

CORPORATE RISK DISCLOSURE TRENDS IN SOUTH AFRICA DURING THE COVID-19 PANDEMIC

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Abstract:

The novel Covid-19 pandemic created uncertainty around the world. Users now require more information about risk exposure; this paper explored the risk disclosure pattern of South African listed companies during the Covid-19 pandemic. The phenomenon of corporate risk disclosure was explored through a multi-theoretical lens, including agency, legitimacy, and stakeholder theories, given the multi-faceted nature of risk reporting. A content analysis of the annual reports of a sample of non-financial companies listed on the Johannesburg Stock Exchange (JSE) was conducted before and during the Covid-19 pandemic from 2019 to 2021. 84 annual reports were analyzed to determine the extent of corporate risk disclosure, both voluntary and mandatory. A self-developed disclosure index of 25 risk items distributed over three risk categories was used to establish the quantity of corporate risk disclosure. A clear upward trend in the extent of corporate risk disclosure was noted during the Covid-19 pandemic. Given the importance of risk information for decision-making in uncertain times, this study sought to provide an understanding of risk disclosure behavior in South Africa during the initial stage of the pandemic, for which there is limited extant literature. Where extant corporate risk disclosure studies have been conducted in the context of developing economies, this study's findings can be extended to other emerging countries. This study provides the first analysis of the extent of corporate risk disclosure in South Africa during the pandemic. The study's findings are relevant to information users, companies, government, regulatory bodies, and academics.

Keywords: Corporate Risk Disclosure, Annual Reports, Covid-19, Pandemic, Risk Management, South Africa

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INTRODUCTION

Corporate risk disclosure (CRD) has become a point of interest since the global financial crisis 2008 (Wahh et al., 2020). The annual financial statements are prepared in line with a set of accounting regulations aimed at ensuring proper reporting and presenting stakeholders with a holistic view of a business's current economic and financial situation, including its various risks (Veronica, 2021). A company's annual report includes financial and non-financial elements and has been the primary channel for disseminating pertinent information for decision-making by users and stakeholders (Amran et al., 2009; Musyoki, 2017). While stakeholders understand that risk is an unavoidable element of any business, timeous risk disclosure ensures that sound economic decisions are made (Amran et al., 2009).

In South Africa, compliance with the International Financial Reporting Standards (IFRS) is a mandatory Johannesburg Stock Exchange (JSE) listing requirement (JSE, 2011). However, corporate risk disclosures beyond the mandatory IFRS 7 financial risk management disclosures offer crucial,

forward-looking insight where users and stakeholders search for greater openness and evidence of good corporate governance (Musyoki, 2017; Marzouk, 2016; Meijer, 2011). In March 2020, the South African government declared a national state of disaster in terms of the Disaster Management Act in response to the emergence of Covid-19 by Gazette (2020) and subsequently implemented various stages of lockdown. The pandemic has considerably affected economies, resulting in users demanding more information in annual reports to aid their decision-making during uncertain, unprecedented times (Al Sawalqa, 2020; Larcker et al., 2020). The annual report informs shareholders and stakeholders about the company's performance and includes statutory and voluntary risk disclosures.

Evidence shows that much of the extant literature on corporate risk disclosure is limited to developed economies (Linsley & Shrivs, 2006; Elmarzouky et al., 2021; Beretta & Bozzolan, 2004; Meijer, 2011; Oorschot, 2009; Lajili & Zéghal, 2005; Carnegie et al., 2021; Khaledi, 2014; Larcker et al., 2020; Al Sawalqa, 2020; Dey et al., 2018; Amran et al., 2009; Uba & Irina, 2021; Marzouk, 2016). This study will contribute to the extant body of research in four ways. Firstly, in the absence of research that addresses the issue of risk disclosure during crisis periods in developing countries (Marzouk, 2016), this study provides insight into how South African listed entities reacted to the disclosure needs of users during the current Covid-19 pandemic. Secondly, while earlier research on corporate risk disclosure focused on a single period or was based on entities in a developed country (Almania, 2019; Meijer, 2011), this study explored the extent and quantity of risk disclosure in the annual reports of South African listed companies during an extended and recent period (2019-2021). It further enhances the credibility of its results and provides timely and beneficial insights during the ongoing pandemic. Thirdly, distinct from other studies, this study adopted a multi-theoretical approach to understanding companies' corporate risk disclosure behavior in a South African context, which can be relevant and applicable to other developing countries. Lastly, this study adopted a unique, self-developed risk disclosure index (RDI) to analyze the extent of corporate risk disclosure in South Africa during the novel Covid-19 pandemic to provide valuable insight into the risk disclosure behavior of companies.

Literature Review. The annual report is a vital source of helpful information for investors and stakeholders (Amran et al., 2009). Information about a company's risk exposure included in the annual report conveys risk factors that could impact its performance in the present and future (Dey et al., 2018), triggering international research interest in risk disclosure amidst worries about the impact of companies' aggressive risk-taking (Mbithi et al., 2020; Ntim et al., 2013). The Covid-19 pandemic has once again ignited research interest in corporate risk disclosure practices because of the uncertainty around the impact of the pandemic on companies' future operations (Veronica, 2021). Businesses can express the impact of Covid-19 by suggesting actions to be taken in the annual reports, which would be beneficial to

Theoretical Framework. Throughout recent decades, various theories such as agency, legitimacy, and stakeholder have been established in accounting studies to describe the phenomenon of disclosure and the variances in the extent of disclosure amongst organizations (Khaledi, 2014; Dey et al., 2018; Ntim et al., 2013; Al Sawalqa, 2020; Mbithi et al., 2020; Wahh et al., 2020; Carnegie et al., 2021; Amran et al., 2009) with social, cultural, and institutional characteristics of the developing market environments, shaping risk disclosure practices of organizations in different countries. The relevance of a multi-dimensional theoretical approach is supported by the systematic literature review conducted by Mbithi et al. (2022) on extant CRD studies in developing and emerging economies from 2004 to 2021. Given that South Africa is considered an emerging economy, this view will hold, and this study adopted an integrated, multi-theoretical framework in exploring the risk disclosure practices of South African companies during the coronavirus

pandemic. These theories are appropriate in the context of corporate risk disclosure as companies should disclose their risk exposure to their shareholders to reduce information asymmetry in line with agency theory, conform to the prevailing risk disclosure norms during the current pandemic to legitimize their responses to it and provide more prosperous, more meaningful risk disclosure to ensure that interests of the organization's stakeholders are protected.

Empirical Literature, Risk Management. The concept of risk management should be understood and defined before analyzing its disclosure in annual reports (Amran et al., 2009; Sityata et al., 2021). Business is becoming more complicated and uncertain, and consequently, risk management and strategies to respond to risks faced by the business have become a critical and essential element of good governance and a company's designed system of internal control that facilitates the achievement of organizational goals (Ali & Taylor, 2014). This uncertainty prevails when an unexpected event requires management's swift and decisive action (Sityata et al., 2021). Since risk is an inevitable facet of any business, internal risk management strategies aid crucial managerial decision-making (Crovini et al., 2021).

Enterprise risk management (ERM) describes an organized approach to risk management in a business context (Sityata, 2020). The COSO framework for enterprise risk management (ERM) is a globally acknowledged set of standards that assist businesses in managing their risks in turbulent and uncertain times (Sityata, 2020). The COSO framework encourages incorporating sound risk management and reporting practices into an organization's business model to allow for more meaningful risk disclosure to users (Crovini et al., 2021).

Risk disclosure is the product of a company's risk management process, as outlined in the King IV Report on Corporate Governance. It provides vital information to internal and external stakeholders about the company's ability to manage its risk exposure (Crovini et al., 2021). Good corporate governance stimulates the achievement of firm-specific objectives and communicates accountability to stakeholders (Uba & Irina, 2021). This risk management process determines what risk information is communicated within and external to an organization and is imperative during a crisis like the Covid-19 pandemic (Elshandidy et al., 2018). However, the information in annual reports is only relevant when it provides valuable information to users and stakeholders about the prevailing risks and subsequent responses of the business in times of uncertainty and crisis (Veronica, 2021). It is then essential that in light of the global Covid-19 pandemic coupled with the deteriorating economic situation worldwide, annual reports provide detailed, value-added information regarding the decisive action taken to overcome the uncertainty so users may make informed decisions (Hao & Dong, 2022).

Corporate Risk Disclosure. Corporate scandals like Enron, Worldcom, and Steinhoff have caused much concern for those relying on financial statements for decision-making (Carnegie et al., 2021). Over time, a company's annual report, which includes financial and non-financial components, has been the principal way of disseminating critical information for sensible investment and other decisions (Amran et al., 2009). Risk disclosure plays a vital role in building and maintaining trust with stakeholders and providing the necessary assurance about the alignment of objectives between management and stakeholders (Srairi, 2018). As a result, when companies reveal more risk data in their annual reports, information asymmetry is reduced (Al Sawalqa, 2020; Almania, 2019). As a result, several individuals and organizations are now recommending that the non-financial part be used to make the necessary supplementary disclosures (Amran et al., 2009).

Although Linsley and Shrivies (2006) posited that given the sensitivity of firm-specific information, information symmetry might not be mitigated, more recent studies have found that voluntary risk disclosure is on the increase as businesses see the strategic benefit in enhanced risk disclosure (Marzouk, 2016). This voluntary disclosure is, however, subject to management discretion

as they determine what information is relevant and appropriate to users taking into account their interests and discernments (Crovini et al., 2021). Nevertheless, the implementation of IFRS 7 in 2007 and the subsequent update in 2011 have mandated specific financial risk management disclosures in financial reports that conform to IFRS (Oorschot, 2009). Given that one of the JSE listing requirements JSE (2011) is compliance with IFRS, South African listed entities are obliged to disclose mandatory IFRS 7 financial risk management (interest rate, credit, and liquidity risk) information in the notes to the annual financial statements (Ntim et al., 2013). In times of crisis and uncertainty, where users expect “rich” risk disclosures, there is advocacy for companies to provide annual reports that contain voluntary narrative disclosures in addition to the mandatory IFRS 7 disclosures in the notes to the financial statements (Uba & Irina, 2021). These additional voluntary disclosures are often categorized into components according to function and highlight, for example, financial, business operating, and strategic risks (Hao & Dong, 2022). To this end, South African companies are subject to stringent regulations guiding their voluntary and mandatory disclosure (Sityata, 2020).

The Impact of the Covid-19 Pandemic on Corporate Risk Disclosure. Consequently, in the interest of dynamic accountability, internal and external stakeholders expect companies to communicate their pandemic risk exposure and resulting mitigating strategies (Crovini et al., 2021). A company's proactive or reactive response to crises provides users and stakeholders with valuable information to better estimate company performance and analyze the company's risk profile (Marzouk, 2016). Unfortunately, substantial uncertainties, coupled with both the time frame and the effect of Covid-19 on economies, have made it difficult to anticipate the imminent sustainability of organizations, resulting in users demanding more meaningful risk information to aid decision-making (Veronica, 2021). Unlike the global financial crisis of 2008 precipitated by financial institutions' poor performance, the Covid-19 epidemic is a global "natural" disaster in which financial institutions are not to blame (Elmarzouky et al., 2021). Thus, many companies wanting to reassure their investors about their future sustainability and growth prospects have opted to provide substantial Covid-19 disclosure in annual reports' financial and non-financial sections in line with agency and stakeholder theories (Elmarzouky et al., 2021). To this end, risk information relating to financial, operational, and strategic risk exposure is imperative during crises like the current pandemic (Al Sawalqa, 2020).

Recent studies during the Covid-19 pandemic also indicate that industries hardest hit by the pandemic provide further details, including a section dedicated to risk assessments such as liquidity and credit risk (Veronica, 2021). During the unprecedented pandemic, these performance disclosures will reassure stakeholders of management's commitment by anticipating changes and adopting suitable mitigation actions (Elmarzouky et al., 2021). In a letter from the JSE to listed entities in September 2020 (JSE, 2020), emphasis was made on providing investors with more detailed disclosures about the uncertainties created by the Covid-19 pandemic. They drew attention to the fact that investors will seek information that will enable them to estimate the effect of the pandemic on liquidity. In this respect, value-added, forward-looking disclosures and the mandated IFRS 7 financial risk management disclosures would be paramount for them to make sound economic decisions (JSE, 2020). To ensure clear communication, a company can use the narrative sections of its annual reports to share pertinent details about how Covid-19 has affected its performance and operations (Elmarzouky et al., 2021).

In a content analysis study conducted on the annual reports of UK companies by Elmarzouky et al. (2021) during the Covid-19 pandemic, it was found that pressure from stakeholders did result in a significantly more significant amount of risk and Covid-19 disclosure in annual reports. In the context of an emerging economy, Al Sawalqa (2020) explored the risk disclosure pattern of non-financial Jordanian companies and found that operational and financial risk disclosures featured

prominently on annual reports during the Covid-19 pandemic, especially in industries that were most impacted by the suspension of trade and operations during the pandemic. These findings were consistent with a study on CRD in annual reports of Italian companies during the initial stages of the Covid-19 pandemic that found that the type of industry and the impact of Covid-19 on its operations influenced risk disclosure behavior (Veronica, 2021). Hao & Dong (2022), who examined pandemic-specific risk disclosures in the annual reports of Chinese businesses during the pandemic, found that an upward trend in voluntary risk disclosure reduced information asymmetry and improved investor perception, as evidenced by the positive impact on stock prices.

METHODS

Research Design. This study aimed to determine the risk disclosure development in annual reports of South African companies during the Covid-19 pandemic in the financial years 2019 to 2021, thereby establishing whether the Covid-19 pandemic motivated companies to disclose more risk. In order to identify patterns in the manner in which information is presented and disclosed, a quantitative content analysis approach was adopted in this study to explore the extent and types of corporate risk disclosures in the annual reports of the organizations in the selected sample (Veronica, 2021; Al Sawalqa, 2020; Almania, 2019; Linsley & Shrivies, 2006; Marzouk, 2016; Meijer, 2011; Ntim et al., 2013; Srairi, 2018; Uba & Irina, 2021; Khaledi, 2014; Krippendorff, 2018; Dey et al., 2018).

South African companies listed on the JSE were used in this research as their annual reports are publicly available, on which investors and stakeholders rely heavily for decision-making. The JSE categorizes its listed constituents into one of ten industry categories: technology, telecommunications, healthcare, financials, real estate, consumer goods, consumer services, industrials, basic materials, energy, and utilities. The study was conducted on annual reports from the JSE database or the company's website for 2019 to 2021, including the period immediately before the emergence of the Covid-19 pandemic and during the pandemic. It allowed for more reliable comparison and trend analysis.

The JSE Top40 Index lists the most significant 40 companies listed on the JSE, representing roughly 80% of the total market capitalization of the approximately 300 JSE-listed companies. This study used the most current Top40 Index in deriving its sample. Thus, this study focused only on the Top 40 JSE-listed companies where these publicly traded firms must adhere to the JSE's risk, risk management, and disclosure standards. Unlisted companies are not included since they need not abide by the specific reporting guidelines as listed companies. In line with previous studies, financial firms (banks and insurance) were excluded because they are subject to unique regulations and engage in a variety of business operations, each with its own set of risks and transparency obligations (Al Sawalqa, 2020; Dey et al., 2018; Khaledi, 2014; Marzouk, 2016; Ntim et al., 2013). Further, as financial companies often have differing disclosure requirements from those in other sectors, they were excluded so as not to distort the results of this study and to allow for comparisons with findings of previous CRD studies (Amran et al., 2009; Meijer 2011). No companies from the utilities and energy industry are in the Top 40 Index, so this industry is not represented in the sample.

One of the principle goals of this study was to establish whether companies' risk disclosure behavior changes over time, specifically before and during the Covid-19 pandemic. The sample begins in 2019 because it was the year just before the coronavirus emerged. It was to facilitate the longitudinal trend analysis of the quantity of CRD in annual reports. The sample ends in 2021, and last year's annual reports are available to date. To guarantee that the yearly reports are comparable and the research findings are dependable and consistent, the chosen companies in the sample must

be listed on the JSE for all three years (2019-2021). Companies listed in all three years were excluded from the sample. The annual reports for the given period are published online, thus publicly available, and were downloaded from the entity's or the JSE's website.

After accounting for the criteria above and excluding financial companies and those companies with missing data in the study's selected period, the resulting sample was 28 companies. These companies represent the most significant market capitalization in the remaining eight industry categories after excluding the companies categorized in the financial and energy industries. It ensured that appropriate, industry-specific deductions could be made in the study.

Table 1: Study Sample

Description	Number of Companies
Top40 Index Companies	41
Less: Financial Companies (Banks and Insurance)	(12)
Less: Companies not listed in all three years	(1)
Final Sample	28

Risk Category and Item Selection. The value of the data collected through the disclosure index lies in selecting risk categories. The current study was motivated to create a unique risk disclosure index since there is a lack of comprehensive guidelines on the types of risks that should be included in the index. In order to create a unique, self-constructed disclosure index that includes the most number of appropriate components applicable during the Covid-19 pandemic, numerous extant risk disclosure indices created by CRD researchers were analyzed (Al Sawalqa, 2020; Dey et al., 2018; Linsley & Shrives, 2006; Marzouk, 2016; Ntim et al., 2013; Srairi, 2018; Uba & Irina, 2021). In line with more recent CRD studies, the following risk categories were selected: financial risks, operational risks, and strategic risks as they feature more prominently during times of crisis like the global financial crisis of 2008 and currently, the Covid-19 pandemic (Al Sawalqa, 2020; Almania, 2019; Carnegie et al., 2021; Uba & Irina, 2021). According to the JSE listing requirements, all entities must comply with IFRS (JSE, 2011). Accordingly, IFRS 7 financial risk management disclosures in the notes to the financial statements are considered mandatory for all listed companies. The focus of this study was to determine the volume and extent of all CRD in the annual reports and not on regulatory compliance. Therefore, the financial risk category in the RDI encompasses both mandatory financial risk disclosure as per IFRS 7 and voluntary financial risk disclosure, often presented in the narrative sections of the annual report. For example, if a company disclosed its currency risk exposure in the notes to the financial statements (IFRS 7) and the narrative section under "risks and opportunities," the CRD was recorded on the risk disclosure index under voluntary and mandatory. It is discussed further in the coding and scoring section below.

After selecting the risk categories, risk items or identifiers were selected. The studies mentioned above, and others influenced the risk items selected for the RDI. The risk items selected were considered the most appropriate and relevant during the Covid-19 pandemic. Thus, the risk categories selected above were divided into 25 items to create a risk disclosure index. The risk categories and items are illustrated in Table 2 below.

Table 2: Risk Disclosure Index

Risk Category	No. of items	Risk Disclosure Items
1. Financial risk	1.	Interest rate risk
	2.	Exchange rate risk
	3.	Cash flow and liquidity risk

	4.	Credit/ default risk
	5.	Contingent liabilities and obligations
	6.	Going concern
	7.	Cost of capital
2. Operational risk	1.	Business processes and operations
	2.	Information technology
	3.	Health and Safety- General
	4.	Health and safety- Covid-19 pandemic
	5.	Legal and Compliance
	6.	Production risks
	7.	Supply chain risks
	8.	Customer satisfaction and reduction in sales
	9.	Human resources
	10.	Brand erosion and reputation risks
	11.	Internal control
3. Strategic risk	1.	Sovereign and political risks
	2.	GDP growth and market demand
	3.	Industry risks and competition
	4.	Natural disasters and terrorism
	5.	Environmental risks
	6.	Stakeholder relationships
	7.	Mergers and acquisitions
Total	25	

Coding and Scoring. Companies annual reports often contain a separate section for risks and opportunities. As the coding process entails subjectivity based on the coder's interpretation and perception, coding decision rules developed by Linsley and Shrives (2006) and used in many subsequent CRD studies were applied in this study to mitigate the element of subjectivity or bias.

Firstly, risk disclosures were coded on the RDI only if the reader is reasonably informed (i.e., based on reading) of "any opportunity or prospect, or of any hazard, danger, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure" (Linsley & Shrives, 2006). Further, a risk disclosure is only coded if, by reading the narrative, a user is adequately informed of the company's risk exposure, and thus, the risk disclosure should be stated explicitly rather than implicitly to be coded (Shivaani et al., 2019). As such, any disclosure that was too vague or ambiguous to be classified as a risk disclosure was not coded (Linsley & Shrives, 2006). All parts of the annual report were reviewed to identify corporate risk disclosures in the notes to the financial statements and the narrative sections of the annual report, as discussed in the previous section.

A dichotomous or ordinal scheme is then used to assign a score to a risk item dependent on its presence or absence in the annual report (Mbithi et al., 2022). According to the previous literature, both unweighted and weighted indices can be employed to build the disclosure index; however, the subjectivity and time investment of the second approach is frequently challenged (Srairi, 2018). This study employed a dichotomous, unweighted scoring system because it is less arbitrary than other scoring techniques and enables independent study without depending on the user's perceptions (Probohudono et al., 2019). The simple method chosen for this study, an unweighted risk disclosure index, has the benefit of taking into account each risk index item proportionately without needing any subjective judgments about the relative importance of each item (Mbithi et al., 2022; Musyoki, 2017). Additionally, as the study is meant for all readers of annual reports, it was unnecessary to

assign various levels of relevance to the risk items that are mentioned, especially since empirical literature indicates that the results of using weighted and unweighted indices are not significantly different (Probohudono et al., 2019). Hence, the final risk disclosure index contains a scoring sheet to measure the extent of CRD employing the scoring technique used in previous studies where an item is allocated a zero if the information is not disclosed and one if it is. Each risk disclosure was mapped individually to an appropriate risk category and item in the RDI. Given the 25 risk items, each company could obtain a maximum score of 25 over the three risk categories for each year. The data analysis plan is described in the section below.

Data Validity and Reliability. Given the inherent subjectivity of content analysis and the self-developed risk disclosure index, it is essential to ensure data validity and reliability (Mbithi et al., 2022; Uba & Irina, 2021). Since the data on which this research was based is published in annual reports of the top 40 JSE listed entities obtained from the internet, this study used documentary secondary data. The annual reports of the top 40 JSE-listed entities for the financial years 2019-2021 are published in the public domain, which contributes positively to the validity of the collected data. The reliability of data can be determined in terms of its accuracy and reproducibility (Shivaani et al., 2019). The inherent subjectivity about the interpretations and perceptions of different coders is the most significant constraint of content analysis (Linsley & Shrives, 2006; Shivaani et al., 2019; Uba & Irina, 2021; Wahh et al., 2020). Manual content analysis achieved reduced bias in data collection, which, although time-consuming, ensured that all pertinent information was reviewed and coded. It is aligned with previous studies (Almania, 2019; Crovini et al., 2021; Uba & Irina, 2021).

Further, to mitigate this limitation, some studies have used more than one coder or performed the coding twice; however, this may hurt the consistency of coding and skew results (Marzouk, 2016). In order to maintain the credibility of the coding process and minimize any potential bias, this study relied on a predetermined set of decision rules developed by Linsley and Shrives (2006), which have been widely accepted by researchers worldwide. To confirm the validity of the coded data, the researcher spent a significant amount of time mastering the RDI and decision rules before conducting the coding herself. She then enlisted an additional coder who underwent training on the decision rules and coding in the RDI. The additional coder was given a sample of 12 annual reports to analyze. Coding results from both coders were compared, and no significant differences were identified. According to Musyoki (2017), a study's validity also depends on its findings' ability to be generalizable and reproducible. This study may be generalized to companies in emerging economies during the Covid-19 pandemic or any relatable crisis. The data is thus considered both valid and reliable.

Data Presentation and Analysis Plan. Each annual report in the selected sample was reviewed to identify the risk disclosures. The disclosure checklist on an Excel spreadsheet was used to code the presence of the risk items as described in the section above. The presence of a risk item by the coding decision rules resulted in a score of one, else zero. As there were 25 risk items, any company could receive a maximum score of 25 for risk disclosure each year. Once all 84 annual reports had been coded on the disclosure index, the final scores per company were tallied.

The RDI provided the basis for a statistical trend analysis of the extent of CRD in the annual reports for the companies in the years 2019-2021. The Statistical Package for Social Sciences (SPSS) (version 28) software was employed to process graphs and tables to describe companies' total voluntary disclosure scores for corporate risk disclosure in South African annual reports during the Covid-19 pandemic. After that, a graphical and descriptive statistical analysis was conducted on the data collected to determine which risk categories and items were most disclosed in the three-year sample period and the industries that disclosed the most risk. Descriptive statistics determined the

mean, mode, median, and standard deviation. The findings of the statistical analyses are illustrated in tables, graphs, and charts in this paper.

The Kolmogorov-Smirnov test was conducted to conclude if the data represented a normal distribution. The results guided the type of statistical testing relevant to the study. For example, parametric tests such as the one-way analysis of variance (ANOVA) can be used to identify variances between the mean scores of the industry sectors for corporate risk disclosure scores during the Covid-19 pandemic, or the Mann-Whitney U test can be used to identify notable differences in the type of industry group for corporate risk disclosure scores during the same period in the instance where the results of the Kolmogorov Smirnov test signify that the data is non-normal. The data has a longitudinal or repeated measures structure since it was collected on businesses over three years, i.e., 2019-2021. Hence techniques such as the multivariate analysis of variance (MANOVA) to identify differences between the years and within the years for the corporate risk disclosure scores during the Covid-19 pandemic were also utilized. Univariate analysis of year by year was also done using the one-way ANOVA with multiple comparisons via the Bonferroni method.

RESULT AND DISCUSSION

The Extent of Corporate Risk Disclosure (CRD) During the Covid-19 Pandemic.

Overall CRD Trend in South African Annual Reports in 2019-2021. The study found that all companies in the sample disclosed mandatory IFRS 7 financial risk management information in compliance with the JSE listing requirements. Due to the longitudinal nature of the data or the repeated measures nature of the data, i.e., data collected on the same subjects or inanimate objects over more than two successive periods, it requires specific statistical analysis that is multivariate. Hence, the MANOVA can be considered as opposed to its univariate counterpart, the one-way ANOVA.

As illustrated by the means plot below, the results show a clear upward trend in CRD with increasing median and mean scores from 2019 to 2021. It indicates that the quantity of voluntary corporate risk disclosure increased from 2019 to 2021. These findings are in line with previous studies that found that in times of crisis, where users demand more CRD to aid their decision-making, CRD increases (Crovini et al., 2021; Marzouk, 2016; Mbithi et al., 2022; Musyoki, 2017). The results further support Ntim et al. (2013), who found that CRD increased from 2008 to 2009 and after the global financial crisis, as well as Al-Sawalqa (2020) and Elmarzouky et al. (2021), who found an overall increase in CRD in annual reports of Jordanian and UK companies (respectively) during the Covid-19 pandemic.

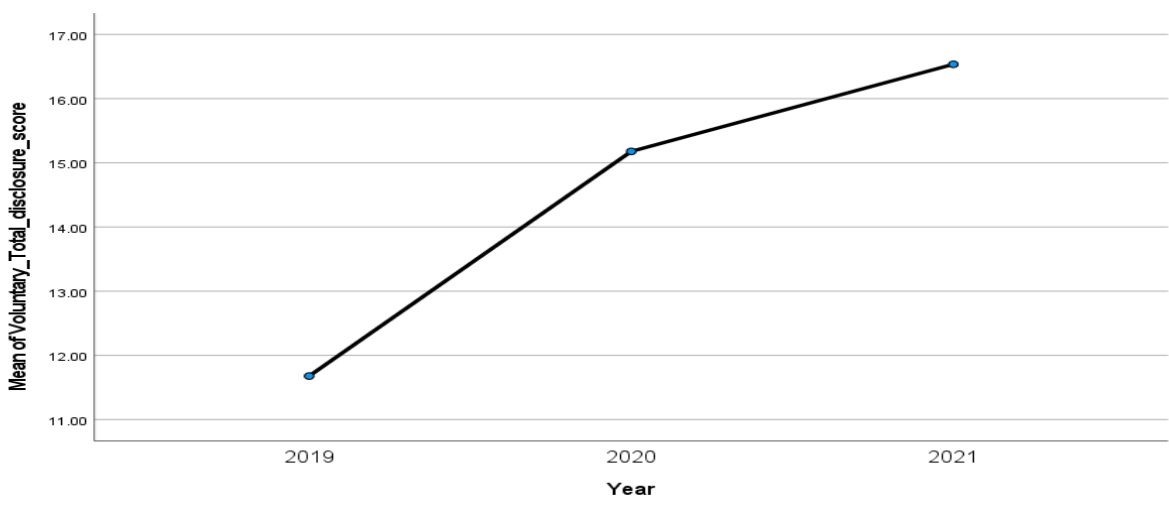


Figure 1: Means Plot of Overall Voluntary CRD in years 2019-2021

At a 5% significance level, the ANOVA and multivariate tests indicate significant differences in the companies' mean total voluntary disclosure score from 2019 to 2021. Further, the tests indicated significant differences in the mean total voluntary disclosure score between the years 2019-2021 and within the years 2019-2021 due to all p-values less than 0.05. Thus, an upward trend is evident.

Industry CRD Trend. The sample consisted of 28 companies in eight industries listed on the JSE in 2019-2021. The modal industry that was represented in the sample was Basic Materials (42.9%), followed by Consumer services (21.4%) and Consumer goods (10.7%). These three industry types accounted for 3/4, i.e., 75% of the sample. Real estate and Telecommunications industries were equally represented in the sample at 7.1% each. Healthcare, Industrials, and Technology each represented 3.6% of the total sample. The sample breakdown is represented in Appendix 1.

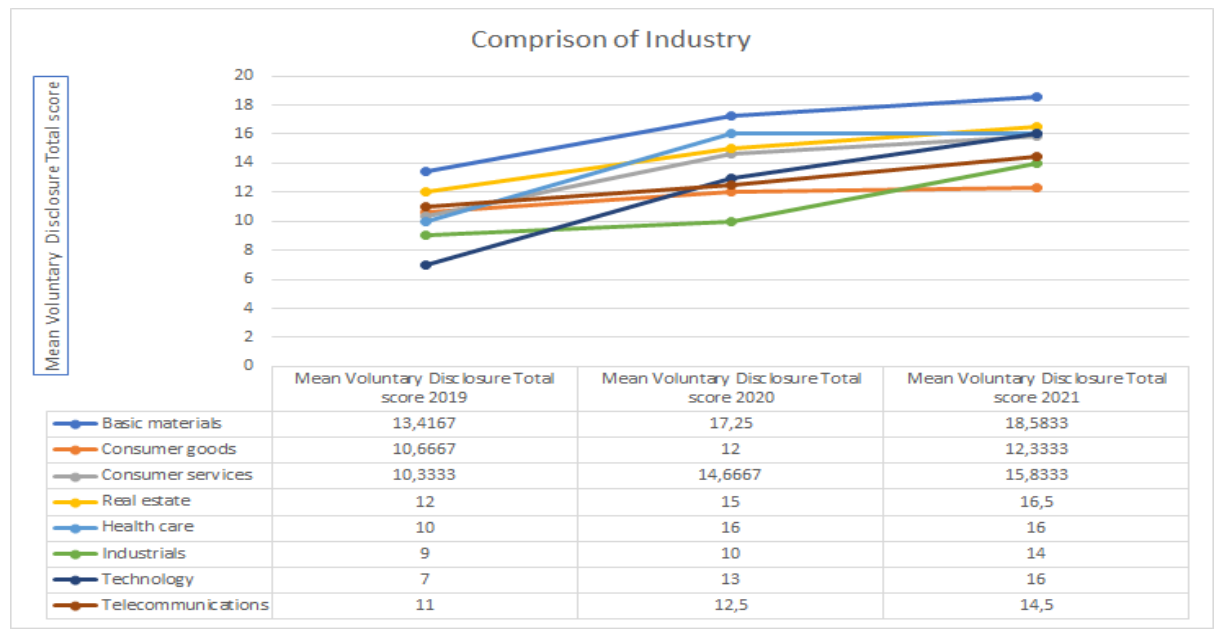


Figure 2: Industry Comparison

The initial multivariate tests indicated a difference in the mean total voluntary disclosure score between the industries from 2019 to 2021. The means plots indicate an apparent upward trend in the mean voluntary disclosure total, and this indicates that during 2020-2021, i.e., the years when the Covid-19 pandemic was prevalent, a total disclosure score was revealed by the sample of companies. It is supported by the literature in Chapter 2 and the findings discussed in Section 4.2.1.

Existing CRD studies during the Covid-19 pandemic found that industries that displayed greater sensitivity to the impact of the pandemic opted to provide more risk information in their annual reports (Elmarzouky et al., 2021; Larcker et al., 2020). As illustrated in the graph above, the Basic Materials industry appears to have disclosed the highest risk for the study. Consumer Services and Real Estate follow it. The Healthcare and Technology industries also demonstrate a significant upward trend in the quantity of risk disclosure in the annual reports from 2019 to 2021. In South Africa, the above results indicate the industries that endured the impact of the various stages of lockdown during the pandemic.

Furthermore, regulations restricted construction efforts in the country and necessitated the implementation of work-from-home models, all of which had a notable effect on the real estate industry. The results illustrated above also support the studies of Amran et al. (2009) and Ali and Taylor (2014), who found that the technology industry disclosed a significant quantity of risk during a crisis, given the rapid evolution of technology. It is further in line with the study of Al-Sawalqa (2020), which found that the technology industry featured prominently in the top three industries with the most disclosed risk during the Covid-19 pandemic in Jordan.

Corporate Risk Disclosure Pattern During the Covid-19 Pandemic.

Predominant Risk Categories and Risk Items (Type of Disclosure). As discussed in the preceding chapters, the risk disclosure index (RDI) created consisted of three risk categories (financial, operating, and strategic) and 25 risk items coded for the annual reports of the 28 companies in the sample from 2019 to 2021. The financial risk category was further broken down into mandatory IFRS 7 financial risk disclosure and voluntary financial risk disclosure, which is the additional financial risk disclosure companies opted to provide to users in the narrative sections of the annual report.

The total scores for each risk category over 2019-2021 are presented in the figure below.

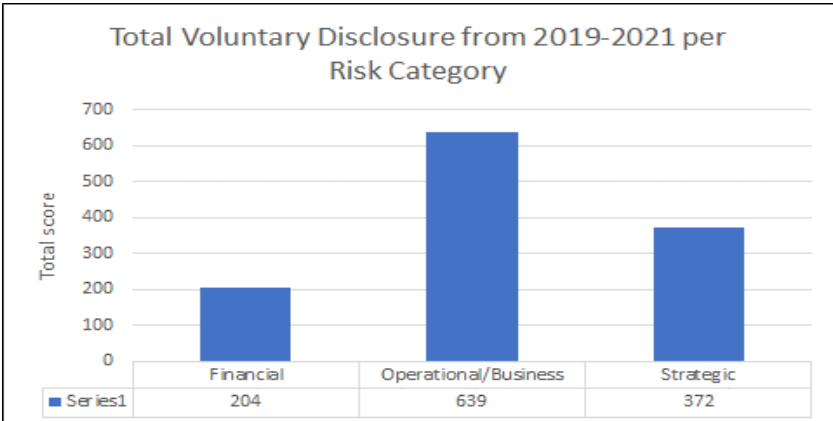


Figure 3: Total Scores per Risk Category (2019-2021)

The findings indicate that the risk category with the most significant disclosure score per the RDI for 2019-2021 is Operational/ Business risk, followed by Strategic and financial risks. These findings support the extant literature that indicates that CRD is predominantly non-financial and that operational risk features prominently during times of crisis, especially during the Covid-19 pandemic, where business operations were significantly impacted due to various levels of lockdown globally (Al-Sawalqa, 2020). Further, Ntim et al. (2013) found that companies opt to provide more risk disclosure around operational and business risks during times of crisis. This study contradicts other studies, such as those of Al-Sawalqa (2020) and Carnegie et al. (2021), who found that the financial risk category was more prominent than strategic risk. However, given that the JSE mandates South African listed companies to comply with IFRS, financial risk was found to be disclosed as part of the mandatory IFRS 7 financial risk management (interest rate risk, exchange rate risk, and cash flow and liquidity risk) in the notes to the financial statements. In countries where IFRS compliance is low, IFRS 7 disclosure is scant, and financial risk disclosure is mainly voluntary (Dey et al., 2018). It is further supported by the findings below, which indicate that all companies in the study's sample fully complied with IFRS 7. At the same time, some opted to provide additional voluntary financial risk disclosure in the narrative sections of the annual report, which accounts for the lower RDI scores during the period under review.

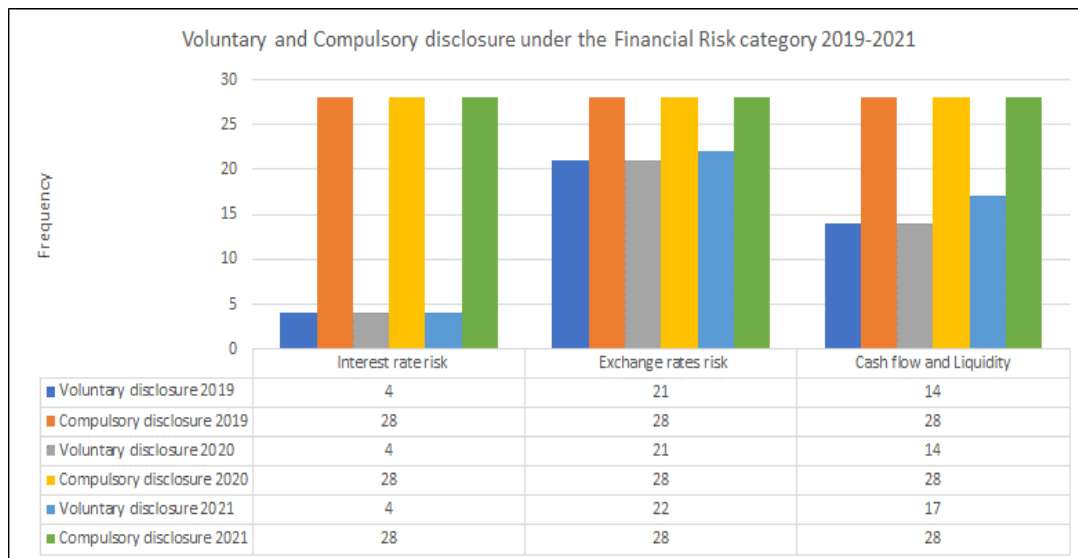


Figure 4: Financial Risk Category (Mandatory and Voluntary)

As shown in the figure above, all companies achieved the maximum score for interest rate, exchange rate and cash flow, and liquidity risk for their compulsory IFRS 7 disclosure in the notes to the financial statements. It is aligned with a previous study conducted in South Africa that established noteworthy compliance with IFRS by companies (Ntim et al., 2013). Regarding the additional voluntary disclosure, it is evident that interest rate risk was the least disclosed over and above the mandatory IFRS 7 disclosure. There was an increasing trend in the volume of voluntary exchange rate and cash flow and liquidity risk information disclosed in the annual reports of the sampled companies from 2019 to 2021. Given the significant impact of the pandemic on business cash flow and liquidity, the notable increase in voluntary risk disclosure in this risk category is not unusual.

CONCLUSION

The demand for helpful information increases in times of crisis like the Covid-19 pandemic (Crovini et al., 2021). This study explored the extent and pattern of corporate risk disclosure in annual reports of the Top 40 JSE-listed companies during the Covid-19 pandemic from 2019 to 2021. A content analysis of the annual reports of a sample of 28 non-financial companies listed on the JSE was conducted before and during the Covid-19 pandemic.

The study found a clear upward trend in the extent of voluntary corporate risk disclosure during the Covid-19 pandemic, with the highest total voluntary disclosure scores observed between 2021 and 2020 compared to 2019. This finding is consistent with Al-Sawalqa (2020), who found that the quantity of CRD increases during times of crisis and, more specifically, during the Covid-19 pandemic. Basic Materials was the industry that disclosed the most risk during the Covid-19 pandemic. The total voluntary disclosure score per risk category most disclosed was Operational/Business, followed by Strategic and Financial risks from 2019-2021. It is consistent with existing CRD literature and the South African regulatory framework that mandates IFRS compliance.

This study paints a picture of the risk disclosure behavior of South African companies from 2019 to 2021. It was undertaken at a critical time during the novel Covid-19 pandemic to establish whether the pandemic motivated companies to provide more risk information to their users and stakeholders to assist in their essential decision-making during unprecedented uncertainty. In line with much of the extant CRD literature during times of crisis, the study found a clear upward trend in the quantity of corporate risk disclosure (Crovini et al., 2021; Elmarzouky et al., 2021; Mbithi et al., 2022; Ntim et al., 2013). The study also found that industries facing more significant challenges due to the pandemic provided more risk disclosure during 2020 and 2021. It was supported by the finding that operational and business risk was the most disclosed risk category amongst South African companies.

Much of the existing body of corporate risk disclosure research is concentrated on developed economies. This study sought to fill the gap in the literature by considering CRD from the perspective of an emerging economy - South Africa. By applying a multi-theoretical framework to explain the phenomenon of corporate risk disclosure and conducting an in-depth literature review of existing CRD studies from around the world, the study's objectives were achieved by exploring the extent and trend of CRD in annual reports of South African companies during the Covid-19 pandemic and evaluating the nature of risk disclosure prevalent during this time. The results of this longitudinal study conducted before and during the pandemic add much value to extant CRD studies by supporting many findings of previous studies and contradicting others. This study provides a foundation for future CRD studies during a crisis in a developing country.

Limitations of the Study. Although content analysis is the most prevalent research method used in CRD studies, it has limitations. Firstly, manual content analysis, by its nature, is subjective as it requires a level of judgment and interpretation during the coding of the narrative components of the annual report. Secondly, the study adopted a risk disclosure index that measures the quantity of risk disclosure, not the quality. Thirdly, the simple model captures the presence or absence of a risk item, not the narrative disclosure's quality or richness. Lastly, the study covered a short period before and during the Covid-19 pandemic in a single, developing country, South Africa. The results may not be relevant for developed countries and may not provide a complete picture of the trend in CRD as it does not include the post-pandemic period.

Suggestions for Future Studies. Future studies should explore CRD behavior and patterns of developed and other emerging economies during the Covid-19 pandemic. Similar studies in a South

African context covering a larger sample of companies could provide enhanced statistical analysis and improve the credibility and generalization of results. This study investigated CRD practices before and during the Covid-19 pandemic, which is currently ongoing. However, future studies that include data over a more extended period, including the post-pandemic period, may provide a more holistic view of the trend in CRD. Future research could investigate the quality of risk disclosures for developed and emerging economies during the Covid-19 pandemic, as extant literature in this respect is scant. It could include investigating the time frame of risk disclosure information (forward or backward-looking), nature (quantitative or qualitative), and tone (positive, negative, or neutral) thereof. Evaluating specific company and governance determinants of corporate risk disclosure, for example, size of the company, financial leverage, size of the governing body, number of independent directors, etc., during the Covid-19 pandemic comprise another underexplored avenue that would provide valuable knowledge about the motivators of corporate risk disclosure during periods of uncertainty. Lastly, in light of the apparent interest in CRD practices during crises, a future area of research could be to compare risk disclosure patterns during different crises, such as the global financial crisis 2008 and the recent Covid-19 pandemic. It could also be expanded to include a cross-country analysis that would contribute significantly to the current corporate risk disclosure literature body.

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