

The function of competitive intelligence in South African insurance post-COVID-19 outbreak

**Authors:**

Mpho L. Maluleka¹ 
Bibi Z. Chummun¹ 

Affiliations:

¹Graduate School of Business and Leadership, College of Law and Management Studies, University of KwaZulu-Natal, Durban, South Africa

Corresponding author:

Mpho Maluleka,
m.maluleka26@gmail.com

Dates:

Received: 06 July 2023
Accepted: 12 Oct. 2023
Published: 19 Jan. 2024

How to cite this article:

Maluleka, M.L. & Chummun, B.Z., 2024, 'The function of competitive intelligence in South African insurance post-COVID-19 outbreak', *South African Journal of Information Management* 26(1), a1738. <https://doi.org/10.4102/sajim.v26i1.1738>

Copyright:

© 2024. The Authors.
Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Read online:

Scan this QR code with your smart phone or mobile device to read online.

Background: Competitive intelligence (CI) involves monitoring competitors and providing organisations with actionable and meaningful intelligence. Some studies have focussed on the role of CI in other industries post-COVID-19 pandemic.

Objectives: This article aims to examine the impact of COVID-19 on the South African insurance sector and how the integration of CI and related technologies can sustain the South African insurance sector post-COVID-19 epidemic.

Method: Qualitative research with an exploratory-driven approach was used to examine the impact of the COVID-19 pandemic on the South African insurance sector. Qualitative secondary data analyses were conducted to measure insurance claims and death benefits paid during the COVID-19 pandemic.

Results: The research findings showed that the COVID-19 pandemic significantly impacted the South African insurance industry, leading to a reassessment of pricing, products, and risk management. COVID-19 caused disparities in death benefits and claims between provinces; not everyone was insured. Despite challenges, South African insurers remained well-capitalised and attentive to policyholders. Integrating CI and analytical technologies could enhance the flexibility of prevention, risk management, and product design.

Conclusion: COVID-19 requires digital transformation and CI for South African insurers' competitiveness. Integrating artificial intelligence (AI), big data (BD), and CI enhances value, efficiency, and risk assessments.

Contribution: This study highlights the importance of integrating CI strategies and related technologies into South African insurance firms' operations to aid in their recovery from the COVID-19 crisis. It addresses a research gap and adds to academic knowledge in this area.

Keywords: artificial intelligence; competitive intelligence; big data analytics; COVID-19 pandemic; insurance; South Africa.

Introduction

The COVID-19 health crisis hit the world in December 2019. The outbreak originated in Wuhan City, in Hubei, China (Kettani 2021:4). The COVID-19 virus spread quickly, prompting authorities to take drastic measures to contain it. As a result, the pandemic triggered significant worldwide economic instability, exposing most businesses to risk (Păduraru 2021). Thus, as economies went into lockdowns, it weakened demand and tempered growth prospects for 2020 and 2021 (Pocock 2020).

Indeed, the total or partial lockdown, as seen in China, was one of the most severe measures, bringing production and consumption to a halt. Such harsh measures were likely limited to specific areas, which took time to sustain in the long run. Less drastic measures, on the other hand, were likely to remain in place in the long run. These drastic measures have curbed a rise in cases but significantly influenced the global economy. Despite widespread disruptions from the COVID-19 pandemic, the International Monetary Fund (2020:2) consistently predicted a recession.

Insurance, a vital industry that contributes significantly to the economic success of many countries, has been severely disrupted, as multiple COVID-19 outbreaks have caused supply and demand shocks to the global economy (Chummun & Mathithibane 2020). Nevertheless, distractions have poised industries to opportunities where modern customers and young people

can acquire web-based and digital content to continue interacting with future customers, allowing insurers to provide better customer experience and add more value to their customers (PwC 2019:3).

Insurance companies now focus on customer-centric models that provide personalised services and tailored products. Furthermore, insurers have heavily invested in digital technologies that enable them to respond quickly to customer needs. As a result, the insurance industry is now more competitive and efficient (PwC 2019:3). Notably, the COVID-19 pandemic exacerbated issues related to information sharing and the need for quality decision-making and a cohesive information sharing system (Farley & Freyn 2023). Competitive intelligence is a strategy tool that contributes to the successful handling of information by organisations on both scientific and practical levels, allowing them to arrive at sound decisions. It is also more informed by current and future circumstances (Cavallo et al. 2020).

Therefore, CI is a discipline that assists organisations in converting data and information into intelligence for better decision-making (Farley & Freyn 2023). Recent studies advocated that the COVID-19 pandemic will cause significant changes in the insurance industry's business models (Babuna et al. 2020; Haque et al. 2021; Lan, Huang & Huang 2020; Ramasamy 2020; Stojkoski, Jolakoski & Ivanovski 2021). However, recent insurance industry research indicated that insurers tend to be more concerned with optimising internal costs than improving value delivery to customers (Pugnetti & Seitz 2021).

Some studies have investigated COVID-19's impact on financial markets and its effects on the stock returns of insurance companies. For instance, Barro, Ursúa and Weng (2020) compared lessons learned during COVID-19 and the Spanish flu outbreaks. The authors of this study concluded that COVID-19 spread negatively impacted insurance company stock returns and financial markets, as well as global real gross domestic products (GDP). Furthermore, Corbet, Larkin and Lucey (2020) investigated the contagion effects of COVID-19 on Chinese stock markets. In this study, the authors found that the volatility relationship between the main Chinese stock markets and Bitcoin shifted significantly during the pandemic, leading to a fierce financial crisis.

Also, very few studies have focused on the effect of CI on the healthcare and tourism industries post-COVID-19 pandemic. For example, Farley and Freyn (2023) proposed a conceptual model integrating CI within a healthcare organisation to encourage effective knowledge sharing and development in response to the United States COVID-19 crisis. This proposed research model provided a blueprint for developing an organisation's CI function. In addition, this study's authors stressed the importance of executive leadership and resources to encourage information sharing and enhance a learning health system.

In tourism, Kettani (2021) concluded that tourism businesses should not rely solely on government assistance measures. Instead, they should reconsider their traditional management approaches and implement more effective practices such as CI to anticipate future threats and identify new growth opportunities. Tulungen et al. (2021) also demonstrated that the right strategy could encourage the tourism industry to recover in the post-COVID-19 period. In light of this, the literature provides no information on CI's potential benefits for the insurance industry after the COVID-19 pandemic. Further research is therefore needed. The scope of this study is the South African insurance sector.

The COVID-19 adversity had a significant impact on the global economy. Also, the COVID-19 outbreak has disrupted and harmed the South African insurance industry. The author's research demonstrates the current state of the South African insurance industry during the pandemic. The study aims to investigate the impact of COVID-19 on the South African insurance sector. The specific objectives of the study are:

1. To examine the effects of the COVID-19 pandemic on the South African insurance industry.
2. To demonstrate the significance of integrating data analytics tools and CI in improving real-time customer data for strategic decision-making post-COVID-19 pandemic.

Methodology

Research in this area is still in its infancy and exploratory stages. In this study, the authors explored the topic with an exploratory approach to applied qualitative research because little is known about the topic and the population being studied (Creswell & Creswell 2018; Pagell & Wu 2009). Furthermore, the authors used qualitative research with an exploratory approach to examine CI's role in the aftermath of the COVID-19 epidemic because little empirical information is available about CI adoption among insurance companies following the pandemic.

Given the nature of the academic enquiry, the qualitative secondary data analysis was the most appropriate for this study because of the dynamic and complex nature of the topic (Johnston 2014). The authors utilised secondary data because the information available can provide substantial knowledge contributions, recommendations and direct future research (Pederson et al. 2020).

Moreover, the authors selected qualitative secondary data analysis because it is a systematic process involving procedural and evaluative steps. The authors employed Johnston's (2014) three-step secondary data analysis process. Firstly, the authors developed a research question on which to focus the investigation. This research asks, 'How can CI assist South African insurance companies in recovering from COVID-19?' Secondly, the authors discovered secondary data sets. Thirdly, the authors thoroughly evaluated the data set to ensure it was valid.

The researchers performed literature reviews to conduct secondary research, which included reviews of grey literature and journal articles. As a result of the limited insurance literature on CI's benefits during and after the COVID-19 pandemic, our review focussed on similar concepts and searched for studies that connected CI to insurance and the COVID-19 pandemic.

Qualitative data were collected from reputable and authentic sources such as the Association of Savings and Investments South Africa (ASISA) to examine the effect of the COVID-19 pandemic on the South African insurance industry. The impact of the COVID-19 pandemic was investigated using qualitative secondary data analyses to determine the frequency of insurance claims and the value of death benefits paid. South African insurance industry data on COVID-19 death-related claims were presented as tables with descriptive narratives.

Literature review

South African insurers are calculating losses because of COVID-19, but the pandemic may also present growth and innovation opportunities. The most visible effect of COVID-19 on the South African insurance industry is an upsurge in death-related claims. The impact of COVID-19 on the global economy has taken its toll on the insurance industry, negatively affecting the functioning of the insurance sector and placing it under stress to balance a drastic increase and maintaining capital and solvency stability despite an increase in claims (Puławska 2021). This section discusses the existing insurance literature on the role of CI in shaping the South African insurance sector, insurance and economic growth, and the impact of COVID-19 on the South African insurance market.

The role of competitive intelligence in reinventing the South African insurance sector

Business functions related to CI have been around since the 1950s. The Strategic and Competitive Intelligence Professionals (SCIP), established in the 1980s, accelerated the adoption and application of CI practices in leading companies and industries in the world's developed economies (Chen 2016). Since then, scholars have studied CI and its value for decades (Bao 2020; Dishman & Calof 2008; Wright, Eid & Fleischer 2009).

Strategic and Competitive Intelligence Professionals is the international representative accreditation and professional body for CI professionals (Kühn et al. 2020). Hence, most organisations have invested in capabilities and procedures for gaining and monitoring CI and have joined the SCIP (Calof, Arcos & Sewdass 2018). Competitive intelligence has two main definitions: one focusing on its objectives and another describing its performance.

For example, the SCIP, according to Kühn et al. (2020:72), defines CI as 'a systematic and ethical process of securing, analysing, and managing data that may impact a company's plans, decisions, and operations'. Thus, CI is a dynamic process that gathers, processes, distributes, analyses and

manages meaningful information within an unpredictable context to guide decisions (Kettani 2021; Kettani & Aljandali 2022).

Therefore, the CI process begins by determining the necessary information and then essential planning is initiated (Kula & Naktiyok 2021). This process allows firms to gather actionable information about their environment and business operations to make market-related decisions (De Almeida, Lesca & Canton 2016).

Essentially, CI involves understanding that an organisation's behaviour in a competitive marketplace depends on intelligence. A key component of CI is building sustainable and strategic business advantages. Accordingly, CI is a process that produces information that gives the company a competitive advantage (Maluleka & Chummun 2023:3). Therefore, CI is most commonly used to develop and implement a company's strategy and aid in decision-making (Maluleka & Chummun 2023:9).

With organisations beginning to leverage and use big data (BD) and developing technologies to evaluate and get valuable insights, intelligent information is used to accelerate decision-making processes and keep up with customer demands and aggressive competitive activity in the market (Ranjan & Foropon 2021).

Furthermore, the introduction of the Internet of Things (Metaxas, Finn & Mustafaraj 2015), BD and cloud computing technologies has resulted in improved value generation for customers and businesses (Ranjan & Foropon 2021). As data continue being created by mobile phones, social media and other electronic digital communications, data from these platforms are vital for CI development (Ranjan & Foropon 2021).

As society becomes more dependent on digital technologies, customer expectations and industry boundaries are also changing (McKinsey & Company 2018). Thus, IoT devices can provide insurers valuable insight into customer needs and behaviour-related risks (McKinsey & Company 2019). In addition, the COVID-19 crisis has compelled insurance companies to invest in cutting-edge technologies such as CI to collect information from customers and competing firms to survive in the turbulent and chaotic business environment (Mohamadian et al. 2014).

Competitive intelligence is the scientific term used to describe the requirement for data gathering and its transformation into useful knowledge (Saddhono et al. 2019). Thus, CI systematically gathers and scans environmental information to make accurate and timely decisions (Ottonicar, Valentim & Mosconi 2018; Shaitura et al. 2018).

The most common results of CI are identifying previously undiscovered clients, improved strategic planning, providing a clearer picture of the organisation's hidden knowledge,

the support of a systematic information collection procedure and correcting errors (Oraee, Sanatjoo & Ahanchian 2020).

Customer insights are identified through data analytics, which helps insurers to streamline customer service. Adopting BD and AI (artificial intelligence) in CI processes allows insurers to reduce uncertainty, predict outcomes more effectively and solve assimilation issues more effectively (Ranjan & Foropon 2021). Insurance companies can get actionable and valuable information on their rivals through CI.

Thus, to effectively direct CI and finally incorporate such valuable insights into CI strategies, it is essential to harness and unlock the potential of BD tools and methodologies (Ranjan & Foropon 2021). Competitive intelligence has proven to be a necessary tool for developing and reinventing the South African insurance sector during times of crisis because the COVID-19 crisis disrupted it for a long time and with great intensity. The COVID-19 epidemic has amplified and created an unprecedented opportunity for change, resulting in insurance companies adapting and innovating more quickly than ever (Tulungen et al. 2021).

To cope with the aftermath of COVID-19, South African insurance companies need to create new products, gain new customers and assess risks using BD created by humans. In addition, South African insurance companies should invest in systems that will manage and interpret BD to make informed decisions (Chummun 2012; Mikalef et al. 2020). Competitive intelligence is a discipline that can assist insurance companies in converting data and information into intelligence for better decision-making and managing and monitoring trends after the COVID-19 crisis (Farley & Freyn 2023).

With CI and related technologies, existing protection gaps can be closed, new risk pools can be accessed, and the South African insurance industry's economic and social resilience will be strengthened. In addition, the South African insurance sector will benefit from CI and BD in real-time distribution, underwriting and product development. Moreover, CI will allow South African insurance companies to gain insight into changing customer needs and preferences.

Customers will benefit from simpler, faster and more personalised services from cutting-edge technologies and BD analytical tools. Furthermore, CI will distribute digitalised information and improve processes throughout the insurance value chain to provide better customer service and make effective underwriting and pricing decisions. Competitive intelligence will also assist South African insurance companies in identifying new growth opportunities. With the integration of CI, BD and AI, South African insurance companies will be equipped with intelligent customer information that allows them to understand how their needs have changed post-COVID-19 pandemic.

The adversity of the COVID-19 pandemic in South Africa

In December 2019, an outbreak that caused pneumonia was detected in Wuhan City, Hubei Province, China. This outbreak caused severe acute respiratory syndrome, coronavirus 2 or SARS-CoV-2 (Dong, Du & Gardner 2020: 533). In March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic, resulting in widespread acute respiratory illness, death and economic devastation worldwide (McKibbin & Fernando 2020:2). The COVID-19 pandemic is transmitted among humans via airborne droplets, not animals or birds (Bong et al. 2020).

Consistently, Li et al. (2020) found evidence of human-to-human transmission among close contacts in December 2019. The authors also recommended taking considerable steps to reduce transmission to prevent outbreaks elsewhere if similar dynamics apply. Despite collaborative efforts to keep the virus contained in China, it spread rapidly internationally, causing devastation worldwide (Kettani 2021). As a result of COVID-19's outbreak, countries, including South Africa, implemented many measures to halt and reduce its spread, including closing borders, prohibiting travel, reducing social contact and instituting quarantine periods. These drastic measures have prevented a significant increase in COVID-19 infections.

Nevertheless, the COVID-19 pandemic adversely affected the world economy and decreased demand and supply for many products and services (Kettani 2021). Aside from being the most severe global health crisis since the 1918 Spanish flu (Great Influenza), COVID-19 is the most costly pandemic in history (Boissay & Rungcharoenkitkul 2020), resulting in high mortality rates (Dong et al. 2020).

During the COVID-19 pandemic, South Africa was one of the hardest-hit countries. In January 2022, more than 3.5 million cases of the COVID-19 pandemic were reported nationwide, and 93 551 deaths occurred (Loo et al. 2022). Figure 1 illustrates the provincial COVID-19-related deaths for the period. As shown in Figure 1, COVID-19-related deaths occurred at a significant rate in the Western Cape (WC), Eastern Cape (EC), Gauteng and KwaZulu-Natal (KZN).

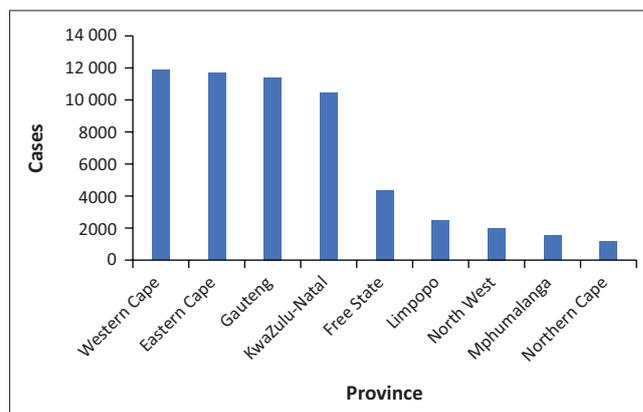


FIGURE 1: The COVID-19 cases per province.

They were followed by Free State (FS), Limpopo and North West (NW), with the least COVID-19-related deaths reported in Mpumalanga and Northern Cape (NC).

Notably, the weekly number of reported deaths from all causes indicates that natural causes account for a significant portion of excess mortality in the country (Bradshaw et al. 2022). The South African National Department of Health reported a weekly increase in natural and COVID-19 deaths between 29 December 2019 and 05 February 2022 (Figure 2). Figure 2 shows that the number of deaths from natural causes was much higher than the number of COVID-19 deaths reported.

In addition, Figure 3 illustrates a provincial comparison of natural causes of deaths and reported COVID-19 deaths.

As shown in Figure 3, roughly one-third of all deaths in South Africa occurred because of COVID-19. Natural causes accounted for the remaining two-thirds. However, Cabore et al. (2022) opined that South Africa had suffered many more deaths from COVID-19 than the National Department of Health had reported.

As a result of the COVID-19 pandemic, there was a significant increase in death rates, and the global economy plunged into a deep recession that affected stability in South Africa. Over time, COVID-19 could adversely affect South Africa's population health. There is no chance of ending the pandemic until there is a global rollout of vaccines that are effective against severe disease and, ideally, help to drive herd immunity (Wouters et al. 2021).

The insurance sector during the COVID-19 pandemic

The insurance industry and governments worldwide have increasingly become the beacons of hope for people seeking protection from destruction (Chummun 2017). However, the rapid growth in COVID-19 infection cases has overwhelmed many governments, and rapidly developing

insurance companies in an innovative economy were confronted with problems that traditional classical knowledge and paradigms could not solve, resulting in most of them being financially vulnerable (Babuna et al. 2020; Tajimuratovna, Qizi & Qizi 2022).

The insurance industry plays a significant role in the global economy. Hence, in recent years, authorities have focussed on expanding financial technology, notably in the insurance sector, a cornerstone of the financial industry and a vital sector of the economy (Khatibi & Rahimpour 2021). However, the COVID-19 outbreak caused a slew of challenges for insurance companies worldwide.

Indeed, the COVID-19 pandemic adversely affected the insurance industry, which provides products and services for absorbing and transferring risk (Stojkoski et al. 2021). Furthermore, the COVID-19 epidemic has amplified and created an unprecedented opportunity for change, resulting in insurance companies adapting and innovating more quickly than ever before (Tulungen et al. 2021).

The primary purpose of insurance is to protect people from risks. The catastrophic hazard of COVID-19 has highlighted the importance of a healthy insurance market (Wang et al.

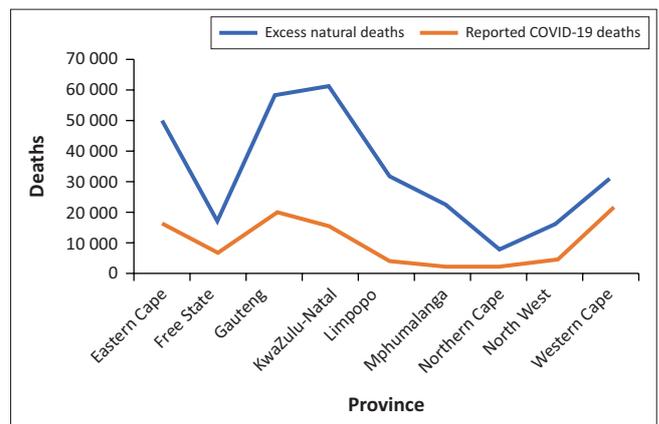
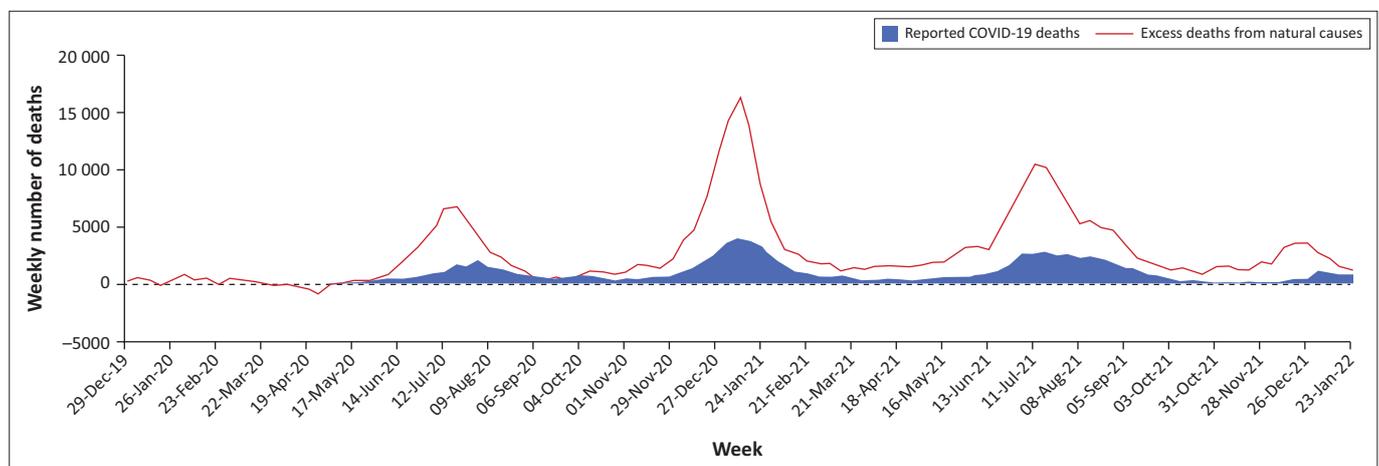


FIGURE 3: Comparison on natural deaths versus COVID-19-related deaths.



Source: Bradshaw, D., Dorrington, R., Laubscher, R., Groenewald, P. & Moultrie, T., 2022, 'COVID-19 and all-cause mortality in South Africa-the hidden deaths in the first four waves', *South African Journal of Science* 118(5/6), 1–7. <https://doi.org/10.17159/sajs.2022/13300>

FIGURE 2: Weekly number of natural deaths versus reported COVID-19 deaths.

2020). Consequently, a functional insurance market facilitates productive risk-taking and reduces the effects of risk exposure (Chamberlain, Camargo & Coetze 2017; Msulwa et al. 2018).

Businesses and individuals rely on insurance to manage risk, which is crucial to economic development (Devarakonda & Chittineni 2019). Also, insurance covers various risks, protects people and assets and is vital for sustainable development (Din, Abu-Bakar & Regupathi 2017; Weedige et al. 2019). Thus, insurance is a pool of reserves generated by multiple policyholders that compensate the insured in case of a loss (Ukpong & Acha 2017). The purpose of insurance is to mitigate financial risks associated with the death of the insured (Fadun & Shoyemi 2018).

Insurance contracts allow individuals to reduce their risk exposure directly. In addition, individuals can alleviate their financial burden by transferring losses from adverse events to insurance companies (Weedige et al. 2019). Insurance covers income, life, and property losses and accumulating income for maintaining living standards in the retirement (Apergis & Poufinas 2020).

In the current technological wave, BD and financial science are precious for integrating next-generation technologies (Liu, Peng & Yu 2018). However, insurance companies have difficulty analysing data, seeing past customer lifecycles and anticipating competition that threatens their performance. Instead of offering their customers the desired solutions, insurance companies stick to traditional products that are not attractive to customers (Oyomo 2019).

The insurance industry is highly competitive, and insurance companies must gain a more holistic view of their enterprise's performance through better insights. Their business models evaluate information using data and make appropriate decisions based on that information (Elhadad 2021).

However, the challenge for many insurance companies is to combine this massive amount of information about their operations and turn it into insights that end users can use to solve problems, respond to market trends quickly and improve business efficiency (Elhadad 2021).

Therefore, the insurance industry must invest in CI to acquire accurate and relevant information for guiding decisions and sustaining competitive advantage (Odiachi, Kuye & Sulaimon 2021). Insurance companies can exploit customer data in various ways and integrate CI with automated AI to transform data into usable insights (Riikkinen et al. 2018). Furthermore, CI can be used by insurance companies to transform large amounts of raw data into valuable insights, comprehend customers' needs and anticipate drifts in the markets. Insurance companies can also use CI to gather and analyse competitor information (Kamboj et al. 2018).

The major effects of COVID-19 on the South African insurance sector

The COVID-19 has caused a crisis in human social and economic development. Furthermore, the pandemic caused a worldwide catastrophic economic depression with significant adverse effects on societal development (Xie 2021). The COVID-19 pandemic created significant uncertainty, with early mortality prediction models resulting in widespread government intervention and increased personal precaution, which reduced the projected death toll (Harris, Yelowitz & Courtemanche 2021).

As the pandemic spread globally, South Africa reported its first COVID-19 case on 05 March 2020. On 23 March 2020, President Cyril Ramaphosa announced that South Africa would enter a nationwide lockdown for 21 days to contain the spread of COVID-19. This total lockdown started from midnight on 26 March 2020 to 16 April 2020. The COVID-19 fatalities were reported in the country for the first time on 27 March 2020.

By the end of 2020, the COVID-19 pandemic and its resulting economic crisis could not spare the South African insurance industry, which was already suffering from the recession and ratings agency downgrades, likely slowed growth in demand for insurance products (Bagus et al. 2020). The COVID-19 caused a decline in global GDP and a rise in insurance claims, both of which had a profound effect on the global insurance industry (Insurance Information Institute 2020).

Insurers have seen their premiums decline and their policies lapse because of the severity of the pandemic (Wang et al. 2020). In concurrence, Babuna et al. (2020) showed a decrease in insurance premiums for both life and non-life insurance companies in 2020. Haque et al. (2021) also discovered that the pandemic significantly negatively impacted quarterly premium income, insurance density and penetration.

Inevitably, the pandemic has adversely affected insurance industry sales, and traditional insurance sales have plunged significantly (Lan et al. 2020). Equally, South African insurers were negatively affected by the COVID-19 outbreak because of cash-strapped clients cancelling their policies. The sharp rises in mortality impacted the insurance-premium pool negatively, resulting in a loss of revenue and dwindling customer numbers (Bagus et al. 2020).

During the 12 months beginning on 01 April 2020 and ending on 30 March 2021, when the first and second waves of the pandemic were prevalent, the ASISA (2022:1) reported that South African life insurers paid out 1 023 083 death claims totalling R47.58 billion (Table 1). Table 1 and Figure 2 compare death claims across all the life insurance products for the same period.

Table 1 shows that COVID-19-related death claims grew by 43% and the rand value grew by 64% compared with the

same period from 2019 to 2020. As a result, the third wave of the pandemic was significantly more severe than the previous two waves (Figure 4). Notably, the third wave in South Africa started in early May 2021 and continued until September 2021, resulting in the SA life insurance sector being most severely hit compared to the same period the previous year (ASISA 2022).

As can be seen, the third wave of the pandemic was particularly severe, with South African life insurers reporting a 53% increase in death claims between 01 April and 30 September 2021 compared with the same time in pre-COVID 2019 (ASISA 2022). This result concurs with Bradshaw et al. (2022) that a higher annualised excess death rate in the second and third waves was attributed to the COVID-19 pandemic. This has resulted in insurance companies paying more claims during this period (Figure 5). Figure 5 illustrates how many more people died than expected based on population and age differences.

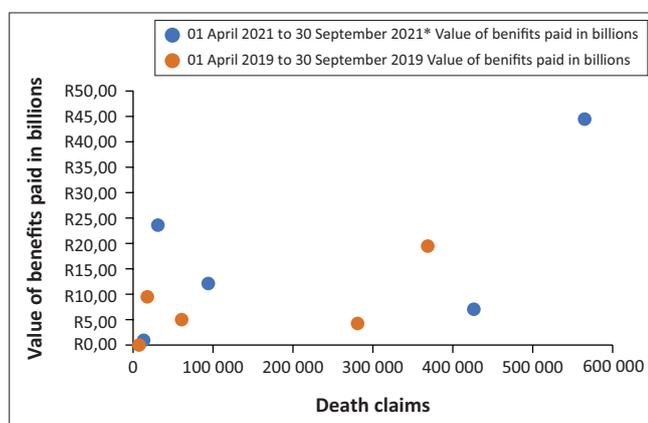
As shown in Figure 5, the WC has the lowest excess death rate, followed by Gauteng, then NC, EC and KZN. In their analysis of different periods, Bradshaw et al. (2022) found that the second and third waves of the pandemic had the most significant number of excess deaths. This finding corroborates with the current authors' observations and ASISA's (2022) statistics, as shown in Table 1. Moreover,

TABLE 1: Comparison of death claims and benefits paid during the third wave of COVID-19.

Death claims and benefits paid	01 April 2021 to 30 September 2021*		01 April 2019 to 30 September 2019	
	Death claims	Value of benefits paid in billions	Death claims	Value of benefits paid in billions
Individual life	32 111	R23,46	19 323	R9,52
Group life	94 856	R12,52	59 655	R5,23
Funeral	424 657	R7,37	280 196	R4,35
Credit life	13 880	R1,07	10 718	R0,43
Total	565 504	R44,42	369 892	R19,53

Source: ASISA, 2022, *Life insurers report a surge in death claims during COVID-19 third wave*, pp. 1–3, ASISA, Newlands, Cape Town

* The third wave was from the first week of May 2021 to the middle of September 2021 and peaked in the middle of July 2021



* Figure 4 illustrates the effect of COVID-19 death-related benefits and claims made during the third wave.

FIGURE 4: Comparison of death benefits and claims paid during the third wave of COVID-19.

Bradshaw et al. (2022) concluded that the number of deaths in the NW and NC in 2021 was significantly higher than in 2020, and the fourth wave resembled the first.

Consequently, there was a significant increase in the death rate in the third wave of the NC, the second wave of the KZN, and the EC. In essence, the most apparent effect of COVID-19 on the South African insurance industry was the upsurge in pandemic-related death claims.

Inevitably, COVID-19 and influenza pandemics have significantly impacted the affected South African insurers despite not being directly covered by insurance policies. For example, Dreyer, Kritzinger and Decker (2007) evaluated the frequency of influenza pandemics in the South African insurance business. Their study showed that a moderate pandemic would have cost the South African economy R1.1 billion in claims, whereas a severe pandemic may have cost R55 billion.

Notably, during the first three waves of the COVID-19 pandemic, South African life insurers experienced 1 588 605 death-related claims from 01 April 2020 to 30 September 2021, which was relatively high compared with the pre-COVID-19 years (ASISA 2022). Furthermore, ASISA (2022) added that South African life insurers paid R92 billion in death-related claims during this era when COVID-19 led to enormous job losses (Table 2 and Figure 6). The country's economy struggled because of lower retail spending and local and global restrictions limitations. Table 2 and Figure 6 depict the number of life insurance death claims and the amount paid during the first 18 months.

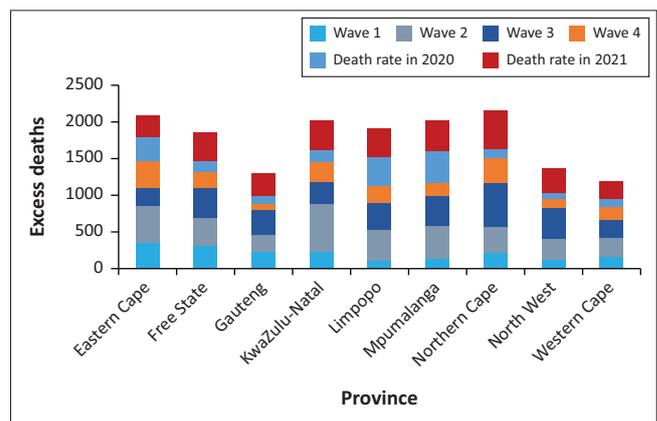
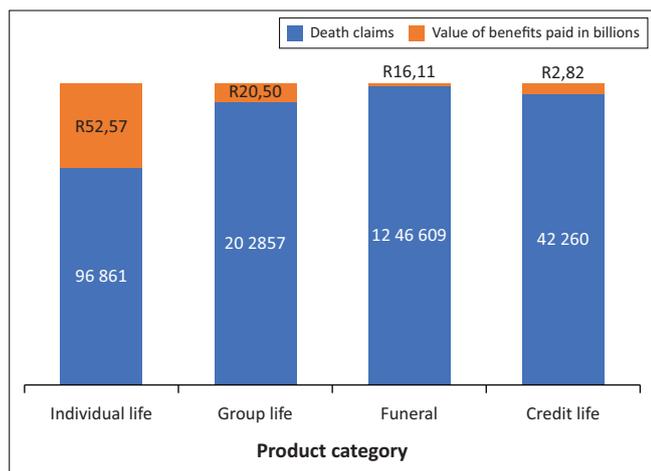


FIGURE 5: The rate of excess deaths in South African provinces based on age and population.

TABLE 2: Total death claims and benefits paid during the first 18 months of COVID-19.

01 April 2020 to 30 September 2021	Death claims	Value of benefits paid in billions
Individual life	96 861	R52,57
Group life	202 857	R20,50
Funeral	1 246 609	R16,11
Credit life	42 260	R2,82
Total	1 588 587	R92,00

Source: ASISA, 2022, *Life insurers report a surge in death claims during COVID-19 third wave*, pp. 1–3, ASISA, Newlands, Cape Town



Source: ASISA, 2022, *Life insurers report a surge in death claims during COVID-19 third wave*, pp. 1–3, ASISA, Newlands, Cape Town

FIGURE 6: The COVID-19 death benefits and claims paid during the first 18 months.

In light of the COVID-19 outbreak, life insurance may be more important than ever for many South Africans; however, the country's instability and economic troubles may far outweigh the COVID-19 epidemic. The South African short-term insurance market's earnings after tax dropped by 28% last year, from R8.3 billion in 2019 to R6 billion, due to credit defaults, a surge in net claims, and a higher claims ratio ascribed to the pandemic (KPMG 2021).

While environmental risks and events are not new to insurers, severe weather patterns have increased in the past few years, resulting in the country experiencing one of the most devastating floods during the first quarter of 2022.

The floods occurred less than ten months after the country suffered more than R50 billion in economic losses from riots in July last year when most businesses in KZN and Gauteng were looted and damaged.

The COVID-19 epidemic caused loss of income, mortality and business disruption; the wave of COVID-19 claims affected South Africa's long-term and short-term insurance sectors. Riots followed this in July last year, costing R34 billion in claims, the South African Special Risks Insurance Association (SASRIA) reported. The South African Insurance Association (SAIA) reported that the recent flash floods in KZN were the worst natural disaster to hit South Africa, with the death toll rising to 459. In tandem, damage to infrastructure exceeded R1.1 billion. Thus, the COVID-19 pandemic has amplified and changed the operation of business environments.

It has captured the attention of the South African life insurance industry to use CI to bring together BD and perform predictive analytics on accurate information about the customer's propensity to buy, claim, lapse and switch insurance products for perceived value for money. Therefore, CI has become more critical post-COVID-19 because of the need for speed and agility.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of KwaZulu-Natal's Research Ethics Committee (No. HSSREC/00000221/2019).

Discussions

In the wake of the COVID-19 pandemic, all businesses were tested regarding their financial, operational and commercial resilience. Although COVID-19 was expected to impact insurers' capital and solvency requirements, results showed that insurers' asset portfolios were resilient (KPMG 2021).

During the COVID-19 pandemic, insurers demonstrated their innovation and performance, promoting insurance as a dominant concept in consumers' minds. Therefore, South African insurance companies took advantage of the pandemic's shift to new business models by offering value-added products and adjusting to changing consumer demands (KPMG 2021). As a result of the effects of the pandemic, South African insurance companies modified their products to offer premium holidays and guarantees. As part of the COVID-19 life insurance coverage, South African insurers offered free coverage to current and new clients (Shaw 2020).

The COVID-19 experience confirms Ericson and Sydner's (2017) prediction model that insurance premiums should respond to exogenous changes in the overall risk. Similarly, Ramasamy (2020) demonstrated that COVID-19 caused a significant increase in consumers buying life insurance, term insurance and other insurance schemes.

Meanwhile, Harris et al. (2021) showed limited evidence that life insurers increased premiums or reduced policy offerings in response to the COVID-19 pandemic. As a result of its contractual coverage of health and mortality risks, the World Bank Group (2020) highlighted the possibility of significant effects on the insurance sector from the COVID-19 pandemic.

Furthermore, the industry would see increased insurance claims and higher expenses for managing claims-related benefits. Concurring, ASISA (2022) reported an upsurge of 43% in COVID-19 death-related claims and a 43% growth in expenditure compared to pre-COVID years, illustrating the extent to which the pandemic caused more illness and financial instability in the country. In contrast, Ramasamy's (2020) study found that COVID-19 only positively impacted the insurance sector.

As a result, it is imperative to examine the pandemic's impact in each country's context (Stojkoski et al. 2021). In the first three waves of the pandemic, South Africa's insurance industry received 1 588 605 death-related claims and paid R92 billion in claims, a record for the industry compared with pre-COVID-19. This result concurs with a study by Babuna et al. (2020), who found that insurance claims increased with declining profits during the COVID-19 outbreak.

Furthermore, Larson and Sinclair (2022) found increased unemployment insurance claims because of the COVID-19 pandemic. This result aligns with ASISA's (2022) report and the current authors' analysis, which showed an increase of 53% in death-related claims compared with pre-COVID levels, indicating the third wave of the pandemic was significantly worse resulting in claims increasing drastically across all the insurance products.

Consistently, the study by Bradshaw et al. (2022) found that the COVID-19 pandemic contributed to a higher annualised excess death rate in the second and third waves. This has resulted in insurance companies paying more claims during this period. Furthermore, their study discovered a strong temporal correlation between excess deaths and reported COVID-19-related deaths within each province indicating that COVID-19 was responsible for most excess deaths.

Although Bradshaw et al. (2022) opined that WC, EC, Gauteng and KZN provinces had more COVID-19-related deaths than other provinces, the current authors do not rule out the possibility that death benefits have varied across all provinces irrespective of the number of deaths because of COVID-19. Moreover, the current authors hypothesise that because most of South Africa's general public is not insured, as such, not everyone who succumbed to the COVID-19 pandemic was insured.

In concurrence, Muritala and Ajetunmobi (2019) contended that most of the general population was unaware of the contributions that insurance makes to the economy, and they place greater trust in banks. As more data became available, death claims continued longer than initially predicted resulting in declining premium collections and increasing claims severely impacting insurers.

Furthermore, the number of COVID-19-related deaths was associated with higher rates of hospitalisation and morbidity among unvaccinated South African populations. This view is in accordance with the study by Mathaha et al. (2022), which found an association between COVID-19 and several comorbidities.

The emergence of COVID-19 variants of concern could not be averted, thus prolonging the pandemic, escalating inequalities and delaying global economic recovery (OECD 2021). Therefore, vaccine availability and efficacy uncertainty significantly affected the timing and magnitude of increased mortality caused by COVID-19 in the country.

Despite COVID-19 vaccines being a critical intervention providing consistent data demonstrating vaccine effectiveness in preventing COVID-19, mass immunisation in South Africa stalled until late 2022. The ongoing COVID-19 crisis has disrupted South Africa's immunisation services, and progress has stalled and remained suboptimal across the country's provinces and districts (Nnaji et al. 2021). Consequently, South African insurers could not avoid COVID-19-related

deaths and claims until vaccines were widely distributed to protect against severe disease and, ideally, drive herd immunity.

Watson et al. (2022) concurred that COVID-19-related deaths would have occurred in COVID-19 Vaccines Global Access (COVAX) programme countries without vaccinations during the first year of COVID-19 vaccination. The South African insurance sector entered the pandemic with healthy capital and solvency ratios. Also, South African insurance industry had free assets worth R373 billion, which is more than twice the country's capital requirements. The difficulties created by the COVID-19 outbreak did not leave policyholders stranded (Cranston 2020).

Similarly, Stojkoski et al. (2021) discovered that the insurance industry in North Macedonia was well prepared to deal with the effects of the pandemic and automatic stabilisers significantly reduced the overall adverse effects.

Babuna et al. (2020) also discovered that 75% of insurers were confident that they had enough claims to cover COVID-19 regarding regulatory requirements, while 25% were unsure if they would survive insolvency if COVID-19 persisted for more than a year. In contrast, Puławska (2021) showed a disruptive negative impact among European insurers during the COVID-19 outbreak because of disparities in the number of claims impacting capital and solvency stability.

Interestingly, the results in Tables 1 and 2 including the corresponding Figure 2 show that mortality experience on products with limited underwriting and waiting periods, such as funeral, credit and group life policies, had a significant number of COVID-19 related claims compared with individual life policy plans. This result implies that insurance companies should leverage the power of AI, BD and digital customer engagement to address the protection gap and operate more efficiently.

This finding emphasises the need for insurance companies to use CI to unlock BD into actionable insights to understand customer needs and enhance their current product offerings (Oyomo 2019), thereby endorsing Ranjan and Foropon's (2021) recommendations that companies integrate BD technologies and CI in their processes to avert multiple challenges and develop CI within their organisations.

To improve their strategic planning and succeed in a competitive environment, South African insurers should implement CI processes to discover unknown customers and hidden knowledge (Oraee et al. 2020). South African insurers may also benefit from integrating AI and BD analytical tools with CI to gain actionable insights, establish product-centric products and open new distribution channels. The integration of CI, AI and BD can also help South African insurers maximise the benefits of their products and achieve accurate pricing.

Holliday, Scherchan and Ebrahimi (2020) concurred that these technologies enable better data collection, allowing products and processes tailored to customers' needs. South African insurers can reduce insurance costs if the right products match with that of the clients (KPMG 2021). Integrating AI, BD and CI will improve the efficiency of South African insurers in making decisions faster and helping clients better. In that way, insurance will be more accessible to more clients through a model that creates an accurate prediction to determine and make accurate decisions about whether or not to accept the risk (KPMG 2021).

South African insurance companies should evaluate their traditional approaches to CI and ensure that it is embedded effectively across all operations to anticipate future threats and identify new growth opportunities (Odiachi et al. 2021). Integrating AI, BD and CI exploits digital technology and data in new ways to create better underwriting models that improve customer experiences, marketing effectiveness, risk selection and product pricing.

Insurance customers have demonstrated a willingness to purchase additional services from insurers and share personal information with them. Digitisation and BD have been shown to bring opportunities in several industries while requiring significant changes in incumbents' business models to reap the full benefits, potentially triggering shifts in industry structure (Pugnetti & Seitz 2021). Thus, embedding CI will aid the growth of the South African insurance industry, create new protection solutions for end customers and ultimately narrow the insurance protection gap.

Conclusions and limitations

As a consequence of the currently ongoing COVID-19 outbreak, the South African insurance industry has been highlighted as vulnerable, and the company's environment has changed significantly. To improve their customer experiences and acquire new clients, South African insurance companies must engage in the digital economy and adopt BD analytics (Maluleka 2022).

The COVID-19 remains a significant threat, and insurance companies in South Africa have demonstrated their capacity to innovate and establish organisational resilience in order to withstand adversity (Maluleka 2022). Also, the exponential rise of the COVID-19 epidemic has compelled South African insurance firms to implement new distribution methods and rely on BD analytics and digitalisation, elevating CI to the top of the decision-makers' priority list.

As digital technology lowers distribution and administrative costs, South African insurance companies should integrate AI, machine learning and blockchain technologies with CI to create their unique value proposition and strengthen their business models. To understand better consumer purchasing habits, South African insurers will be able to gain insights from behavioural economics (Muguto 2018; Swiss Re Sigma 2018).

To harness the potential of BD technology and techniques, South African insurance businesses should define clear institutional frameworks for CI so that such insights can be integrated into the CI process (Maluleka 2022). Additionally, South African insurance companies should improve customer digital service experience by focusing on interaction and acquiring digital capabilities for customers. Furthermore, they should blend BD and blockchain with CI to create historical customers, enhance and improve customer lives and provide personalised services.

In addition, South African insurance companies should employ BD for actuarial pricing and design digital insurance products to effectively identify market gaps and address product gaps in real time post the COVID-19 pandemic. Furthermore, South African insurance companies should invest in a digital product research and development centre to produce digital insurance products and digitally transform the insurance marketing and claims settlement value chain (Xie 2021).

To build resilience for businesses and individuals to connect with the insurance industry remotely post-COVID-19 crisis, the South African insurance industry needs to explore alternative models to traditional broker distribution models to face such a context and respond swiftly to future pandemics.

Also, regulators need to incentivise individuals for long-term savings to grow the capital assets of the insurance sector (Bagus et al. 2020). Along with these measures, insurance firms must examine their management strategies. Therefore, South African insurance companies should reconsider their traditional management processes and emphasise adopting innovative managerial methods and approaches that generate the strategic knowledge needed to overcome any issues or challenges that may arise (Kettani 2021).

This study examined the impact of COVID-19 on the South African insurance sector and how CI and its integration with AI and BD can help to maintain the South African insurance sector post-COVID-19 epidemic. The study has limitations that should be highlighted. To begin, researchers had little control over the data collection process, which can lead to missing variables or misalignment with their research goals. Consequently, biases and validity concerns from the original study may persist in the secondary analysis.

As a result of its scope and relevance, the available data may not fully address the research questions or desired parameters. Also, secondary data frequently lack context about the original study, making interpretation and generalisation difficult. Future research can examine longitudinal trends by analysing secondary data collected over a long period. Additionally, future research should pay close attention to potential biases and validity issues inherited from the original data sources. Consideration of these concerns and appropriate adjustments can improve the reliability of secondary data analysis.

Acknowledgements

The authors would like to acknowledge the University of KwaZulu-Natal for support, without which this research would not have been possible.

Sections of this manuscript are published in a thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Business Administration in the Graduate School of Business and Leadership, College of Law and Management, University of KwaZulu-Natal, entitled 'Developing a Competitive Intelligence Strategy Model for South African Life Assurance Industry'. Supervisor: Prof. Bibi Zaheenah Chummun, February 2022. Refer: <https://researchspace.ukzn.ac.za/handle/10413/21194>

Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

All persons who meet authorship criteria are listed as authors. Dr M.L.M. wrote the first draft of the manuscript after researching the effect of the COVID-19 pandemic on the South African insurance sector. Both authors performed secondary data analysis and crystallised results and conclusions. Prof. B.Z.C led and supervised this project.

Furthermore, each author certifies that this manuscript has not been and will not be submitted to or published in any publication before its appearance in the *South African Journal of Information Management*. In addition, the authors will not misrepresent research results, which could damage the professionalism of scientific authorship and trust in the *South African Journal of Information Management*.

Funding information

The authors received no financial support for the research, authorship and any publication of this article from any public agency, commercial or non-profit organisations.

Data availability

All data generated or analysed during this study are included in this article or can be obtained from the corresponding author, M.L.M., upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

References

- Apergis, N. & Poufinas, T., 2020, 'The role of insurance growth in economic growth: Fresh evidence from a panel of OECD countries', *The North American Journal of Economics and Finance* 53, 1–16. <https://doi.org/10.1016/j.najef.2020.101217>
- ASISA, 2022, *Life insurers report a surge in death claims during COVID-19 third wave*, pp. 1–3, ASISA, Newlands, Cape Town.
- Babuna, P., Yang, X., Gyllbag, A., Awudi, D.A., Ngmenbelle, D. & Bian, D., 2020, 'The impact of Covid-19 on the insurance industry', *International Journal of Environmental Research and Public Health* 17(16), 5766. <https://doi.org/10.3390/ijerph17165766>
- Bagus, U., Hall, C., Jeenah, U. & Sari, G., 2020, *Beyond COVID-19: Charting the road to recovery for South African insurers*, pp. 1–9, McKinsey & Company, New York.
- Bao, Y., 2020, 'Competitive intelligence and its impact on innovations in tourism industry of China: An empirical research', *PLoS One* 15(7), e0236412. <https://doi.org/10.1371/journal.pone.0236412>
- Barro, R.J., Ursúa, J.F. & Weng, J., 2020, *The coronavirus and the great influenza pandemic: Lessons from the 'spanish flu' for the coronavirus's potential effects on mortality and economic activity*, pp. 1–26, National Bureau of Economic Research, Cambridge.
- Boissay, F. & Rungcharoenkitkul, P., 2020, *Macroeconomic effects of Covid-19: An early review*, H.S. Shin (ed.), pp. 1–7, Bank for International Settlements, New Delhi.
- Bong, C.-L., Brasher, C., Chikumba, E., McDougall, R., Mellin-Olsen, J. & Enright, A., 2020, 'The COVID-19 pandemic: Effects on low-and middle-income countries', *Anesthesia and Analgesia* 131(1), 86–92. <https://doi.org/10.1213/ANE.0000000000004846>
- Bradshaw, D., Dorrington, R., Laubscher, R., Groenewald, P. & Moultrie, T., 2022, 'COVID-19 and all-cause mortality in South Africa—the hidden deaths in the first four waves', *South African Journal of Science* 118(5/6), 1–7. <https://doi.org/10.17159/sajs.2022/13300>
- Cabore, J.W., Karamagi, H., Kipruto, H.K., Mungatu, J.K., Asamani, J.A., Droti, B. et al., 2022, 'Underestimated COVID-19 mortality in WHO African region—authors' reply', *The Lancet Global Health* 10(11), e1560. [https://doi.org/10.1016/S2214-109X\(22\)00415-6](https://doi.org/10.1016/S2214-109X(22)00415-6)
- Calof, J., Arcos, R. & Sewdass, N., 2018, 'Competitive intelligence practices of European firms', *Technology Analysis & Strategic Management* 30(3), 658–671. <https://doi.org/10.1080/09537325.2017.1337890>
- Cavallo, A., Sanasi, S., Ghezzi, A. & Rangone, A., 2020, 'Competitive intelligence and strategy formulation: Connecting the dots', *Competitiveness Review: An International Business Journal* 31(2), 250–275. <https://doi.org/10.1108/CR-01-2020-0009>
- Chamberlain, D., Camargo, A. & Coetze, W., 2017, *Funding the frontier: The link between inclusive insurance market, growth and poverty reduction in Africa*, pp. 1–38, The Center for Financial Regulations & Inclusion, Cape Town.
- Chen, W., 2016, *Competitive intelligence in China*, pp. 40–42, China Institute of Competitive Intelligence, viewed n.d., from https://www.academia.edu/33774114/COMPETITIVE_INTELLIGENCE_IN_CHINA.
- Chummun, B.Z., 2012, 'Evaluating business success in the microinsurance industry of South Africa', PhD thesis, North-West University.
- Chummun, B.Z., 2017, 'An analysis of the development influences of the low-income cover market-end in South Africa', *African Journal of Science, Technology, Innovation and Development* 9(1), 795–802. <https://doi.org/10.1080/20421338.2017.1385576>
- Chummun, B.Z. & Mathithibane, M., 2020, 'Challenges and coping strategies of Covid-2019 in the tourism industry in Mauritius', *African Journal of Hospitality, Tourism and Leisure* 9(5), 810–822. <https://doi.org/10.46222/ajhtl.19770720-53>
- Corbet, S., Larkin, C. & Lucey, B., 2020, 'The contagion effects of the COVID-19 pandemic: Evidence from gold and cryptocurrencies', *Finance Research Letters* 35(1), 101554. <https://doi.org/10.1016/j.frl.2020.101554>
- Cranston, S., 2020, 'Insuring against contagion – You might think that South Africa's life insurance sector would be one of the Covid-19 casualties', in *You'd be wrong*, viewed n.d., from <https://www.businesslive.co.za/fm/money-and-investing/2020-05-14-insuring-against-contagion/>.
- Creswell, J.W. & Creswell, J.D., 2018, *Research design: Qualitative, quantitative, and mixed methods approaches*, SAGE Publications, London.
- De Almeida, F.C., Lesca, H. & Canton, A.W., 2016, 'Intrinsic motivation for knowledge sharing—competitive intelligence process in a telecom company', *Journal of Knowledge Management* 20(6), 1282–1301. <https://doi.org/10.1108/JKM-02-2016-0083>
- Devarakonda, S. & Chittineni, J., 2019, 'Does insurance promote economic growth? Evidence from BRICS countries', *Journal of Applied Management and Investments* 8(3), 135–146.
- Din, S.M.U., Abu-Bakar, A. & Regupathi, A., 2017, 'Does insurance promote economic growth: A comparative study of developed and emerging/developing economies', *Cogent Economics & Finance* 5(1), 1–12. <https://doi.org/10.1080/23322039.2017.1390029>
- Dishman, P.L. & Calof, J.L., 2008, 'Competitive intelligence: A multiphase precedent to marketing strategy', *European Journal of Marketing* 42(7/8), 766–785. <https://doi.org/10.1108/03090560810877141>
- Dong, E., Du, H. & Gardner, L., 2020, 'An interactive web-based dashboard to track COVID-19 in real time', *The Lancet Infectious Diseases* 20(5), 533–534. [https://doi.org/10.1016/S1473-3099\(20\)30120-1](https://doi.org/10.1016/S1473-3099(20)30120-1)

- Dreyer, A., Kritzinger, G. & Decker, J.D., 2007, 'Assessing the impact of a pandemic on the life insurance industry in South Africa', in *1st IAA Life Colloquium*, RGA Reinsurance Company South Africa Ltd, Stockholm, June 10–13, 2007, pp. 1–75.
- Elhadad, E., 2021, 'Insurance business enterprises' intelligence in view of BD analytics', *Journal of the Egyptian Society for Information Systems and Computer Technology* 26(26), 13–21. <https://doi.org/10.21608/jstc.2021.202278>
- Ericson, K.M. & Sydnor, J., 2017, 'The questionable value of having a choice of levels of health insurance coverage', *Journal of Economic Perspectives* 31(4), 51–72. <https://doi.org/10.1257/jep.31.4.51>
- Fadun, O.S. & Shoyemi, O.S., 2018, 'Insurance investment funds and economic growth in Nigeria: An empirical analysis (2000–2015)', *International Journal of Development and Management Review* 13(1), 73–88.
- Farley, H.F. & Freyn, S., 2023, 'Competitive intelligence: A precursor to a learning health system', *Health Services Management Research* 36(1), 82–88. <https://doi.org/10.1177/09514848211065470>
- Haq, A., Mohona, N.T., Sultana, S. & Kulsum, U., 2021, 'The impact of COVID-19 on the insurance industry of Bangladesh', *Indian Journal of Finance and Banking* 6(1), 73–85. <https://doi.org/10.46281/ijfb.v6i1.1243>
- Harris, T.F., Yelowitz, A. & Courtemanche, C., 2021, 'Did COVID-19 change life insurance offerings?', *Journal of Risk and Insurance* 88(4), 831–861. <https://doi.org/10.1111/jori.12344>
- Holliday, S.C., Sherchan, P. & Ebrahimi, S.A., 2020, *COVID-19 and the insurance industry: Why a gender-sensitive response matters*, pp. 1–17, International Finance Corporation, World Bank Group, Washington, DC.
- Insurance Information Institute, 2020, 'Global macro and insurance outlook', *Quarterly* 1 2020, 1–4.
- International Monetary Fund, 2020, *Sub-Saharan Africa: COVID-19: An unprecedented threat to development*, pp. 1–12, International Monetary Fund, Washington, DC.
- Johnston, M.P., 2014, 'Secondary data analysis: A method of which the time has come', *Qualitative and Quantitative Methods in Libraries* 3(3), 619–626.
- Kamboj, S., Sarmah, B., Gupta, S. & Dwivedi, Y., 2018, 'Examining branding co-creation in brand communities on social media: Applying the paradigm of stimulus-organism-response', *International Journal of Information Management* 39(5), 169–185. <https://doi.org/10.1016/j.ijinfomgt.2017.12.001>
- Kettani, Z., 2021, 'Reviving tourism sector in the aftermath of the Covid-19 pandemic: The role of competitive intelligence', *International Journal of Business and Technology Studies and Research* 3(1), 1–11.
- Kettani, Z. & Aljandali, A., 2022, 'Corporate governance: Study case of competitive intelligence practices in Moroccan SMEs', *Corporate Ownership and Control* 20(1), 214–221. <https://doi.org/10.22495/cocv20i1art19>
- Khatibi, M. & Rahimpour, M., 2021, 'Innovations and new technologies in insurance industry', *Quarterly Journal of Industrial Technology Development* 19(44), 69–86.
- KPMG, 2021, *The South African insurance industry survey 2021*, pp. 3–127, Adapt, KPMG, Johannesburg.
- Kühn, M.-L., Viviers, W., Sewdass, N. & Calof, J., 2020, 'The business anticipatory ecosystem outside the "first world": Competitive intelligence in South Africa', *Φορσαύρη* 14(3), 72–87. <https://doi.org/10.17323/2500-2597.2020.3.72.87>
- Kula, M.E. & Naktiyok, A., 2021, 'Strategic thinking and competitive intelligence: Comparative research in the automotive and communication industries', *Journal of Intelligence Studies in Business* 11(2), 53–68.
- Lan, C., Huang, Z. & Huang, W., 2020, 'Systemic risk in China's financial industry due to the COVID-19 pandemic', *Asian Economics Letters* 1(3), 1–5. <https://doi.org/10.46557/001c.18070>
- Larson, W.D. & Sinclair, T.M., 2022, 'Nowcasting unemployment insurance claims in the time of COVID-19', *International Journal of Forecasting* 38(2), 635–647. <https://doi.org/10.1016/j.ijforecast.2021.01.001>
- Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y. et al., 2020, 'Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia', *New England Journal of Medicine* 382(13), 1199–1207. <https://doi.org/10.1056/NEJMoa2001316>
- Liu, Y., Peng, J. & Yu, Z., 2018, 'BD platform architecture under the background of financial technology: In the insurance industry as an example', in *Proceedings of the 2018 International Conference on BD Engineering and Technology*, Association for Computing Machinery, Chengdu, China, August 25–27, 2018, pp. 31–35. <https://doi.org/10.1145/3297730.3297743>
- Loo, K.Y., Law, J.W.-F., Tan, L.T.H. & Letchumanan, V., 2022, 'South Africa's battle against COVID-19 pandemic', *Progress in Microbes & Molecular Biology* 5(1), 1–12. <https://doi.org/10.36877/pmm.b.a0000264>
- Maluleka, M.L., 2022, 'Developing a competitive intelligence strategy model for South African life assurance industry', PhD thesis, College of Law and Management Studies: Graduate School of Business and Leadership, University of KwaZulu Natal, pp. 18–469.
- Maluleka, M.L. & Chummun, B.Z., 2023, 'Competitive intelligence and strategy implementation: Critical examination of present literature review', *South African Journal of Information Management* 25(1), 1–12. <https://doi.org/10.4102/sajim.v25i1.1610>
- Mathaha, T., Mafu, M., Mabikwa, O.V., Ndenda, J., Hillhouse, G. & Mellado, B., 2022, 'Leveraging artificial intelligence to optimize COVID-19 robust spread and vaccination roll-out strategies in Southern Africa', *Frontiers in Artificial Intelligence* 5, 1–11. <https://doi.org/10.3389/frai.2022.1013010>
- McKibbin, W.J. & Fernando, R., 2020, *The global macroeconomic impacts of COVID-19: Seven scenarios*, pp. 1–43, The Centre for Applied Macroeconomic Analysis, Canberra.
- McKinsey & Company, 2018, *Insurance beyond digital: The rise of ecosystems and platforms*, pp. 1–13, Insurance Practice January 2018, McKinsey & Company, New York.
- McKinsey & Company, 2019, *Digital ecosystems for insurers: Opportunities through the internet of things*, Insurance Practice January 2019, pp. 1–10, McKinsey & Company, New York.
- Metaxas, P.T., Finn, S. & Mustafaraj, E., 2015, 'Using twittertrails.com to investigate rumor propagation', in *Proceedings of the 18th ACM Conference Companion on Computer Supported Cooperative Work & Social Computing*, CSW Companion, Vancouver, Canada, March 14–18, 2018, pp. 69–72. <https://doi.org/10.1145/2685553.2702691>
- Mikalef, P., Krogstie, J., Pappas, I.O. & Pavlou, P., 2020, 'Exploring the relationship between BD analytics capability and competitive performance: The mediating roles of dynamic and operational capabilities', *Information & Management* 57(2), 1–15. <https://doi.org/10.1016/j.im.2019.05.004>
- Mohamadian, M., Saemian, S., Shahrokhy, F. & Mirmoeini, H., 2014, 'Studying the dynamic model of the competitive intelligence in insurance industry considering time factor', *Advances in Environmental Biology* 8, 1320–1331.
- Msulwa, B., Loots, C., Hougaard, C. & Bennet, E., 2018, *Strong foundations: A framework for assessing the role of the insurance sector in property market development*, pp. 1–7, Centre for Financial Regulation & Inclusion, Cape Town.
- Mugoto, V., 2018, 'Africa's insurance industry poised for growth', *MoneyMarketing* 10, 1.
- Muritala, A.S. & Ajetunmbi, O.A., 2019, 'Competitive intelligence and sustainable competitive advantage of selected insurance companies in Nigeria', *International Journal of Advanced Research in Statistics Management and Finance* 7(1), 214–224.
- Nnaji, C.A., Wiysonge, C.S., Lesosky, M., Mahomed, H. & Ndwandwe, D., 2021, 'COVID-19 and the gaping wounds of South Africa's suboptimal immunisation coverage: An implementation research imperative for assessing and addressing missed opportunities for vaccination', *MDPI Vaccines* 9(7), 691. <https://doi.org/10.3390/vaccines9070691>
- Odiachi, J.M., Kuye, O.L. & Sulaimon, A.-H.A., 2021, 'Driving organisational sustainability in the Nigerian insurance sector: The role of competitive intelligence', *SPOUDAI-Journal of Economics and Business* 71(1–2), 37–54.
- OECD, 2021, *Coronavirus (COVID-19) vaccines for developing countries: An equal shot at recovery*, pp. 1–22, OECD, Paris.
- Oraee, N., Sanatjoo, A. & Ahanchian, M.R., 2020, 'The competitive intelligence diamond model with the approach to standing on the shoulders of giants', *Library & Information Science Research* 42(2), 1–12. <https://doi.org/10.1016/j.lisr.2020.101004>
- Otonicar, S.L.C., Valentim, M.L.P. & Mosconi, E., 2018, 'A competitive intelligence model based on information literacy: Organizational competitiveness in the context of the 4th industrial revolution', *Journal of Intelligence Studies in Business* 8(3), 55–65. <https://doi.org/10.37380/jisib.v8i3.366>
- Oyomo, A.A., 2019, 'Customer centricity & competitive intelligence performance in the insurance industry in Western Kenya, East Africa', *European Journal of Business and Management* 11(10), 62–75.
- Păduraru, M., 2021, 'Constructivism and competitive intelligence, new economic model during Covid-19 crisis', in *Proceedings of the International Conference on Business Excellence* 15(1), 1027–1041. <https://doi.org/10.2478/picbe-2021-0097>
- Pagell, M. & Wu, Z., 2009, 'Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars', *Journal of Supply Chain Management* 45(2), 37–56. <https://doi.org/10.1111/j.1745-493X.2009.03162.x>
- Pederson, L., Vingilis, E., Wickens, C., Kovcal, J. & Mann, R.E., 2020, 'Use of secondary data analyses in research: Pros and cons', *Journal of Addiction Medicine and Therapeutic Science* 6(1), 58–60.
- Pocock, L., 2020, 'Economic recovery and economic security after Covid-19: Time to rethink capitalism and global inequity', *Middle East Journal of Business* 15(3), 3–6.
- Pugnetti, C. & Seitz, M., 2021, 'Data-driven services in insurance: Potential evolution and impact in the Swiss market', *Journal of Risk and Financial Management* 14(5), 1–16. <https://doi.org/10.3390/jrfm14050227>
- Puławska, K., 2021, 'Financial stability of European insurance companies during the COVID-19 pandemic', *Journal of Risk and Financial Management* 14(6), 1–16. <https://doi.org/10.3390/jrfm14060266>
- PwC, 2019, *Trends in the global insurance market and implications for African insurers*, 2019 edn., pp. 1–7, PwC Inc., London.
- Ramasamy, K., 2020, 'Impact analysis in banking, insurance and financial services industry due to COVID-19 pandemic', *Pramana Research Journal* 10(8), 19.
- Ranjan, J. & Foropon C., 2021, 'BD analytics in building the competitive intelligence of organizations', *International Journal of Information Management* 56, 1–13. <https://doi.org/10.1016/j.ijinfomgt.2020.102231>
- Riikinen, M., Saarijärvi, H., Sarlin, P. & Lähteenmäki, I., 2018, 'Using artificial intelligence to create value in insurance', *International Journal of Bank Marketing* 36(6), 1145–1168. <https://doi.org/10.1108/IJBM-01-2017-0015>
- Saddhono, K., Chin, J., Toding, A., Qadri, M.N. & Wekke, I.S., 2019, 'Competitive intelligence: Systematic collection and analysis of information', *Journal of Critical Reviews* 6(5), 155–159.
- Shaitura, S.V., Ordov, K.V., Lesnichaya, I.G., Romanova, Y.D. & Khachaturova, S.S., 2018, 'Services and mechanisms of competitive intelligence on the internet', *Espacios* 39(45), 1–24.
- Shaw, G., 2020, *Deloitte insights: Potential implications for the insurance sector*, pp. 2–7, Deloitte Touche Tohmatsu Limited, London.
- Stojkoski, V., Jolajoski, P. & Ivanovski, I., 2021, 'The short-run impact of COVID-19 on the activity in the insurance industry in the Republic of North Macedonia', *Risk Management and Insurance Review* 24(3), 221–242. <https://doi.org/10.1111/rmir.12187>
- Swiss Re Sigma, 2018, *Sigma 2020: Global economic and insurance outlook 2020*, P. Ronke (ed.), 5th edn., pp. 1–33, Swiss Re Management, Zurich.

- Tajimuratovna, K.G., Qizi, A.N.Z. & Qizi, K.S.U., 2022, 'Business processes in the insurance system and their features', *Thematics Journal of Economics* 8, 12–22.
- Tulungen, F., Batmetan, J.R., Komansilan, T. & Kumajas, S., 2021, 'Competitive intelligence approach for developing an etourism strategy post COVID-19', *Journal of Intelligence Studies in Business* 11(1), 48–56. <https://doi.org/10.37380/jisib.v1i1.694>
- Ukpong, M.S. & Acha, I.A., 2017, 'Insurance and economic development in Nigeria: Co-integration and causality analysis', *Scholedge International Journal of Management & Development* 4(4), 28–39. <https://doi.org/10.19085/journal.sijmd040401>
- Wang, Y., Zhang, D., Wang, X. & Fu, Q., 2020, 'How does COVID-19 affect China's insurance market?', *Emerging Markets Finance and Trade* 56(10), 2350–2362. <https://doi.org/10.1080/1540496X.2020.1791074>
- Watson, O.J., Barnsley, G., Toor, J., Hogan, A.B., Winskill, P. & Ghani, A.C., 2022, 'Global impact of the first year of COVID-19 vaccination: A mathematical modelling study', *The Lancet Infectious Diseases* 22(9), 1293–1302. [https://doi.org/10.1016/S1473-3099\(22\)00320-6](https://doi.org/10.1016/S1473-3099(22)00320-6)
- Weedige, S.S., Ouyang, H., Gao, Y. & Liu, Y., 2019, 'Decision making in personal insurance: Impact of insurance literacy', *Sustainability* 11(23), 1–24. <https://doi.org/10.3390/su11236795>
- World Bank Group, 2020, *COVID-19 outbreak: Insurance implications and response*, pp. 1–26, The World Bank Group, Washington, DC.
- Wouters, O.J., Shadlen, K.C., Salcher-Konrad, M., Pollard, A.J., Larson, H.J., Teerawattananon, Y. et al., 2021, 'Challenges in ensuring global access to COVID-19 vaccines: Production, affordability, allocation, and deployment', *The Lancet* 397(10278), 1023–1034. [https://doi.org/10.1016/S0140-6736\(21\)00306-8](https://doi.org/10.1016/S0140-6736(21)00306-8)
- Wright, S., Eid, E.R. & Fleisher, C.S., 2009, 'Competitive intelligence in practice: Empirical evidence from the UK retail banking sector', *Journal of Marketing Management* 25(9–10), 941–964. <https://doi.org/10.1362/026725709X479318>
- Xie, X., 2021, 'Digital transformation trends of China's insurance industry after the COVID-19 pandemic', *Вестник Томского государственного университета. Экономика* 54, 228–238. <https://doi.org/10.17223/19988648/54/13>