and Adam and Goyal (2008). They have also been shown to be associated with investment opportunities of companies (Serafeim, 2015:16). The proxies are discussed below.

### **Proxy 1 - Earnings**

Earnings are one of the proxies commonly used to measure investment. According to Gal and Akisik (2020:1231), earnings contribute to a company's market value and are commonly used to measure a company growth. Pinsker and Wheeler (2009:29) argue that there is a moderately strong positive correlation between the reliability of information and a company's perceived potential earnings. Investment leads to future revenue, earnings and book value growth (Hsiao et al., 2012:9). Moikwatthai et al. (2019:37) claim that most institutional investors were found to be sensitive to changes in company earnings. Thus, Caglio et al. (2020:60) show that integrated reporting is likely to decrease uncertainties resulting from sustainability related activities and enhance beliefs on future earnings. The study extracted headline earnings from the IRs of the companies that were selected to measure earnings.

### **Proxy 2 - Issued shares**

Serafeim (2015:7) argues that there is a positive association between integrated reporting practice and shares held by long term investors defined as dedicated and not transient (Moikwatthai et al., 2019:35). According to Serafeim (2015:13), investors are more likely to invest or hold shares in companies that practice integrated reporting. Therefore, investors are more likely to gain confidence when the IR is assured. The study extracted the number of issued shares from the integrated reports that were used to measure this

variable.

### **Proxy 3 - Market-to-book asset ratio**

Market-to-book asset ratio may be the most frequently used proxy for investment (Heitzman & Huang, 2019; Adam & Goyal, 2008; Burton, 2003). The ratio is denoted by the ratio between the market value of the company and the book value (Martínez-Ferrero & García-Sánchez, 2018:229). The ratio may be the most frequently used proxy for investment because it has the highest information content with regard to investment opportunities and is the best performing proxy (Adam & Goyal, 2008:49). According to Adam and Goyal (2008:43), a high market-to-book asset ratio indicates that a company has many investment opportunities in place relative to its assets. Adam and Goyal (2008:42) found the market-to-book asset ratio to be the best performing proxy to measure investment because, as indicated by Martínez-Ferrero and García-Sánchez (2018:227), it represents a company's growth opportunities.

### **Proxy 4 - Dividend Yield**

Serafeim (2015:31) describes dividend yield as dividends over stock price at fiscal year-end. Dividend yield states how much income will be received in relation to the share price (Kengatharan & Ford, 2021:230). Bushee et al. (2000:171) describe two types of investors, long-term investors and transient investors. These two look at different factors for their investment needs. For example, transient investors prefer companies with recent good stock market performance, companies with higher betas, low dividend yields and high sales growth while long-term investors prefer the opposite (Bushee et al., 2000:185). The dividend yield was extracted from the integrated reports. The study measured the level of the dividend yield using the percentage provided in the integrated reports. The study considered a dividend yield of less than 2% as low, a dividend yield between 2% and 6 % as reasonable and above 6% as high to determine the level of the dividends that the company paid out over the course of the reporting year.

The following section presents variables that may have an impact on the data but are not

being investigated. These variables are called control variables and they are discussed below.

#### **4.8.1.3 Control variables**

Creswell (2014:52) relates that control variables play a very active role in a quantitative study because of the potential they have to influence or affect the dependent variable. Kultar (2007:122), referring to a control variable as an extraneous variable, describes it as not part of the study but may affect or influence the outcome of the study. Some of the organisational characteristics often taken into consideration, either directly or as control variables, when assessing the drivers of integrated reporting assurance, are the size of the company, leverage and profitability (Maroun, 2020:193).

Maroun (2020:203) argues that there is a positive link between company size, profitability and leverage with the use of corporate social responsibility assurance. Cheng et al. (2014:142) measured investment preferences and share ownership in addition to the two dependent variables recorded because they believed the two control variables would influence investor behaviours.

Serafeim (2015:16) examined the relationship between integrated reporting and the composition of a company's investor base, including company size measured by the logarithm of sales, leverage, earnings, book-to market ratio, dividend yield, sales growth and stock return volatility as control variables. Hummel et al. (2019:745) included the independence of the assurance provider as a control variable and the independence of the assurance provider because findings from the financial audit literature suggested that limited auditor independence corresponds to lower audit quality.

The study hypothesises that the assurance of IRs has a relationship with investment decision-making. Based on the above, the study used company size, profitability, leverage, improved share price and independence of the assurance provider as additional control variables. Steinmeier and Stich (2019:186) show evidence that these control variables could influence the incentives of integrated reporting assurance. Furthermore,

Ruiz-Barbadillo et al. (2020:2340) included leverage and profitability as indicators of companies that need to ensure the reliability of non-financial information and provide quality reporting.

The study chose to use the company size, profitability, leverage, improved share price and independence of the assurance provider as the control variables as discussed below.

#### **4.8.1.3.1 Company size**

Consistent with prior studies, this study used company size as one of the control variables. Company size is an important determinant of audit quality proxy in the sense that the larger the company, the more bargaining power it has (Martínez-Ferrero & García-Sánchez, 2018:978). According to Michelon et al. (2019:406), the size of a company impacts the probability of sustainability reporting included in the integrated reports. Company size is measured by different proxies. Hummel et al. (2019:741) measure company size by the log of the total employees at the end of the fiscal year. Other studies, such as Gao and Sidhu (2018) and Bushee et al. (1999), measured company size as the log of market value. Company size was measured by natural log of total sales in Michelon et al. (2019:406) and Serafeim (2015:31). Steinmeier and Stich (2019:190) explain that company size can serve as a proxy for various other economic characteristics of a company.

Although company sizes can be measured by different proxies, many studies measure company size by the total assets of the company (Gal & Akisik, 2020; Ruiz-Barbadillo & Martínez-Ferrero, 2020; Siyanbola et al. 2019; Steinmeier & Stich, 2019; Martínez-Ferrero & García-Sánchez, 2018; Chang et al., 2006). Siyanbola et al. (2019:66) believe that the size of a company “is measured by the position of its balance sheet at the end of the period”. Based on the above, the study chose to adopt the concept to measure company size by total assets.

#### **4.8.1.3.2 Profitability**

Profitability is one of the determinants of investment activity (Ncanywa et al., 2017:50).

According to Ruiz-Barbadillo et al. (2020:2333), profitability is measured by net income and stockholders' equity. Caglio et al. (2020:67) measured profitability by return on assets which is calculated by dividing the net income by the total assets. A return on asset is often utilised to measure a company's profitability (Caglio et al., 2020; Steinmeier & Stich, 2019; Gao & Sidhu, 2018; Bedard & Courtea, 2015; Jung et al., 2014).

Profitability is one of the indicators that are linked to the need of a company to make sure credibility of the sustainable information in integrated reports (Ruiz-Barbadillo et al., 2020:2340). Profitability is also used to output growth and interest rates (Ncanywa et al., 2017:50). Profitability, as well as leverage (discussed in section 4.8.1.2.1.3), are indicators that relate to the need of a company to make sure the reliability of its sustainability information to provide quality reporting (Ruiz-Barbadillo et al., 2020:2340). Profitability was also found to correlate with integrated reporting including integrated reporting assurance (Reimsbach et al., 2018:561). Thus, for this study, profit margin was used to measure profitability.

#### **4.8.1.3.3 Leverage**

A company's financial leverage refers to the "informational needs of the company's creditors" (Hummel et al., 2019:745). It is measured by total debts over total equity (Gal & Akisik, 2020; Caglio et al., 2020; Ruiz-Barbadillo et al., 2020). High levels of leverage are associated with high levels of institutional ownership and great stock return volatility (Bushee et al., 2002:1822). Hummel et al. (2019:745) note that leverage may be positively associated to assurance quality because creditors of a highly leveraged company may demand advanced security regarding sustainability related risks to assess the company's long-term success. It is for this reason that leverage was deemed suitable to be used as a control variable for this study. As in the study of Gao and Sidhu (2018:286), this study extracted leverage from the integrated reports and compared it with the previous years to see whether it was a high or a good level.

#### **4.8.1.3.4 Share price**

A company's share price is a representative of investors' confidence in the future profitability of the company (Musah & Aryeetey, 2021:57). A share price may rise and drop in the stock market (Hashim & Shahrumzaki, 2020:535).

Pinsker and Wheeler (2009:25) found that participants significantly increased the share price in the presence of an independent assurance unlike in the absence of such assurance where participants discounted the share price. Elliot et al. (2020:141) concur that investors are prepared to pay more for shares of a company that uses high quality reporting compared to a lower quality reporting with an auditor's comment or report. This study chose to measure this control variable by the variations of the share price extracted from the integrated reports.

#### **4.8.1.3.5 Independence of the assurance provider**

The integrity of a company's disclosure is improved when there is independence of the assurance provider (Gal & Akisik, 2020:1227). Hummel et al. (2018:745) argue that an independent assurance provider can specify a comprehensive assurance service for the purpose of boosting revenue. Assurance providers are expected to be focused on the completeness and independence of the processes (Martínez-Ferrero & García-Sánchez, 2018:974) and are required to conform to the code of ethics which demand them to be competent, independent and objective to ensure quality assurance (Hummel et al., 2019:734).

Assurance providers usually include references on their independence in the assurance statement or report (Hummel et al., 2019:739). Steinmeier and Stich (2019:183) stipulate that assurance providers must be sufficiently independent because the cost of compromised independence is significant. The study extracted information about the independence of the assurance provider from the integrated reports.

#### **4.8.2 Multiple regression analysis**

According to Weil (2017:116), multiple regression tests for the effect of multiple independent variables in the prediction of the variation in a dependent variable. Martin and Bridgmon (2012:67) state that multiple regression can be used to analyse two independent variables with the dependent variable. Kraska (2012:9) describes multiple regression as a method that shows the connection between a combination of independent variables and a single dependent variable. Saunders et al. (2009:595) define multiple regression analysis as “the process of computing a coefficient of multiple determination and regression equation using two or more independent variables and one dependent variable”.

To differentiate between multiple regression analysis and regression analysis, Saunders et al. (2009:462) describe regression analysis as a method of calculating the coefficient of determination and regression equation using one independent variable, whilst multiple regression is used to look at the relationship between one or more independent variables and the dependent variable (Muijjs, 2011:139).

The purpose of this study was to investigate the association between assurance of IRs and investment decision-making. In this study, the relationships between the independent, control and independent variables described in the previous section were established. Thus, the study used multiple regression analysis to analyse the data extracted from the IRs of the companies that were selected for this research. The decision to use multiple regression was motivated by Cheng et al. (2014) who analysed data using regression analysis model to explore the impact of the strategic relevance of reported sustainability information and its certainty on investment decisions of non-professional investors.

Using multiple regression analysis for this study showed the relationships between the variables in order to establish whether the assurance of integrated reports has the potential to increase investment decision-making as assured IRs are perceived to be credible and reliable by the users. The following regression formulas were used to

examine the relationship between the dependent, independent and control variables (Refer to Appendix C for the variables and their descriptions):

### **Earnings**

$$\text{Earnings (Type)} = \text{constant} + b(1) * \text{AssuranceType} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

$$\text{Earnings (Level)} = \text{constant} + b(1) * \text{AssuranceLevel} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

### **Number of shares issued**

$$\text{NumberOfSharesIssued(Type)} = \text{constant} + b(1) * \text{AssuranceType} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

$$\text{NumberOfSharesIssued (Level)} = \text{constant} + b(1) * \text{AssuranceLevel} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

### **Market to book asset ratio**

$$\text{MarketToBookAssetRatio(Type)} = \text{constant} + b(1) * \text{AssuranceType} + b(2) * \text{CompanySize} \\ + b(3) * \text{ProfitMargin} + b(4) * \text{Leverage} + b(5) * \text{SharePrice} \\ + b(6) * \text{AssuranceProvider} + \text{error}$$

$$\text{MarketToBookAssetRatio (Level)} = \text{constant} + b(1) * \text{AssuranceLevel} + b(2) * \text{CompanySize} \\ + b(3) * \text{ProfitMargin} + b(4) * \text{Leverage} + b(5) * \text{SharePrice} \\ + b(6) * \text{AssuranceProvider} + \text{error}$$

### **Dividend yield**

$$\text{DividendYield(Type)} = \text{constant} + b(1) * \text{AssuranceType} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

$$\text{DividendYield (Level)} = \text{constant} + b(1) * \text{AssuranceLevel} + b(2) * \text{CompanySize} + b(3) * \text{ProfitMargin} \\ + b(4) * \text{Leverage} + b(5) * \text{SharePrice} + b(6) * \text{AssuranceProvider} + \text{error}$$

Where:



b(1), b(2), b(3), b(4), b(5) and b(6) are weights of variables

Please note:

Earnings(Type), NumberOfSharesIssued(Type), MarketToBookAssetRatio(Type),  
DividendYield(Type) = depends on Type of Assurance

Earnings(Level), NumberOfSharesIssued(Level), MarketToBookAssetRatio(Level),  
DividendYield (Level) = depends on Level of Assurance

#### **4.9 Validity and reliability**

Validity and reliability form an important aspect of a study. They are the two key elements of quality in quantitative research (Weil, 2017:119) that ensure the credibility of the research findings. It is important that the data used in the study are regarded as valid and reliable. De Vos et al. (2002:166) affirm that the measurement procedures and tool have acceptable levels of reliability and validity. These two important aspects, validity and reliability, are discussed below.

##### **4.9.1 Validity**

Validity refers to the degree to which an empirical measure adequately reflects the actual meaning of the concept under consideration (De Vos et al., 2011:172). Saunders et al. (2009:157) assert that validity has to do with whether the results actually look like they do. De Vos et al. (2002:166) further state that validity refers to the broad extent to which an instrument is doing what it is intended to do. According to Given (2012:3), researchers employ measurements to assess the extent to which a study and its key components are valid.

There is an internal and external validity. Given (2012:3) refers to internal validity as an instrument that measures what it purports to measure and external validity is the likelihood that the findings of a study will apply to the larger population of the sample. According to Saunders et al. (2009:158), the research findings need to be equally applicable to other research settings.

The study used annual integrated reports from the companies selected for the study. These integrated reports were publicly available on the JSE website as well as the websites of the companies. In an effort to boost the validity and credibility of the coding, an independent co-coder was assigned to do the co-coding and to compare the answers with those of the researcher.

A co-coder is an independent and objective person who holds a post-graduate qualification and is therefore deemed capable to boost the credibility of the findings presented in the study. Saunders et al. (2009:467) state that all data, with a few exceptions, should be recorded using numeric codes to facilitate analysis. Thus, the use of a co-coder ensured the validity of the findings. The co-coding was then compared with the existing answers and no differences were found. The following section provides a discussion on the reliability of the research.

#### **4.9.2 Reliability**

According to Saunders et al. (2009:156), reliability means “the extent to which a data collection technique or analytical procedure provides consistent results”. Weil (2017:119) refers to reliability as the stability or consistency of a measure over a brief time interval. Reliability is viewed by Given (2012:2) as a property of the instruments that are used in a quantitative study to measure the phenomena that are being studied. De Vos et al. (2011:177) assert that reliability happens when a tool measures the same thing more than once that results in the same outcomes. Primarily, reliability is concerned with how well an instrument is being measured rather than what is being measured (De Vos et al., 2002:169). An instrument will be considered reliable if it gives the same results more than once. Therefore, this study used the assistance of a qualified statistician to verify the correctness of the data analysis and interpretations.

Secondary data were collected for this research. The appropriate methods of data collection and analysis were used for the study to ensure a fair presentation of the results. The next section provides a brief discussion on the ethical consideration of this study.

#### **4.10 Ethical consideration**

According to De Vos, Strydom, Fouche and Delport (2009:75) , ethics is a set of universally accepted moral values that provide rules for, and behavioural expectations for the most correct behaviour toward subjects and respondents, employers, sponsors, other researchers, assistants and students. A researcher needs to be aware of the ethical considerations concerning the study.

Universities have research committees that review research proposals according to strict guidelines before the researcher can commence with the research. Ethical guidelines serve as the standards and foundations against which researchers evaluate their own conduct (De Vos et al., 2011). De Vos et al. (2009:69) stipulate that researchers are morally obligated to make certain that they are competent and skilled to carry out the research.

The data employed for this research was in the form of secondary data extracted from the IRs of companies that were selected for this research. The data were acquired with full consideration of the ethical guidelines as well as the ethical clearance granted by the UNISA Research Ethics Review Committee at the College of Accounting Sciences before collecting the data. See Appendix A for the ethical clearance. The following section concludes the chapter.

#### **4.11 Conclusion**

The quantitative research processes used for this study were outlined under different sections in this chapter. The research paradigm, designs, and the research methods used in this study were justified. The study employed content analysis of secondary data contained in the IRs of the selected listed companies to evaluate the current practices of integrated reporting assurance of the listed companies and how the current practices of integrated reporting assurance relate with users' investment decision-making. The study focused on a sample from the listed companies looking at best performing sectors with at least five or more companies for a period of three years from 2018 to 2020.

In summary, the procedures discussed in this chapter show how the data and results presented in the following chapter were obtained.

## CHAPTER 5

# PRESENTATION, ANALYSIS AND INTERPRETATION OF THE RESULTS

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### 5.1 Introduction

The former chapter outlined the research methods applied to achieve the objectives of this research mentioned in Chapter 1 and presented the regression formulas used to examine the relationship between the variables in Section 4.8.2. The study aimed to investigate the relationship between the assurance of IRs and investment decision-making.

The rest of the chapter is presented as follows: Section 5.2 presents the reliability test; Section 5.3 presents the validity test; and Section 5.4 presents the results of the multiple regression models. This is followed by Sections 5.5, 5.6 and 5.7 which address the first three objectives (Section 1.5) of this study, and Section 5.8 which summarises the chapter.

The results from the secondary data collected for this study for the period 2018-2020 are presented in this chapter. The results from the analysis aim to address the objectives of this study including to answer the hypotheses of this study. The following hypotheses were developed for this study:

*H<sub>1</sub>: Type of assurance has positive relationship with investment decision-making.*

*H<sub>2</sub>: Level of assurance has a positive relationship with investment decision-making.*

### 5.2 Reliability test

The Cronbach's Alpha was utilised to calculate the internal consistency. This method is most often used for determining internal consistency (Saunders et al., 2009:374). The Cronbach's Alpha coefficients were tested to make certain the variables were reliable. A Cronbach's Alpha is a measure of internal consistency, that is, how closely connected a

set of variables are as a group. It is believed to be a measure of scale reliability.

To test the reliability of the variables used, the Cronbach's Alpha coefficients were calculated and reported in Table 5.1. The overall Cronbach's Alpha is presented in Table 5.1 as 0.662. The item-specific alphas are high, which indicates that there is high level of internal consistency for the scale with this specific sample.

**Table 5.1: Reliability Statistics**

Cronbach's Alpha	No. of Items
.662	11

**Table 5.2: Item -Total Statistics**

	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Cronbach's Alpha if Item deleted
Type of Assurance	23.40	16.930	.059	.470
Level of Assurance	21.13	12.813	.141	.562
Earnings	23.21	15.404	.248	.591
Number of Shares Issued	24.18	15.887	.170	.323
Market to Book Asset Ratio	25.14	18.774	.000	.566
Dividend Yield	24.48	16.371	.167	.526
Company Size	22.97	16.481	.134	.639
Profit Margin	24.58	16.392	.167	.626
Leverage	25.01	18.425	.037	.564
Share Price	24.08	15.913	.170	.423
Independence of Assurance Provider	23.19	18.168	.182	.647

A reliability test value of 0.7 is generally accepted as a minimum, while a value as low as 0.6 may also be considered depending on the nature of the data (Hair, Black, Rabin & Anderson, 2010:125). The value should not be below 0.6 for widely used scales (Dash, 2010:19). As presented in Table 5.1, the variables have the Cronbach's Alpha as 0.662

which is above 0.6. Thus, the internal consistency is of high level for further analysis.

### **5.3 Validity Test**

Validity is a distinctive measurement that is concerned with the degree that a test measures what the researcher wishes to measure. It is about the responses that appear on the research instrument to test their validity. The importance of a validity test is to guarantee that the responses of the variables are valid and to exclude responses or items that are not valid.

The research instrument was tested for validity using Pearson Product Moment Correlations, the most used correlation coefficient to generate correlations (Martin & Bridgmon, 2012:404). The study used Pearson Product Moment Correlation because there was no need to draw variables. This was used to understand the impact of the variables used for this study. The validity test was accomplished by correlating the scores of each item on the questionnaire with the total score. An item-to-item questionnaire that significantly correlated with the total score suggests that the items are valid.

Table 5.3 shows that the questionnaire measured what it expected to measure. However, one variable, "Market to Book Asset Ratio", was found not valid as presented in Table 5.2 and was therefore dropped in Table 5.3. Only the valid items are presented in Table 5.3.

**Table 5.3: Validity Test using Pearson Correlations**

		Type of Assurance	Level of Assurance	Earnings	Number of Shares Issued	Dividend Yield	Company Size	Profit Margin	Leverage	Share Price	Independence of Assurance Providers	Total Score
Type of Assurance	Pearson Correlation	1	.056	.078	-.198**	.036	.028	-.047	.046	.168**	.125*	.318**
	Sig. (2-tailed)		.335	.180	.001	.531	.631	.415	.424	.003	.030	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Level of Assurance	Pearson Correlation	.056	1	.060	.237**	.018	-.047	.034	-.005	.014	.261**	.575**
	Sig. (2-tailed)	.335		.302	.000	.752	.422	.559	.930	.803	.000	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Earnings	Pearson Correlation	.078	.060	1	.095	.076	.207**	.145*	.012	.159**	.083	.480**
	Sig. (2-tailed)	.180	.302		.101	.189	.000	.012	.836	.006	.152	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Number of Shares Issued	Pearson Correlation	-.198**	.237**	.095	1	.044	.126*	.177**	-.028	-.044	.102	.422**
	Sig. (2-tailed)	.001	.000	.101		.443	.029	.002	.630	.450	.078	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Dividend Yield	Pearson Correlation	.036	.018	.076	.044	1	.136*	.153**	-.073	.167**	.026	.390**
	Sig. (2-tailed)	.531	.752	.189	.443		.019	.008	.210	.004	.659	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Company Size	Pearson Correlation	.028	-.047	.207**	.126*	.136*	1	.086	.006	.025	-.072	.371**
	Sig. (2-tailed)	.631	.422	.000	.029	.019		.138	.924	.663	.214	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Profit Margin	Pearson Correlation	-.047	.034	.145*	.177**	.153**	.086	1	.027	.027	.030	.389**
	Sig. (2-tailed)	.415	.559	.012	.002	.008	.138		.638	.636	.600	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Leverage	Pearson Correlation	.046	-.005	.012	-.028	-.073	.006	.027	1	.219**	-.228**	.141*
	Sig. (2-tailed)											
	N											



	Sig. (2-tailed)	.424	.930	.836	.630	.210	.924	.638		.000	.000	.014
	N	300	300	300	300	300	300	300	300	300	300	300
Share Price	Pearson Correlation	.168**	.014	.159**	-.044	.167**	.025	.027	.219**	1	.026	.420**
	Sig. (2-tailed)	.003	.803	.006	.450	.004	.663	.636	.000		.650	.000
	N	300	300	300	300	300	300	300	300	300	300	300
Independence of Assurance Providers	Pearson Correlation	.125*	.261**	.083	.102	.026	-.072	.030	-.228**	.026	1	.254**
	Sig. (2-tailed)	.030	.000	.152	.078	.659	.214	.600	.000	.650		.000
	N	300	300	300	300	300	300	300	300	300	300	300
Total Score	Pearson Correlation	.318**	.575**	.480**	.422**	.390**	.371**	.389**	.141*	.420**	.254**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.014	.000	.000	
	N	300	300	300	300	300	300	300	300	300	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## 5.4 Multiple regression models

The aim of this research was not to predict, but to rather get an insight of the relationship between assurance of IRs and investment decision-making. Thus, the extent to which the independent variables impact the dependent variables was assessed in this research. Each individual independent variable was assessed for a significant impact on the dependent variable. Tables 5.4, 5.5 and 5.6 present the regression results of the models.

### 5.4.1 Earnings regression model

The statistical results for “earnings” are presented in Table 5.4 below:

**Table 5.4: Regression Results of Earnings**

Model	Model with Type of Assurance			Model with Level of Assurance		
	B	t	Sig.	B	t	Sig.
(Constant)	.857	1.266	.207	.896	1.326	.186
Type of Assurance	.043	.770	.442			
Company Size	.204	3.511	.001***	.207	3.564	.000***
Profit Margin	.136	2.213	.028**	.132	2.149	.032**
Leverage	-.017	-.118	.906	-.018	-.126	.899
Share Price	.138	2.466	.014**	.145	2.619	.009***
Independence of Assurance Provider	.282	1.418	.157	.263	1.286	.200
Assurance Level				.024	.739	.461
<b>F-Statistic</b>	4.928***			4.919***		
<b>R-Sq adj</b>	.073			.073		

a. Predictors: (Constant), Independence of Assurance Providers, Share Price, Profit Margin, Company Size, Type of Assurance, Leverage

b. Dependent Variable: Earnings

Key: \*\*\*1%, \*\*5% and \*10% significance level

Based on Table 5.4, “Company Size” is significant at 1% level while “Profit Margin” and “Share Price” are significant at 5% level. The variables of interest, “Type of Assurance” and “Level of Assurance” are not significant, and it can be concluded that there is no statistical evidence that “Type of Assurance” and “Level of Assurance” impact earnings. However, considering the coefficient of 0.138 and 0.024, it can be inferred that “Type of

Assurance” and “Level of Assurance” have a positive impact on “earnings”.

Table 5.4 presents statistical evidence that the goodness of fit is satisfied. Thus, the study concludes that the data fits the model developed at 5% significant level. Table 5.4 also explains the power of the variables used in the model in determining earnings. There is statistical evidence that the variables are not strong enough since they are able to explain only 7.3% variation in “earnings”.

#### 5.4.2 Number of shares issued

The statistical results for number of shares issued are presented in Table 5.5 below.

**Table 5.5: Regression results of number of shares issued**

Model	Model with Type of Assurance			Model with Level of Assurance		
	B	t	Sig.	B	t	Sig.
(Constant)	.402	.571	.568	.235	.336	.737
Company Size	.139	2.305	.022**	.138	2.289	.023**
Profit Margin	.173	2.717	.007***	.181	2.847	.005***
Leverage	.033	.219	.827	-.024	-.162	.871
Share Price	-.023	-.391	.696	-.054	-.946	.345
Independence of Assurance Providers	.485	2.349	.019**	.165	.781	.435
Type of Assurance	-.211	-3.658	.000***			
Level of Assurance				.131	3.936	.000***
<b>F-Statistic</b>	5.344***			5.717***		
<b>R-Sq adj</b>	.080			.086		

a. Predictors: (Constant), Type of Assurance, Company Size, Leverage, Profit Margin, Share Price, Independence of Assurance Providers

b. Dependent Variable: Number of Shares Issued

Key: \*\*\*1%, \*\*5% and \*10% significance level

Based on Table 5.5, “Profit Margin” and “Type of Assurance” are significant at 1% level while, “Company Size” and “Independence of Assurance Providers” are significant at 5% level. However, in the case of “Level of Assurance”, only “Company Size” is significant at 5% level. Considering the variable of interest, “Type of Assurance”, it is significant and it can be concluded that there is statistical evidence that “Type of Assurance” has an impact of -0.211 on “Number of Shares Issued”. “Level of Assurance” is also significant and it

can be concluded that there is statistical evidence that “Level of Assurance” has an impact of 0.131 on “Number of Shares Issued”. In other words, “Type of Assurance” has a negative effect on the “Number of Shares Issued” and “Level of Assurance” has a positive effect on “Number of Shares Issued”.

Based on the presentation in Table 5.5, there is statistical evidence that the goodness of fit is satisfied and it can be concluded that the data fit well the model developed at 1% significant level. Table 5.5 also explains the power of the variables used in the model in determining “Number of Shares Issued” and there is statistical evidence that the variables are not strong enough since they are able to explain only 8% and 8.6% variation in “Number of Shares Issued”.

### 5.4.3 Dividend yield regression model

The statistical results for dividend yield are presented in Table 5.6 below.

**Table 5.6: Regression results of dividend yield**

Model	Model with Type of Assurance			Model with Level of Assurance		
	B	t	Sig.	B	T	Sig.
(Constant)	1.043	1.663	.097*	1.055	1.686	.093*
Company Size	.113	2.102	.036**	.114	2.122	.035**
Profit Margin	.142	2.504	.013**	.141	2.483	.014**
Leverage	-.266	-2.000	.046**	-.267	-2.005	.046**
Share Price	.162	3.136	.002***	.164	3.215	.001***
Independence of Assurance Providers	-.012	-.067	.946	-.021	-.111	.911
Type of Assurance	.013	.259	.796			
Level of Assurance				.009	.302	.763
<b>F-Statistic</b>	4.090***			4.095***		
<b>R-Sq adj</b>	.058			.058		

a. Predictors: (Constant), Type of Assurance, Company Size, Leverage, Profit Margin, Share Price, Independence of Assurance Providers

b. Dependent Variable: Dividend Yield

Key: \*\*\*1%, \*\*5% and \*10% significance level

Based on Table 5.6, “Share Price” is significant at 1% level while “Company Size”, “Leverage” and “Profit Margin” are significant at 5% level. Considering the variables of

interest, “Type of Assurance” and “Level of Assurance”, are not significant and it can be concluded that there is no statistical indication that “Type of Assurance” and “Level of Assurance” have an impact on “Dividend Yield”. However, considering the coefficients of 0.013 for “Type of Assurance” and 0.009 for “Level of Assurance”, it can be inferred that both “Type of Assurance” and “Level of Assurance” have a positive effect on “Dividend Yield”.

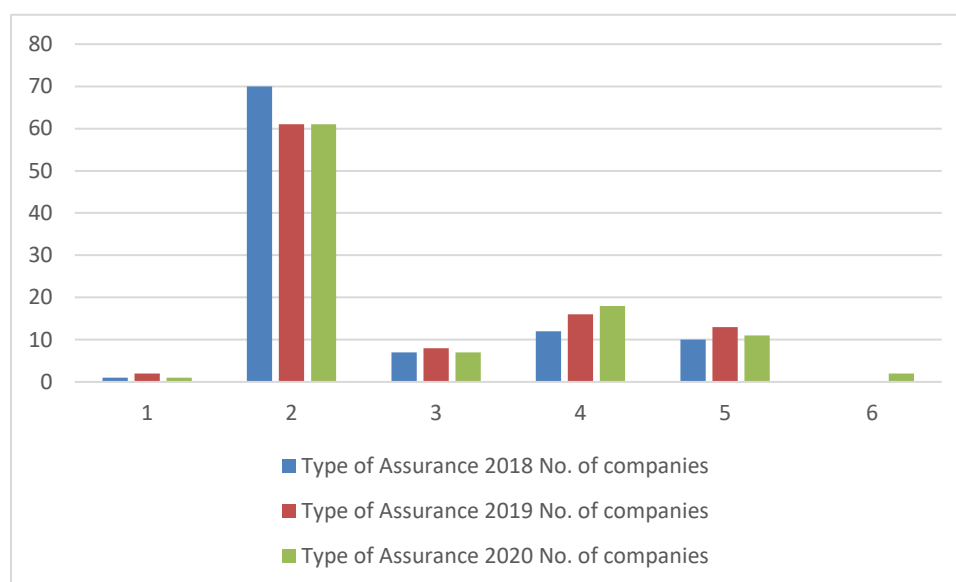
As presented in Table 5.6, there is statistical evidence that the goodness of fit is satisfied and it is concluded that the data fit well the model developed at 1% significant level. Table 5.6 helps to explain the power of the variables used in the model in determining “Dividend Yield” and there is statistical evidence that the variables are not strong enough since they are able to explain only 5.8% variation in “Dividend Yield”.

### **5.5 Current integrated reporting assurance practices of JSE-listed companies**

Integrated reporting assurance is not yet mandatory. However, as indicated in Section 2.4, the benefits are crucial. The benefits of assuring IRs are discussed in Section 2.4.1. This section addresses objective (a) in Section 1.5 which sought to evaluate the current integrated reporting assurance practices of JSE-listed companies. Table 5.7 and Figure 5.1 below show how the JSE-listed companies assured their integrated reports for the periods 2018, 2019 and 2020 using a 6-point Likert Scale (see Appendix B for the Likert Scale), “Type of Assurance”. “Type of Assurance” is a proxy of assurance and is denoted by the assurance of the six capitals of integrated reporting. Companies will provide assurance for financials but are not mandated to assure non-financial information included within the IRs.

**Table 5.7: Assurance practices of JSE listed companies**

Type of Assurance			
	2018	2019	2020
Scale	No. of companies	No. of companies	No. of companies
1	1	2	1
2	70	61	61
3	7	8	7
4	12	16	18
5	10	13	11
6	0	0	2
<b>Total Companies</b>	<b>100</b>	<b>100</b>	<b>100</b>



**Figure 5.1: Type of assurance by JSE listed companies**

Source: Author

Based on Table 5.7 and Figure 5.1, only one company in 2018 and 2020 did not assure the integrated reports, while two companies did not assure their integrated reports in 2019. Companies, especially the JSE listed companies, are not expected to have the integrated reports assured because it is not mandatory. However, only one company did not provide assurance of the integrated reports in 2018 and 2020, and two companies in

2019. Various reasons could have prevented the companies from assuring their integrated reports that include the high costs of assurance and the complexity of assuring IRs, especially with the limitations of the existing professional standards when dealing specifically with integrated reporting assurance (Borgato & Marchini, 2021; Maroun, 2018). Even though the assurance of IRs is not yet mandatory, majority of the companies voluntarily assured their integrated reports because of the reliability stakeholders find in information that is accompanied by an independent assurance (Borgato & Marchini, 2021; Simnett & Huggins, 2015). Akisik and Gal (2020:318) believe that providing investors with relevant and reliable information can reduce asymmetry and uncertainties. Assurance leads investors to view the information IRs as credible and reliable, enhancing the reputation of the reporting company. A tarnished reputation with investors and stakeholders may negatively impact the company's revenues and investment growth. The benefits of assuring IRs outweigh the potential risks of not assuring the integrated reports. This is the reason many companies are increasingly providing assurance for their IRs. The study showed an increase in companies assuring their IRs to ensure the integrity of sustainable reporting.

For the assurance of the financial capital only (Scale 2), 70% of the sample provided the assurance in 2018 and 61% in 2019 and 2020. Although the assurance of the entire integrated report has become vital to users of the report, the three years of this study saw a majority of the companies still providing assurance for the financial capital only. This is not surprising because companies are required to have the financial reports audited but not the non-financial information in the IRs. However, companies observe the importance of assuring both the non-financial information along with the financial information for the benefits mentioned in Section 2.4.1. The benefits of integrated reporting have led companies to gradually adopt the practice of assuring more than the financial capital as presented in Table 5.1 as the companies understand that assuring the information in the report ensures the integrity of sustainability reporting in the integrated reports so that the users will deem the integrated reports trustworthy and reliable. Integrated reporting assurance is relevant to stakeholders, especially those who base their investments decisions on the stock market and the information they obtain from the companies'

integrated reports (Miralles-Quiros, Miralles-Quiros & Daza-Inquierdo, 2021).

In 2018, seven companies provided assurance of the financial capital and one extra capital (scale 3), 2019 saw eight companies and seven companies in 2020. For the assurance of financial capital and two extra capitals (scale 4), 2018 saw 12 companies providing the assurance, 2019 saw 16 companies and 18 companies in 2020. The assurance of the financial capital and two other capitals saw a reasonable increase year by year.

For the assurance of financial capital and three extra capitals (scale 5), 10 companies provided assurance in 2018, 13 companies in 2019 and 11 companies in 2020. The assurance of the financial capital and three other capitals saw an increase of three (from 10 in 2018) companies and a decrease in 2020 to 11 companies from 13 companies in 2019. This was due to challenges faced when assuring integrated reports (see Section 2.4.2). The assurance of integrated reports is still fairly new. However, companies are gradually assuring their integrated reports. The Covid-19 pandemic affected the entire world and forced many countries to go on lockdown as well as the economy, availability of resources and the revenue, profit and cash flows of many companies. The impact of Covid-19 is still lingering on the operations of many businesses in SA along with the economy, and the residue will remain for a long time as companies scale down on employees or shut their doors permanently. The study also observed the delayed publication of some of the integrated reports on the JSE website during the period of the lockdown.

Lastly, no company provided assurance of all the six capitals (scale 6) in 2018 and 2019. This was probably caused by the level of difficulty in assuring information that is not financial. Other companies noted within the IRs that independent assurance of the integrated reports would be considered in future. Maroun (2019b:1847) notes that determinants, such as company size and availability of resources, are amongst the pointers of whether or not a company may have its integrated report assured. Companies are still limited by determinants such as company size and the assurance costs of the IRs. This was confirmed by one of the companies that included a statement in their IR



which indicated that independent assurance of the integrated report would be considered in the future when the company size warrants it. This shows that different determinants could be preventing the companies from assuring their integrated reports. The high cost of assurance services has also been found to have a substantial influence on the assurance of IRs (Maroun, 2019b:1848). Nevertheless, 2020 saw two companies that assured all six capitals which indicated that companies are gradually responding to calls for the assurance of the IRs and the possibility of having the entire IR assured. The outcomes of this research confirm that companies are taking the matter of assuring integrated reports seriously and see the importance of ensuring that the information in the IRs is credible.

Based on Table 5.7 and Figure 5.1, it is evident that companies are gradually adopting the practice of assuring both the non-financial and financial information in IRs, even though the non-financial part of the information is not compulsory selected. This effort by some companies gives investors a degree of encouragement. Companies are cognisant that assurance inspires confidence of the reliability and integrity of the IR. This was confirmed by the companies that indicated their future consideration of independent assurance of the integrated reports. Hassan, Elamer, Fletcher and Sobhan (2020:391) explain that the reason that companies have not adopted integrated reporting assurance could be the high cost of assurance. Borgato and Marchini (2021:32) also mention the complexity of assuring integrated reports. Nevertheless, companies are increasingly appreciating the importance and benefits of assuring the entire IR (Uyar, Kilic & Kuzey, 2020; Hassan et al., 2020). This study also saw an increased number of companies assuring both the information that is financial and the one that is not. Assurance ensures integrity of the information within the report for better decision-making.

While independent assurance adds credibility to integrated reports (Shen et al., 2017:275), the study found that some companies provided compliance reviews or had management verify the processes for measuring non-financial information in place of providing independent assurance of the non-financial information within IRs. The reason for this, as indicated in one of the integrated reports, is because companies exercise their

own judgement whether the integrated report should be assured by an external assurance provider.

Stakeholders find reliability in information that is accompanied by independent assurance (Prinsloo & Maroun, 2021; Hassan et al., 2020; Briem & Wald, 2018; Brown-Liburd et al., 2018; Maroun, 2018; Simnett & Huggins, 2015). This is because stakeholders perceive that assurance improves the integrity and reliability of the published information, minimises risks as well as improves regulatory compliance as well as the reputation of the company (Goicoechea, 2019; Simpson et al., 2016). It is for this reason that more companies are voluntarily assuring their integrated reports (Borgato & Marchini, 2021; Hassan et al., 2020). Assurance adds confidence to the correctness of the information in reports. Thus, confirming the results of Miralles-Quiros et al. (2021), the results obtained in this study provided empirical evidence that companies are increasingly adopting the practice of assuring both the financial and non-financial information in their IRs.

## **5.6 The degree to which JSE-listed companies assure their integrated reports**

This section addresses objective (b) of this research which is to determine the degree to which the JSE listed companies assure their IRs. The study used “Type of Assurance” and “Level of Assurance” as proxies for assurance. “Type of Assurance” was denoted by the assurance of the six capitals of integrated reporting using a 6-point Likert Scale. “Level of Assurance” was denoted by the two recognised assurance levels, limited and reasonable assurance, and whether the assurance was combined or provided by the company’s internal auditors, other representatives of the company or external auditors. See Appendix B for the Likert Scale used for this study.

Tables 5.8, 5.9 and 5.10 below present the degree to which the 100 chosen JSE listed companies, from different sectors that were used for the data, assured their integrated reports for the years 2018, 2019 and 2020. The study sought to identify “Level of Assurance” through a 7-point Likert Scale.

### **Table 5.8: The extent of the assurance of integrated reports by JSE listed**

**companies (2018)**

Type of Assurance		Level of Assurance	
Scale	No. of companies	Scale	No. of companies
1	1	1	15
2	70	2	0
3	7	3	0
4	12	4	8
5	10	5	37
6	0	6	9
		7	31
Total Companies	100	Total Companies	100

Table 5.8, “Type of Assurance” 2018 presents: only one company did not provide or indicate any assurance on the integrated report whilst a majority, 70 companies, indicated only assurance of the financial capital. This was followed by seven companies that indicated the assurance of the financial capital and one extra capital, 12 companies that assured the financial capital and two extra capitals as well as 10 companies that assured the financial capital and three extra capitals. None of the companies assured all six capitals. “Type of Assurance” was elaborated in Section 5.5 and will not be elaborated further in this section.

“Level of Assurance” 2018 presents: 15 companies did not provide the level of assurance of the IRs although the majority of the companies provided assurance for one capital or more as presented under “Type of Assurance”. None of the companies provided limited internal audit assurance or reasonable internal audit assurance. However, eight companies provided limited external audit assurance followed by 37 companies that provided reasonable external audit assurance, nine companies that provided limited combined assurance and 31 companies that provided reasonable combined assurance.

**Table 5.9: The extent of the assurance of integrated reports by JSE listed companies (2019)**

Type of Assurance		Level of Assurance	
Scale	No. of companies	Scale	No. of companies
1	2	1	17
2	61	2	0
3	8	3	0
4	16	4	9
5	13	5	35
6	0	6	7
		7	32
Total Companies	100	Total Companies	100

Table 5.9, “Type of Assurance” 2019 presents: only two companies did not provide or indicate any assurance on the integrated report whilst a majority, 61 companies, indicated only assurance of the financial capital. This was followed by eight companies that indicated the assurance of the financial capital and one extra capital, 16 companies that assured the financial capital and two extra capitals and 13 companies that assured the financial capital and three extra capitals. Just as in 2018, none of the companies assured all six capitals. As indicated above, “Type of Assurance” will not be elaborated further in this section because it was elaborated in Section 5.5.

“Level of Assurance” 2019 presents: 17 companies did not indicate the level of assurance in IRs. That was two companies more than 2018 with 15 companies. Just as in 2018, none of the companies provided limited internal audit assurance and reasonable internal audit assurance. The number of companies that provided limited external audit assurance increased by one to nine in 2019. This was followed by 35 companies that provided reasonable external audit assurance which is two companies lower than in 2018, seven companies that provided limited combined assurance which was also two companies fewer than 2019 and 32 companies that provided reasonable combined assurance in 2019 compared to 31 companies in 2018.

**Table 5.10: The extent of the assurance of integrated reports by JSE listed**

## companies (2020)

Type of Assurance		Level of Assurance	
Scale	No. of companies	Scale	No. of companies
1	1	1	14
2	61	2	1
3	7	3	0
4	18	4	10
5	11	5	34
6	2	6	7
		7	34
Total Companies	100	Total Companies	100

Based on Table 5.10, “Type of Assurance” 2020 presents: one company did not provide or indicate any assurance on the integrated report whilst a majority, 61 companies, indicated assurance of the financial capital only. This was followed by seven companies that indicated the assurance of the financial capital and one extra capital, 18 companies that assured the financial capital and two extra capitals, 11 companies that assured the financial capital and three extra capitals, and two companies that assured all six capitals.

“Level of Assurance” 2020 presents: the study saw a reduction of companies that did not provide the level of their assurance in the integrated reports to 14 and one company that provided limited internal audit assurance. None of the companies provided reasonable internal audit assurance. The number of companies that provided limited external audit assurance saw another increase from 2019 by one to 10 companies, a reduction by one company to 34 companies that provided reasonable external audit assurance and seven companies (same as 2019) that provided limited combined assurance. The study saw a further increase in the number of companies that provided reasonable combined assurance to 34 in 2020.

Goicoechea et al. (2019:10) emphasise the auditing of the entire IR. Evidently from the tables above, JSE-listed companies are gradually adapting to the practice of assuring the non-financial information within the IRs and are also choosing to provide reasonable

assurance in most cases. Ruiz-Barbadillo et al. (2020:2335) believe that companies that select a reasonable or high level of assurance are usually bigger and more profitable. The study did not explore the reasons for the selective assurance of the non-financial information or why the companies provided no assurance for non-financial information because secondary data were used for this study.

Tables 5.8, 5.9 and 5.10 show that majority of the companies chose reasonable external audit assurance (scale 5) and reasonable combined assurance (scale 7). The reason for providing reasonable external audit assurance may be the fact that the audit of financial statements is required by the audit framework with a reasonable level of assurance. Hoang and Trotman (2021:30) also found that reasonable assurance was valued higher than limited assurance however both reasonable and limited assurance resulted in higher reliability estimates than no assurance.

### **5.7 The association between integrated reporting assurance of JSE listed companies and investment decision-making**

Investors are key to the increased reporting of non-financial information and consider non-financial information value relevant (Reimbach et al., 2018:559). Investors are also responding to the increasing calls for the assurance of all the information with the IRs in order to boost the credibility of the information provided. This section addresses objective (c) of the study which sought to establish the association between the assurance of IRs of JSE listed companies and investment decision-making.

Although the assurance of integrated reports is not mandatory, Maroun (2019a:4) asserts that companies should actively invest in formal systems and processes for verifying the information contained in IRs. Prior studies indicate increased investment-related decisions when the integrated report is assured (Miralles-Quiros et al., 2021; Maroun, 2019; Briem & Wald, 2018; Maroun, 2018; Farewell & Pinsker, 2015).

Shen et al. (2017:284) show that the assurance of corporate social responsibility, which forms part of integrated reporting, has a substantial and positive influence on investment decision-making. Reimsbach et al. (2018:575) found that the assuring sustainability

information led to increased investment-related decisions. Thus, assuring IRs is essential for investors who make their decision on investment based on the information within the IRs.

Using a multiple regression model to analyse the data, the study found no statistical evidence in Table 5.4 that “Type of Assurance” and “Level of Assurance” impacted “earnings”; however, it could be inferred that the two proxies of assurance had a positive association with “earnings”. It was also inferred that both “Type of Assurance” and “Level of Assurance” had a positive association with “Dividend Yield” based on Table 5.6. In Table 5.5, the statistical outcomes of the “number of shares” showed that “Type of Assurance” had a negative association while “Level of Assurance” had a positive association with “number of shares issued”.

The current integrated reporting assurance practices of companies that are listed on the JSE showed an increasing rate of companies adopting integrated reporting assurance of capitals other than financial capital. The degree to which the companies with a JSE listing assured their integrated reports was also found to be positive as a majority of the companies chose reasonable external audit assurance and reasonable combined assurance for their IRs. This is more likely to boost the way users of the IRs perceive the reports than when a limited assurance is provided. However, limited assurance is more appreciated than no assurance (Hoang & Trotman, 2021:30).

The outcomes of this research give evidence of the relationship between assuring IRs and investment decision-making. Shen et al. (2017:281) found that the assurance of corporate social responsibility increased investors’ willingness to invest particularly when the assurance was provided by an independent expert rather than the company expert. Prior studies suggest that assurance enhances credibility for users of the reports and found a positive relationship between integrated reporting assurance and investment decision-making (Hoang & Trotman, 2021; Caglio et al. 2020; Maroun, 2019b; Reimsbach et al. 2018; Brown-Liburd et al. 2015).

The reporting of non-financial information is a valuable practice and this value

necessitates assurance to boost the integrity and reliability of IRs. Maroun (2019a:5) emphasises the value of assurance service providers being independent from the reporting company so that stakeholders and investors can have confidence in the assurance opinion and the quality of the service (Miralles-Quiros et al., 2021:52). The study looked at the independence of assurance providers of JSE listed companies as an independent variable. Details on the independence of the assurance provider were extracted from the integrated reports collected because assurance providers usually include references of their independence.

Table 5.11 shows the variations found on the independence of the assurance providers of the JSE-listed companies using a 3-point Likert scale. Scale one of the Likert-scale represents “not provided”, scale two represents “assurance provider(s) is/are dependent of the company” and scale three represents “assurance provider(s) is/are independent of the company”.

**Table 5.11: Independence of Assurance Providers**

Independence of Assurance Providers						
	2018		2019		2020	
Scale	No. of companies	%	No. of companies	%	No. of companies	%
1	2	2%	4	4%	2	2%
2	0	0%	0	0%	0	0%
3	98	98%	96	96%	98	98%
Total Companies	100	100%	100	100%	100	100%

Based on Table 5.11, out of the 100 JSE listed companies, 96% of the companies in 2019 and 98% in 2018 and 2020 reported that the assurance providers were independent of the reporting company. Only 2% of the companies in 2018 and 2020 and 4% in 2019 did not stipulate information of independence of the assurance provider within the report. No company reported that assurance providers were dependent on the reporting company because the reliability of assurance is enhanced when the provider of assurance is independent.



Based on the above results and discussions, this research confirms a positive association between the assurance of IRs and investment decision-making. In other words, integrated reporting assurance has a positive influence on investment decision-making. This finding is coherent with those of similar studies which found a positive relationship between integrated reporting assurance and investment decision-making (Akisik & Gal, 2020; Briem & Wald, 2018; Reimsbach et al., 2018; Shen et al., 2017; Cheng et al., 2014). As indicated in section 2.4.1, investors make their investment judgements based on the transparency of the company as well as the reliability and credibility of the information. Assurance improves the quality of IRs as well as the confidence of the investor. The study concurs with prior studies that assurance is an element that adds certainty in the accuracy and reliability of the published information (Briem & Wald, 2018; Miller et al. 2017; Cheng et al. 2014). This is also confirmed by Goicoechea et al. (2019:1) who maintain that only assured IRs “can successfully instil confidence in its users regarding the sustainability of the company”.

According to Cheng et al. (2014:137), “investors are concerned about the integrity of information that allows them to assess performance of a company”. This is achieved through the assurance of the IR. Maroun (2019b), Briem and Wald (2018), Reimsbach et al. (2018) and Miller et al. (2017) have established that the assurance of IRs enhance the integrity and reliability of the information in the IR. This study also demonstrates an increased number of companies assuring their IRs, which confirms that high value companies hold integrated reporting assurance high.

## **5.8 Conclusion**

This chapter presented the findings from the data analysis together with the interpretation of the findings. As indicated in Section 5.1, the findings presented above from the data analysis addressed the objectives of this study and determined whether the results prove the hypothesis of this study.

The reliability and validity tests were also done. The reliability test presented a high level of internal consistency for further analysis and the validity test presented a total score that

indicated that the items were valid.

The research adopted a multiple regression approach to analyse the data and address the above-mentioned objectives as well as the hypotheses. Each individual independent variable was assessed for its significant prediction to the dependent variable to determine the degree to which the independent variables impacted the dependent variables. The statistical results provided evidence of a positive fit and the data fitted the model developed at significant levels. Thus, the results provided evidence of a positive association between the variables. Assurance improves the credibility of the integrated reports which is likely to boost the confidence of the investor and increase the investor's willingness to invest. Thus, the results confirmed a positive relationship between integrated reporting assurance and investment decision-making.

The study used stakeholder theory and the above results confirm the stakeholder theory because the study saw an increase in the number of companies listed on the JSE assuring their IRs even though this is not mandatory. This was likely due to the growing calls by stakeholders for the assurance of the IRs by the companies. Borgato et al. (2021:48) confirms the importance of assuring IRs in building credibility and trust among stakeholders. The following chapter concludes the study and provides recommendations that were formulated from examining the results from this chapter.

## **CHAPTER 6**

### **CONCLUSIONS AND RECOMMENDATIONS**

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#### **6.1 Introduction**

The prior chapter presented the findings from the data analysis and the interpretation of the findings. The objectives of this study were also covered in Chapter 5. The main purpose of this research was to evaluate the current state of the assurance of IRs of JSE listed companies and how the current integrated reporting assurance practices associate with users' investment decision-making.

In this chapter, a brief outline of the research is presented, followed by a summary of the results and the limitations of this study. This chapter also provides recommendation strategies to improve the quality of the assurance of IRs is addressed in the chapter in the conclusion of this chapter and recommendations for future research .

#### **6.2 Overview of the Research**

This section presents an overview of this research looking at the different chapters.

##### **6.2.1 Chapter 1**

This part provided an introduction to the background knowledge of the research. The problem statement was explained in this chapter as well as the research question, research objectives, hypotheses statements and thesis statement. The chapter also discussed the delineation and limitations of the research, definition of terms and concepts used in this study, research methodology, ethical consideration including significance of the study.

This research evaluated the current state of the assurance of IRs of companies with a public listing in SA and how the current integrated reporting assurance practices associate with users' investment decision-making. To be able to address this, the below objectives were formulated:

- a) To evaluate the current integrated reporting assurance practices of JSE listed companies;
- b) To determine the degree to which the JSE listed companies assure their integrated reports;
- c) To determine the association between the assurance of IRs of JSE listed companies and investment decision-making; and

### **6.2.2 Chapter 2**

This part presented the literature review on integrated reporting assurance. It gave an outline of the theoretical framework concerning the research, explained the concept of integrated reporting and the assurance of IRs. The stakeholder theory best suited this study because the study sought to comprehend the relationship between integrated reporting assurance and investment decision-making. The decision was informed by the fact that, under this theory, management is required to report information to stakeholders and stakeholders are the key drivers of the assurances of IRs. Furthermore, the chapter also discussed the benefits and challenges of integrated reporting assurance. The chapter presented the literature to be able to highlight the importance of assuring IRs including the reason it should be mandated. The literature suggested that integrated reporting assurance enhances the credibility and reliability of the IRs, boosts the reputation of the companies and provides investment attractiveness.

### **6.2.3 Chapter 3**

This part presented the literature review on investment. This part unpacked the concept of investment, reviewed the benefits of investment as well as the factors that influence investment decision-making. The chapter reviewed the concept of investment in SA, discussed the importance of integrated reports for investment decision-making as well as integrated reporting assurance as a landscape for investment decision-making.

The need for integrated reporting assurance was indicated in the literature review in this chapter and the relationship between integrated reporting assurance and investment

decision-making. Prior studies found integrated reporting assurance to improve companies' reputation, which in turn made investment decision-making more attractive to investors. Integrated reporting assurance enhances the relevance, credibility and reliability of integrated reports and also leads to improved investment related decision-making (Reimsbach, 2018:575).

#### **6.2.4 Chapter 4**

This part presented the research methods used to address the objectives of the study, the overall methods employed to acquire the data as well as the results of this research including the research paradigm and design. The study employed a quantitative research method to answer this research's objectives. The population and setting were described, including sampling, data collection and data analysis. The study adopted a quantitative data collection method using secondary data by means of content analysis. The data comprised annual IRs of 100 listed companies for the period 2018-2020. The data were analysed using a multiple regression approach to address the objectives of this research. In addition, the chapter also presented the hypotheses, validity and reliability as well as the ethical considerations. The following hypotheses were formulated:

*H<sub>1</sub>: Type of assurance has positive relationship with investment decision-making.*

*H<sub>2</sub>: Level of assurance has a positive relationship with investment decision-making.*

#### **6.2.5 Chapter 5**

This part presented the findings and interpretation from the analysis of the data. The data analysis aimed to address the objectives of the research and to determine whether the results agreed with the hypotheses. The chapter also presented the validity and reliability tests. A Cronbach's Alpha was employed for testing the dependability of the variables that were utilised and the overall Cronbach's Alpha was presented as 0.0662. This indicated a high level of internal consistency for added analysis. The validity test was conducted using Pearson Product Moment Correlations. The items were found to be valid. However, one variable (Market to Book Asset Ratio) was found not to be valid and

was dropped.

The purpose of the study was not to predict, but to understand the relationship between integrated reporting assurance and investment decision-making. Thus, each individual independent variable was assessed for its significant prediction to the dependent variable to determine the degree to which the independent variables impacted the dependent variable. The summary of the results in Chapter 5 is discussed in the next section.

### **6.3 Summary of the Results**

This section provides a summary of the results obtained from this research and how the results address the first three objectives (objectives a, b and c) of this study (listed in Section 6.2.1). This study evaluated the current state of the assurance of IRs of JSE-listed companies for the period 2018-2020 to be able to determine the relationship that the assurance of IR has with users' investment decision-making. This led to the formulation of the research question of this research, which is:

- The assurance of integrated reports will positively have a relationship with users' investment decision-making.

The objectives of this research were then formulated based on the above research question. The research adopted a multiple regression approach to analyse the data and address the research objectives. Each individual independent variable was assessed for its significant prediction to the dependent variable to determine the degree to which the independent variables impacted the dependent variables. The results, as presented in Chapter 5, supported the findings of prior studies, aligning the findings closely to the literature review. The results of this research provided indication of a positive association between the variables.

### **6.4 Limitations of the study**

This research focused on the relationship between assurance of IRs and investment decision-making of the users of those IRs. The study was limited to selected JSE-listed

companies from different sectors that had five or more companies that published their IRs for the period under this research (2018-2020) and not all the JSE-listed companies. The selection excluded companies that did not publish their IRs for one year or more for the period of the study. In addition, if a company was delisted during the period of the research, the company was also excluded. The companies were not checked for dual listing and therefore, were not excluded if dual listed.

The study found that some of the companies conducted compliance reviews in place of providing assurance of the IRs. In some cases, management of the companies just verified the processes for measuring the non-financial information rather than providing assurance. Thus, if assurance was not made available in the integrated reports, the study recorded that no assurance was provided.

The study only looked at the integrated reports of the companies and did not look at the annual financial statements to check for the audit of the financial statements of those companies. It was also important for the study that details on the assurance of the IRs were easily identifiable in the integrated reports. The study found this to be slightly difficult with some of the integrated reports.

The study also acknowledges the limited scholarly research on the topic of integrated reporting assurance and its relationship with investment decision-making, particularly in SA, as a limitation of the study. However, despite these limitations, the study remained valid because of the need to recognise the value of integrated reporting assurance and to determine its relationship with users' investment decision-making.

## **6.5 Conclusion and recommendations for future research**

The research was undertaken to investigate the influence of assuring IRs on the investment decision-making of the users of the IRs. This led to the research question of this study: "Does the assurance of IRs have a relationship with users' investment decision-making?" The question of this research guided this research to the formulation of the research objectives that were addressed in Chapter 5. In order to determine

whether a relationship exists between the assurance of IRs and investment decision-making, the hypotheses were formulated.

There is a rising interest amongst stakeholders to have companies assure the entire information in the IRs other than the financial information. As noted in the previous chapter, investors make their investment judgements based on the transparency of the company as well as the reliability and integrity of the information. As a result, the study saw a rise of companies assuring their IRs. The degree to which the independent variables impacted the dependent variables was assessed, and a positive association was found between integrated reporting assurance and investment decision-making. This implies that a positive association between integrated reporting assurance and investment decision-making was found. The results confirmed that companies were increasingly adopting the assurance of non-financial information in IRs. Furthermore, the results also confirmed the importance placed on integrated reporting assurance for enhancing credibility and reputation among stakeholders.

Investors rely on information in reports by the companies to make investment decisions and providing assurance on the reports is one way to improve the credibility and reliability of the information within the report. Investors are likely to gain confidence in the presence of assurance. However, companies currently exercise their own judgement with regard to the assurance of the IRs. The practice of assuring IRs is not yet mandatory. The study found that not many companies in the sample made use of an external assurance provider because they had a combined assurance model in place. The study considered the following strategies to likely improve the quality of integrated reporting assurance:

- The use of independent external assurance providers to assure the entire IR because the IR will have more value if the information being reported has been assured and is credible and reliable.
- Assuring the entire IR as opposed to selected parts of the IR since it was noted that reliance is placed on reports that are accompanied by assurance.
- Similar to assurance statements of financial reports, the assurance statements of



non-financial information in the IRs should be easy to find and read.

- Improving the existing professional standards to take into consideration integrated reporting assurance and to ensure consistency in the assurance of the IRs.

Caglio et al. (2020:55) reckon that market participants appreciated IRs that were short, readable and focused. The IIRC framework does not specify what is short but suggests that the integrated report must be concise. The integrated reports varied between fewer than 60 pages and more than 250 pages, with some being difficult to identify the assurance of non-financial information.

This study was only limited to JSE listed companies. Firstly, future research could extend this by drawing on the entire main board of the JSE instead of a sample to investigate the relationship between integrated reporting assurance and investment decision-making. Secondly, future research could look into extending this research beyond 2020 and post the Covid-19 pandemic. This is because many companies were impacted by Covid-19 pandemic and lockdown in 2020 which was the year the study capped its data. However, regardless of the lockdown from the pandemic in 2020, the findings still displayed an increase in companies assuring their integrated reports. Lastly, future studies could also be conducted over a longer period since this study focused only on a three-year period.

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# APPENDICES

## Appendix A: Ethical clearance certificate



### UNISA COLLEGE OF ACCOUNTING SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

Date: 27 April 2020

ERC Reference # :  
2020\_CAS\_010  
Name : P D Mushwana  
Student no: 33976414

Dear Ms PD Mushwana,

**Decision: Ethics Approval from  
27 April 2020 to 26 April 2023**

**Researcher(s):** Name: Phoebe Danisa Mushwana  
E-mail address: [phoebism@hotmail.com](mailto:phoebism@hotmail.com)

**Supervisor (s):** Name: Dr Chisinga Chikutuma  
E-mail address: [chikucn@unisa.ac.za](mailto:chikucn@unisa.ac.za) , telephone: 012 429 3401

**Working title of research:**

***The Impact of Integrated Reporting Assurance on Users' Investment Decision-Making***

**Qualification:** MPhil Accounting Sciences

Thank you for the application for research ethics clearance by the Unisa College of Accounting Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for **secondary data collection from publicly available sources** for the period **27 April 2020 to 26 April 2023**.

*The negligible risk application was expedited by the Chairperson of the CAS RERC on 27 April 2020 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision will be tabled at the next Committee meeting on 12 May 2020 for ratification.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



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2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the CAS RERC.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date (**26 April 2023**). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

**Note:**

*The reference number 2020\_CAS\_010 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature : **Prof Lourens Erasmus**



Chair of CAS RERC

E-mail: [erasml1@unisa.ac.za](mailto:erasml1@unisa.ac.za)

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Signature : **Prof Lungile Ntsalaze**



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## Appendix B: Likert Scale

No.	List	Scale
1	Type of assurance provided	1 - No assurance 2 - Assurance of financial capital (FC) only 3 - Assurance of financial capital (FC) + 1 extra capital 4 - Assurance of FC + 2 extra capital 5 - Assurance of financials + 3 extra capital 6 - Assurance of all 6 capitals
2	Level of assurance	1 - No assurance / Not mentioned 2 - Limited internal audit assurance 3 - Reasonable internal audit assurance 4 - Limited external audit assurance 5 - Reasonable external audit assurance 6 - Limited combined assurance 7 - Reasonable combined assurance
3	Earnings	1 - Not provided/ Headline loss 2 - Decline in headline earnings from the previous year 3 - Headline earnings remained constant 4 - Increased headline earnings
4	Number of shares issued	1 - Not provided 2 - Decline in the number of issued shares from the previous year 3 - Number of issued shares remained the same 4 - Increased number of issued shares
5	Market-to-book asset ratio	1 - Not provided 2 - Market to book asset ratio is low (less than 1) 3 - Market to book asset ratio is high (above 1) 4 - Market to book asset ratio is good (around 1)

No.	List	Scale
6	Dividend yield	1 - Not provided/ No dividend 2 - Dividend yield on a lower level of less than 2% 3 - Dividend yield on a reasonable level of 2-6% 4 - Dividend yield on a higher level above 6%
7	Company size	1 – Not provided 2- Decreased total assets 3 - Total assets remained the same 4 - Increased total assets
8	Profitability	1 - Not provided 2 – Profit margin decreased from the previous year 3 – Profit margin remained the same 4 – Increased profit margin
9	Leverage	1 - Not provided 2 – Leverage is high (above 1) 3 – Leverage is good (1 or less than 1)
10	Share Price	1 - Not provided 2 - Share price decline 3 - Share price remained the same 4 - Increased share price
11	Independence of the assurance provider	1 - Not provided 2 - Assurance provider is/are dependent of the company 3 - Assurance provider is/are independent of the company

## Appendix C: Variables and their descriptions

<b>Variables</b>	<b>Description</b>
<b>Independent variable:</b>	
1. Integrated reporting assurance	Assurance is described by IoDSA (2016:9) as a meticulous application of evidence resulting in a claim or statement by an assurance provider relating to a specified item or information for the purpose of enhancing reliance on that item or information.
<b>Proxies:</b>	
1. Type of assurance	This study considered the assurance of the capitals because, similar to the auditing of financial information, prior studies have shown that integrated reporting assurance is perceived as the key element of external scrutiny of the non-financial information (Maroun, 2020; Reimsbach et al., 2018; Martínez-Ferrero et al., 2018).
2. Level of assurance	Level of assurance is denoted by two recognised assurance levels, reasonable and limited assurance
<b>Dependent variable:</b>	
1. Investment decision- making	Investment is a term associated with financial growth or financial return (Prasetya & Yulianto, 2019; Siyanbola, Fregene & Ogbemor, 2019). Thus, investment decision-making is the making of a decision to invest.
<b>Proxies:</b>	
1. Earnings	Earnings contribute to a company's market value and are commonly used to measure a company growth (Gal et al, 2020:1231)
2. Issued shares	Shares are stocks held by investors (Moikwatthai et al., 2019; Serafeim, 2015)
3. Market-to-book asset ratio	The ratio is denoted by the ratio between the market value of the company and the book value and it represents a company's growth opportunities (Martínez-Ferrero et al, 2018:229).
4. Dividend Yield	Serafeim (2015:31) describes dividend yield as dividends over stock price at fiscal year-end.
<b>Control variables:</b>	



1. Company size	Company size is a measure of the company and is measured by different proxies. However, this study chose to adopt the concept to measure company size by total assets.
2. Profitability	Profitability is one of the determinants of investment activity (Ncanywa et al., 2017:50), and is measured by net income and stockholders' equity (Ruiz-Barbadillo et al. (2020:2333).
3. Leverage	A company's financial leverage refers to the "informational needs of the company's creditors" (Hummel et al., 2019:745). It is measured by total debts over total equity (Gal & Akisik, 2020; Caglio et al., 2020; Ruiz-Barbadillo et al., 2020).
4. Share price	Musah and Aryeetey (2021:57) describe a company's share price is a representative of investors' confidence in the future profitability of the company.
5. Independence of the assurance provider	Assurance providers are required to be sufficiently independent because the cost of compromised independence is significant (Steinmeier & Stich, 2019:183). Assurance providers usually include references on their independence in the assurance statement or report (Hummel et al., 2019:739).