ECONOMIC IMPLICATIONS OF TOURISM DISRUPTION: A POST-COVID-19 PERSPECTIVE FOR AN EMERGING ECONOMY

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DECLARATIONS

I declare that this doctoral thesis, which I hereby submit for the award of PhD in Business Management at the University of Pretoria, is my work and has not been submitted by me or any other person for a degree in any other university.

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I certify the above statement to be correct to the best of my knowledge and have recommended this thesis for submission.

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DEDICATION

In loving memories of

Martin Ilo,

Juliana Ilo,

and

Denis Ilo

I am, because you were!

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ABSTRACT

The disruption of the tourism industry by the COVID-19 pandemic had significant economic implications for the global tourism industry. For a tourism-sensitive economy such as South African's, the pandemic negatively affected both the demand and supply sides of the business ecosystem of the tourism sector, thereby necessitating strategic and policy responses to rebuild and reposition the sector for post-pandemic attractiveness and competitiveness. It is on this thrust that this study examined the economic implications of COVID-19 disruptions in the tourism industry and devised a framework for post-pandemic growth and competitiveness of the industry. With the two broad divides of predictors of tourism business performance, the study investigated the moderating effects of perceived risks and adoption of technology on tourists' behavioural intentions. Data were collected through a survey by adopting a multi-stage sampling method and were subjected to both reliability and validity tests using confirmatory factor analysis. The Structural Equation Modelling statistical method was used to conduct the moderation analysis. Results showed a significant decline in tourism contributions to the South African economy, four out of six COVID-19-induced dimensions of perceived risks having a negative moderating influence on tourists' behavioural intentions towards South Africa, while technology adoption in tourism space positively moderated tourists' intentions to visit South Africa. The study concluded that technological adoption in the tourism industry has the potential of reversing the negative influence of COVID-19-induced risks and, therefore, improve South Africa's destination attractiveness and competitiveness. It recommends, among others, that tourism destination managers and policymakers put policies in place to improve the adoption of innovative technologies across South Africa's tourism value chain.

Keywords: *Tourism, COVID-19, Pandemic, Economy, Perceived risks, Technological adoption, Emerging economies, South Africa*

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TABLE OF CONTENTS

xi

LIST OF FIGURES

LIST OF TABLES

xvii

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The pandemic that followed the outbreak of the SARS-CoV-2 (COVID-19) was supervened by an unprecedented economic crisis of a global scale that triggered unforeseen recessions and depressions in many economies (Alradhawi, Shubber, Sheppard & Ali, 2020; Atar & Atar, 2020; Rajendran, Kumar & Dominic, 2021; Roubini, 2020; Siddiquei & Khan, 2020). Beyond the tragic loss of many lives and hospitalisation of so many others which tangentially impacted humanity in all ramifications (Mallah, Ghorab, Al-Salmi, Abdellatif, Tharmaratnam, Iskandar, Sefen, Sidhu *et al.*, 2021), the de-globalisation of the world economy occasioned by the shutdown of international and local travels as well as other restrictions of movement, spiralled a wide range of economic devastations across countries, regions, and industries. The restrictions of movement were, however, necessitated to contain the spread of the virus (Luković & Stojković, 2020:82).

While the impact of the pandemic was significant on the global economy, the degree of impact varied across different sectors of the economy. There is a consensus among scholars that the tourism industry was the worst hit (Farzanegan, Gholipour, Feizi, Nunkoo & Andargoli, 2021; Ocheni, Agba, Agba & Eteng, 2020:126; Richter, 2020; Škare, Soriano & Porada-Rochoń, 2021), as the tourism industry depends wholly on the bodily movements of people across locations and over time. Invariably, the temporary but almost total halt in travel caused a devastating impact on the global tourism economy. According to World Tourism and Travels World Travels & Tourism Council (2021), while the tourism and travels sector contributed 10.3% to the global gross domestic product (GDP) and provided livelihood for 334 million people across the world in 2019, the sector suffered a loss of US$4.5 trillion in revenue and 62 million jobs in 2020 due to the pandemic. Proportionately, the severity of these losses varied depending on the contributions of tourism to many countries' GDPs. Among the worst hit countries were Macau, Aruba, Maldives, Bahamas, and Seychelles, whose tourism and travel industry total contributions

to their GDP before the pandemic stood at 91.3%, 73.6%, 56.6%, 43.3% and 40.5% respectively (WTTC, 2020:5).

The progressive globalisation of tourism since the 20th Century narrowed the gap in the sensitivity of tourism receipts to economic growth between developed and emerging economies (Gnangnon, 2020). Thus, while the developed economies remain the largest destinations for global tourism destinations, emerging economies embrace tourism as an engine for their economic development by focusing on international tourism as a source of foreign exchange and foreign direct investment (Ajagunna, Anthony Clayton & Dr Fritz Pinnock, 2014). Emerging economies, according to Manolova, Eunni and Gyoshev (2008), are typically characterised by low economic development, high growth potentials as indicated primarily in their GDP growth rates, and considerable free market systems.

Although there are many emerging economies across the world, the BRICS (Brazil, Russia, India, China, and South Africa) are the most popular emerging economies, and there is empirical evidence that the globalisation of tourism provides significant contributions to the growth and development of emerging economies (Godara & Fetrat, 2022; Pop, 2014; Pratt, 2015; Zurub, Ionescu & Constantin, 2015). This research contextualised the economic implications of the COVID-19 pandemic on the South African tourism industry by assessing the disruptive economic impacts of the COVID-19 pandemic on the South African tourism industry in order to situate desired actions, strategies, and responses towards sustainable post-COVID-19 recovery, stability, and growth. The choice of South Africa was motivated by three reasons: First, South Africa is the only African member of the BRICS group of emerging economies; second, South Africa is one of the prime tourism destinations in Sub-Saharan Africa; and third, at the peak of COVID-19 crisis (Dieke, 2003:290), South Africa was one of the epicentres of the pandemic in Africa (Garba, Lubuma & Tsanou, 2020:1-2; Jones, Davidson, Barday, Barday, Davids, Thomson, Day, Hussey *et al.*, 2021).

Prior to the outbreak of the COVID-19 pandemic, the South African tourism industry had maintained phenomenal growth and development that made it one of the major contributors to South Africa's economic growth (Cronjéa & Du Plessis, 2020; Rogerson & Kiambo, 2007; Saayman, Rossouw & Krugell, 2012). Tourism remained one of South

2

Africa's major foreign exchange earners, contributing 9.2% to the country's foreign income, supporting 2.2 million jobs (both directly and indirectly), and represented total investment activities to the tune of 8.2% in 2019 (Department of Tourism, 2020). The statistics, however, represented a 2.7% decline in revenue from the 2018 figure when the total tourist arrivals declined by 2.3%. The industry has indirectly spurred growth in other related industries, such as the real estate and production industries, whose economic activities proportionately vary with that of the tourism industry (Akinboade & Braimoh, 2010).

Furthermore, the rapid growth and global appeal of special-interest tourism in the South African tourism space are indicative of the social, cultural, and economic relevance of tourism to South Africa (Boekstein & Tevera, 2012; Nicolaides, Zigiriadis & Fc, 2011; Proos & Hattingh, 2020). For example, South Africa remains the hub of medical tourism in Southern Africa (Crush & Chikanda, 2015; Tseane-Gumbi & Ojakorotu, 2022) and ranked first as the choice destination for medical tourism in Africa according to Global Healthcare Resources & International Healthcare Resource Centre's (2021) medical tourism index of 2020 and 2021. With vast cultural heritage, natural beauty, sunny climate, and rich biodiversity that combine with well-developed infrastructure, South Africa is one of the world's fastest-growing destinations for special interest tourism, otherwise referred to as niche tourism (Lewis, Browne & Houdet, 2021:988)

South African tourism industry has had a significant share of the economic effects of the global pandemic, resulting in multifaceted impacts on the sector (Bama & Nyikana, 2021; Bartis, Hufkie & Moraladi, 2021; Dube, 2020b; Köhler, Bhorat, Hill & Stanwix, 2021; Odeku, 2021; Posel, Oyenubi & Kollamparambil, 2021; Ranchhod & Daniels, 2020; Rogerson & Rogerson, 2020a). The drastic decline in international tourist arrivals had wide-ranging implications for South Africa's economy. Foreign exchange earnings, generation of employment, infrastructural development, and growth of the GDP, which are the major economic benefits of the tourism industry (Chipumuro & Chikobvu, 2022), were significantly impacted by the pandemic. Department of Tourism (2021:19) reported that the revenue of the sector suffered a more than 50% decline, with about 75% of medium-sized firms adopting a pay cut while small firms laid off their staff. Local

economies' vulnerability to the effects of the pandemic was specific to the degree of their dependency on tourism, affirming that local economies where tourism served as a critical economic sector were the worst hit (Rogerson & Rogerson, 2020a:383).

As a pandemic, global, national, regional, and local authorities responded to the outbreak and spread of the virus in various ways. Particularly, they devised and deployed a wide range of strategies, policies, and measures to contain the spread of the virus as well as supporting humanity and the economies (Alon, Kim, Lagakos & VanVuren, 2020; Barkas, Honeck, Colomer & World Trade Organisation, 2020; Nyawo, 2020; Rogerson & Rogerson, 2020b). With the peculiar nature of business activities in the tourism industry, some of the mitigative measures had adverse consequences for the industry. Empirical evidence showed that some of the measures devised to curb the spread of the virus such as travel bans, lockdowns, prohibition of large gatherings of people and restrictions of community mobility, had obvious negative impacts on the tourism industry value chain (Ahmad, Haroon, Baig & Hui, 2020; Bama & Nyikana, 2021; Haider, Osman, Gadzekpo, Akipede, Asogun, Ansumana, Lessells, Khan *et al.*, 2020; Porsse, Souza, Carvalho & Vale, 2020).

The specific economic implications of the dichotomic impacts of the various mitigations against the spread of the COVID-19 virus on the tourism industry, as well as the effectiveness of tourism-specific interventions, have been a subject of empirical inquiry (Foltice & Parker, 2022; Haider *et al.*, 2020; Yingi, 2022). This is even more profound for a post-pandemic outlook for the tourism industry as most economies have reopened, albeit facing varying degrees of economic recessions. It is against this backdrop that this research empirically examined the economic implications of the COVID-19 pandemic on the South African tourism industry in order to propose a framework to effectively accelerate the post-pandemic recovery, growth, and competitiveness of the industry.

With the global economy in recession as a result of the COVID-19 pandemic (Shang, Yu & Diao, 2021; Wu & Luo, 2022), one of the direct implications of the recessed global economy in the global tourism industry is increased competition among national tourism industries in the post-pandemic era (Fernández, Martínez & Martín, 2022). As a consistently and empirically validated source of foreign income earner, many tourism-

centric national economies are most likely poised to use their international tourism as one of the strategies to improve their balance of trade and alleviate their recessed economies in the post-COVID-19 era. Therefore, devising a framework for increasing destination attractiveness and competitiveness of the tourism industry is indispensably essential to drive South Africa's economy to post-pandemic growth and development. To achieve this, *firstly*, this study quantitatively assessed the extent of the economic devastation of the South African tourism sector during the pandemic. *Secondly*, it investigated the moderating effects of both COVID-19-induced risk perceptions and technological adoption in tourism spaces on the predicting influence of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa as a tourist destination. *Lastly*, the research assessed the levels of tourists' awareness and knowledge of the applications of innovative technologies in tourism spaces. The assessment is motivated by the remarkably increased adoption and utilisation of innovative technologies in tourism spaces as one of the new paradigms in tourism research due to the COVID-19 pandemic (Akhtar, Khan, Mahroof Khan, Ashraf, Hashmi, Khan & Hishan, 2021; Iskender, Sirakaya-Turk, Cardenas & Harrill, 2022; Podzharaya & Sochenkova, 2021; Senalasari, Setiawati & Wibisono, 2022).

1.2   STATEMENT OF PROBLEM

There is a consensus that the tourism industry is one of the most devasted industries by the COVID-19 pandemic (Matei, Chirita & Lupchian, 2021; Mensah & Boakye, 2021; Pramodia Ahsan, Mulyani, Wulandari & Ayu Saputri, 2022). This stems from the fact that the various mitigative responses to curtail the spread, infection rates, and fatality of the virus by governing authorities caused a significant decline in the businesses of the industry globally (Fernandes, 2020; Gazzeh, Abubakar & Hammad, 2022; Rahman, Thill & Paul, 2020). As one of the epicentres of the COVID-19 virus (Uwem & Elizabeth, 2022:399), South Africa was one of the countries that enforced the strictest confinements against the spread of the virus under a national state of disaster law (Adinolfi, Harilal & Giddy, 2020; Dube, 2020a). Consequently, activities in tourism and its related industries were suspended completely for two known reasons: they were non-essential service

5

sectors (Bama & Nyikana, 2021; Rogerson & Rogerson, 2020b; Visser & Marais, 2021), and travel and tourism were considered as a major pathway to the spread of the COVID-19 virus (Dube-Xaba, 2021; Farzanegan *et al.*, 2021; Lekgau & Tichaawa, 2021a). Expectedly, the responses to the devastating impacts of the pandemic on South Africa's tourism industry have been significant and, as such, well documented.

Despite the enormity of extant research, there is a dearth of empirical investigation of the economic impacts of the pandemic on the South African tourism industry. Extant literature on the impacts of the COVID-19 pandemic on South Africa's tourism industry by Ilo, Das and Bello (2023) showed that most studies adopted qualitative research methods such as desktop reviews and interviews. On the basis of the possible shortcomings of qualitative studies, such as sampling bias, representativeness, and generalisability (Ochieng, 2009; Seale, Silverman, Gubrium & Gobo, 2006), this research used empirical data that span the period before and during the pandemic to examine the economic impact of the virus on the South African tourism industry. Expectedly, such an economic impact assessment highlights the negative effects of the pandemic on the country's tourism industry in terms of the number of tourists and value of tourism revenue, thus justifying the effectiveness of post-pandemic recovery strategies.

Based on Fernández, Martínez and Martín's (2022) proposition that the post-pandemic global tourism landscape is expected to be competitive as tourism-sensitive countries scramble to use international tourism receipts to rebuild their devasted economies, this study premised its post-pandemic perspective on the factors and influences that have some bearing on South Africa's global tourism demand and competitiveness beyond the pandemic. This perspective is situated with the Department of Tourism's (2023:14) indication that post-pandemic market conditions continue to struggle with the challenges of reigniting their tourism economies. With the heightened risk perception that is incidental to the COVID-19 pandemic (Abraham, Bremser, Carreno, Crowley-Cyr & Moreno, 2020; Hao, Bai & Sun, 2021; Nair & Pratt, 2022; Seong & Hong, 2021), this research argues that perceived risks profoundly negate behavioural intentions to travel and tour.

On the other hand, the unprecedented deployment and reliance on technological innovations at the peak of the COVID-19 crisis across all spheres of life (Dwivedi, Hughes,

6

Coombs, Constantiou, Duan, Edwards, Gupta, Lal *et al.*, 2020) suggests that technological innovations offer a significantly veritable strategy in revolutionising the tourism industry into a post-pandemic sectorial attractiveness, efficiency, performance, and competitiveness. In light of the above, this research hypothesised perceived risks and technological adoption as moderators to the subsisting relationship between destination attractiveness and tourists' behavioural intentions.

1.3 MAIN OBJECTIVE

The main objective of this study is to examine the economic impact of the COVID-19 pandemic on the South African tourism industry in order to determine whether mitigating against perceived risks and adopting innovative technologies have implications for South Africa's post-pandemic tourism demand, growth, and competitiveness.

1.4 SPECIFIC OBJECTIVES

i. To assess the economic impacts of the COVID-19 pandemic on the contributions of the tourism industry to South Africa's economy;

ii. To examine the effects of destination attractiveness of South Africa's tourism on tourist behavioural intentions in the COVID-19 pandemic era;

iii. To investigate the moderating effects of COVID-19-induced risk perceptions on the impacts of destination attractiveness of South African tourism on tourist behavioural intentions;

iv. To investigate the moderating effects of technological adoption in post-pandemic South Africa tourism space on the impacts of destination attractiveness on tourist behavioural intentions;

v. To assess the level of awareness of prevailing technological innovations in the tourism value chain among tourists.

1.5   RESEARCH QUESTIONS

i.   To what extent did the COVID-19 pandemic significantly impact the economic contributions of the tourism industry to South Africa's economy?

ii.   What is the nature of the relationship between destination attractiveness of South African tourism and tourist behavioural intentions in the COVID-19 pandemic era?

iii. What are the moderating effects of COVID-19-induced risk perceptions on the impacts of destination attractiveness of South African tourism on tourist behavioural intentions?

iv.   What are the moderating effects of technological adoption in post-pandemic South Africa tourism space on the impacts of destination attractiveness on tourist behavioural intentions?

v.   What is the level of awareness of the prevailing technological innovations in the tourism value chain?

1.6   THEORETICAL FRAMEWORK

This study is an empirical enquiry into the economic implications of the COVID-19 pandemic on the South African tourism industry with a view to designing and proposing a framework for supporting a post-pandemic recovery, growth, and competitiveness of the industry. Notwithstanding the fact that it relies on the objectivity and reliability of conclusions from inferential statistical analyses, the tests of hypothetical relationships between the various constructs of the study will be conducted within established theories. This is buttressed by Nash (1979) in Smith, Xiao, Nunkoo & Tukamushaba (2013:876) that "any data-based enquiry, even if it is based on sophisticated statistics, is not sufficient to provide a coherent understanding of tourism unless the enquiry is informed by a theory of a set of theories". Based on this assertion, this study identified, reviewed, and relied on a selection of theories that it considered most relevant in formulating the various hypotheses of this research. Thus, the adoption of theories in this study is guided by the following four criteria as suggested by Wacker (1998:361-362):

> *"First, it [theory] must be based on thoughtful, conceptual definitions and not on just simplistic description statement; second, the theory must be*

explicit about the domain in which it applies (there are no "theories of everything"); third, the theory must explicitly describe logical relationships among relevant phenomena – how the object/subject of interest relates to other topics; and fourth, it must specify how observations based on theory are to be measured as well as produce testable predictions."

Each of the theories are, therefore, linked specifically to each of the specific objectives of the study, from which their respective hypotheses are developed.

1.6.1 <u>The Otus Theory</u>

According to Slattery (2009:113), the Otus theory of hotel demand and supply hypothesises that within an economy, the more the contributions of service-oriented business to the GDP of a country, the more for both business and leisure demand for hotels and, in return, the higher the supply and concentration of hotels. The economic commonalities between the tourism and hospitality industries (Dittmer, 2001) suggest that empirical investigations between the two industries could be conducted within identical theoretical frameworks. As such, this study extends the theorised relationship between the size and structure of the hospitality industry and its contributions to a country's GDP, as well as the linear relationship between tourism development and tourism contributions to the South African GDP. The implication of the Otus Theory in the context of the tourism industry is that tourism development and economic growth have a bidirectional relationship such that tourism income contributes directly to economic growth in one direction.

In the opposite direction, economic growth extends to developments in the tourism space, which results in more tourism revenue. Studies such as Odhiambo and Nyasha (2020) and (Akinboade & Braimoh, 2010) have relied on this theoretical framework to investigate the bidirectional relationship between tourism development and economic growth in South Africa. The nature and magnitude of this relationship, however, change over time and space and are susceptible to disruptive events. As noted by Chivandi, Olorunjuwon Samuel and Muchie (2019:9), environmental changes in the tourism industry, as evidenced by COVID-19 disruptions, demand increased scrutiny of the relationship

9

between the two economic variables, especially the tourism industry's contributions to the GDP. On the basis of the foregoing, the first objective of this study, which aims to assess the economic impacts of the COVID-19 pandemic on the contributions of the tourism industry to South Africa's economy, is theoretically underpinned by the Otus Theory.

1.6.2 <u>The Push – Pull Theory</u>

The Push-Pull Theory is one of the foremost theoretical frameworks for understanding, investigating, and analysing the motivations for pleasure vacation. It was propounded by John Crompton in 1979. The push factors represent desires and intentions that motivate tourists to engage in tourism behaviours. The pull factors, on the other hand, represent destination attributes that have the tendency to attract and satisfy tourists' desires and expectations for tourism (Crompton, 1979). The pull and the push factors, therefore, represent the complementary market forces that underlie the business of the tourism industry. Thus, the push factors are tourist-specific, while the pull factors are destination-specific. Suggestively, the push factors explain *why* tourists demand and engage in tourism activities, while the pull factors explain *where* they engage in tourism activities and pay for activities and ancillary services.

In the context of this study, which aims to propose a framework for supporting a post-pandemic recovery, growth, and competitiveness of the South African tourism industry, the Push-Pull Theory provides the relevant theoretical underpins for hypothesising and analysing the destination attractiveness of South Africa's tourism space as a pull factor for tourists. It also brings to bear the factors that influence destination motivation, selection, and satisfaction. Correspondingly, it highlights the destination opportunities for South Africa's tourism businesses and entrepreneurs. In literature, the theory has been widely applied in studying destination attractiveness (Areola & Trinidad, 2022), tourism motivations and satisfaction (Hwang, Asif & Lee, 2020), and revisit intentions (Ramadan & Kasim, 2022).

In line with the argument of this study, the application of the Push-Pull Theory in the COVID-19 pandemic era is further validated on the basis of the documented impacts of the pandemic in both the push and pull factor dimensions. On the one hand, the COVID-

19 pandemic affected tourists' intentions and continues to be a major consideration for tourism decisions (Abraham *et al.*, 2020; Hao *et al.*, 2021; Seong & Hong, 2021). On the other hand, the destination image, attractiveness, and competitiveness of many countries, such as South Africa, have been negatively impacted by COVID-19-induced risks and vulnerabilities (Nurmazidah, 2021; Zaman, Aktan, Anjam, Agrusa, Khwaja & Farías, 2021). The Pull-Push Theory, as adopted by this study, provides the framing of the second specific objective that set out to examine the effects of destination attractiveness of South Africa's tourism on tourists' behavioural intentions towards the country.

1.6.3 The Theory of Planned Behaviour

Arguably, a valid deduction from Crompton's Push-Pull Theory of tourism motivation is the assertion that tourism consumption is the outcome of tourists' considerations, judgements, and effectual decisions on *why, how, when*, and *where* to tour. Invariably, tourism consumption is a form of planned behaviour which, for the purpose of this empirical investigation, is guided by the Theory of Planned Behaviour. According to the theory, as propounded by Ajzen (1991), human behaviours are guided by three kinds of beliefs: behavioural beliefs, normative beliefs, and control beliefs. Behavioural beliefs are concerned with the likely consequences of one's behaviour. Normative beliefs are beliefs about the normative expectations of other people, while control beliefs are those beliefs about the existence or presence of factors that may either facilitate or inhibit the performance of a behaviour.

These three dimensions of belief eventually predict tourists' behavioural intention to engage in tourism activities – to visit or revisit – as well as their tourism activities. As a theory within the discipline of psychology, it is one of the most widely applied theories in behavioural, social, and management sciences. A thematic Treemap analysis by Bosnjak, Ajzen and Schmidt (2020:353) shows a widespread application of the theory in many fields, including hospitality, leisure, and tourism. As such, it is among the theories with relevant applications in tourism research.

Since intention is assumed to be the immediate antecedent of behaviour (Bosnjak *et al.*, 2020), the Theory of Planned Behaviour underpins tourists' behavioural intentions to tour

11

and the complexities of the considerations that are associated with it. With the COVID-19 pandemic, the application of the theory becomes increasingly relevant in investigating, understanding, and explaining the various factors that predict tourism behaviours. For example, within the behavioural belief dimension, perceived risks associated with the pandemic have been found to produce unfavourable attitudes towards tourist intentions (De Rooij *et al.*, 2022; Matiza & Slabbert, 2021). On the other hand, the normative dimension accounts for the social pressure on tourist intentions, which is one of the constructs of the perceived risks in this study. Within the control beliefs dimension, technological adoption in tourism space, as a factor in tourism space, is hypothesised to facilitate tourism performance and predict behavioural intentions.

As cited earlier, the Theory of Planned Behaviour has been widely applied in investigating various tourist intentions and behaviours before, during, and after the COVID-19 pandemic (Boguszewicz-Kreft, Kuczamer-Klopotowska & Kozlowski, 2022; Hanafiah, Md Zain, Azinuddin & Mior Shariffuddin, 2021; Seow, Choong, Moorthy & Chan, 2017). This study, therefore, relies on the theoretical provisions of the Theory of Planned Behaviour in validating the hypothesised relationships among the impacts of various dimensions of perceived risks on tourists' behavioural intentions. To achieve this, the study relied on this theory to hypothesise six dimensions of perceived risk as negative moderators of the subsisting direct relationship between destination attractiveness and tourists' behavioural intentions. This theoretical underpin supports the achievement of specific objective two, which aimed to investigate the moderating effects of COVID-19-induced risk perceptions on the impacts of destination attractiveness of South African tourism on tourists' behavioural intentions.

1.6.4 <u>Technology Acceptance Model</u>

The increased proliferation of technologies across almost all facets of human activity spurred the emergence of theories and models for examining the causative relationships between technology and other constructs empirically. With reference to the adoption and utilisation of technology, the Technology Acceptance Model (TAM) is one of the most adopted theories for understanding the factors that influence the acceptance, adoption,

and integration of technological innovations (Martin, 2022:2861). Although there are similar theories, such as the Unified Theory of Acceptance and Use of Technology (UTAUT) and Innovation Diffusion Theory (IDT), the suitability of the TAM, hence its adoption by this study, stems from the fact that it underpins the constructs that are used to test the adoption of new technologies or extension of existing technologies to new spaces. COVID-19 spurred an increased adoption of both new technologies and extension of existing ones in the tourism space (Podzharaya & Sochenkova, 2021).

Although TAM was introduced by Davis, Bagozzi and Warshaw (1989), it is an adaptation of a theory that was initially developed by Fishbein and Ajzen (1975) for studying the links among beliefs, attitudes, and behaviours. Primarily, TAM provided the determinants for adopting technology from the user perspective, thereby rationalising users' willingness or otherwise to adopt and use a technology. Figure 1.1 below depicts the technology acceptance model, which is typically made up of six constructs for investigating technology adoption and usage. External variables represent environmental stimuli that motivate people to embrace technology, which leads to two perceptions: the usefulness of the technology and its ease of use. Positive progression from this point leads to either an attitude to use the technology or other forms of behavioural intentions, such as raising some end-user concerns. Actual technology use is the effectual end of the model's postulations.

Figure 1.1: Technology Acceptance Model

Source: Adapted from Martin (2022:2862).

13

In this study, COVID-19-induced devastations of the tourism space represented the external variable that stimulates and motivates the adoption of innovative technologies in the tourism space. Arguably, the adoption of innovative technologies in the tourism space coincided with the introduction of new ones in the technology landscape. Thus, this study considers the adoption of TAM relevant in investigating the moderating effects of innovative technologies in predicting tourists' behavioural intentions towards South African tourism performance in the post-COVID-19 pandemic era. Similarly, some studies have relied on the TAM's theoretical frameworks in examining the effects of technology adoption on tourism performance (El-Said & Aziz, 2021; Iskender *et al.*, 2022; Senalasari *et al.*, 2022). This study, therefore, relies on this theoretical framework to test it last two objectives as follows: to investigate the moderating effects of technological adoption in post-pandemic South African tourism space on the impacts of destination attractiveness and tourists' behavioural intentions towards the country and assess the level of awareness of the prevailing technological innovations in the tourism value chain among tourists.

1.7   RESEARCH FRAMEWORK AND HYPOTHESIS FORMULATION

Based on the framing of this study on four theories in the previous section, ten hypotheses were formulated and conceptualised into two research frameworks. Research frameworks are diagrammatic depictions of the hypothesised relationships between and among the various constructs of this study (Locharoenrat, 2017:41-42). Figure 1.2 (on p. 15) and Figure 1.3 (on p. 18) are the study's research frameworks, which represent the hypothetical models of the study. Based on this, the formulated hypotheses, which are in line with the study's stated specific objectives, were tested in Chapter Seven. The hypotheses are presented in their alternative forms.

1.7.1   <u>Model 1: Tourism and the economy in the COVID-19 era</u>

At all levels of geographical confinements, the prevailing relationship between tourism and the economy has been well documented. There exists a linear relationship between global tourism and the global economy, with the same applicable to national, regional,

and community levels (Pata, 2021; Pulido-Fernández & Cárdenas-García, 2020; Sinclair, 1998). Although the directionality of the subsisting linear relationship between tourism development and economic growth has been found to change over time and across economies (Pulido-Fernández & Cárdenas-García, 2020), South Africa's economy has witnessed economic growth through the activities in its tourism industry in recent years, especially through its international tourism receipts (Akinboade & Braimoh, 2010; Muzekenyi, Nheta & Tshipala, 2018).

In line with the global experience, the outbreak of the COVID-19 pandemic adversely affected the economic contributions of tourism to South Africa's economy, with the exact extent of the impact still unknown in the literature. In light of this, Figure 1.2 below represents the study's Model 1, which is used to situate the economic implications of COVID-19 disruption of the South African tourism industry. The model depicts the first specific objective of the study, which aims to assess the economic impacts of the COVID-19 pandemic on the contributions of the tourism industry to South Africa's economy, hence the formulated hypothesis:

i.   *H_1: The COVID-19 pandemic significantly impacted the economic contributions of tourism to South Africa's economy.*

Figure 1.2: Model 1- Economic implications of COVID-19 on tourism industry

Source: Author's conceptualisation.

15

1.7.2   Model 2: The moderating effects of perceived risks and technologies

From Crompton's (1979) Push-Pull Theory of motivations for pleasure vacation, the destination attractiveness of every tourism space is a predictor of tourists' intentions to visit the destination. South Africa, as one of the prime tourist destinations in Africa, has attracted tourists from across the entire world (Statistics South Africa, 2023). However, between South Africa's destination attractiveness to tourists and their intentions to visit South Africa for tourism, a number of intervening factors and considerations either impel tourists to visit or engage in tourism in South Africa or inhibit them from doing so. In other words, these variables moderate tourists' intentions to visit, revisit, and tour South Africa.

Among these moderating variables are risk perceptions and technological adoption in tourism spaces. While there are many other moderating variables acting between destination attractiveness and tourist behavioural intentions, this study's rationalisations for investigating the impacts of these two moderators are as follows: the COVID-19 pandemic significantly heightened risk perception of travellers and tourists such that even when all forms of travel bans and restrictions on movements were lifted, people were averse to travel and tour (Kim, Burgess, Chiwandire, Kwinda, Tsai, Norris & Mendenhall, 2021; Mandina & Du Preez, 2022; Plank, Gomes, Caldas, Varela & Ferreira, 2023).

Contrary to the findings of pre-COVID-19 research on risk perceptions in tourism, COVID-19-induced risk perceptions exist and vary in multiple dimensions, as documented by De Rooij, Van Liempt and Van Bendegom (2022). Figure 1.3 (on p. 18) is a diagrammatic presentation of the various dimensions of perceived risk that tourists have expressed as inhibitors to their intention to engage in tourism during the COVID-19 pandemic era. This study adopted these dimensions as the sub-constructs for quantitatively assessing the moderating effects of perceived risks on tourists' behavioural intentions.

Perceived severity of risk refers to fear, anxiety, and deterrence to travel and tour due to tourists' impression of the COVID-19 virus as a deadly infectious disease (De Rooij, Van Liempt & Van Bendegom, 2022). This dimension of risk is related to the fear of contracting the virus through travelling and touring and consequently facing risks of hospitalisation and/or death. The general vulnerability stems from the fact that both tourists' homes and tourism destinations are exposed to the risk of COVID-19 infections due to the globalised

nature of the virus. South Africa's vulnerability refers to heightened South African destination risks that are specific to South Africa. In addition to the already documented risk profile of South Africa as a tourism destination prior to the pandemic era, the country's specific COVID-19 experience, such as being one of the epicentres of the virus (Tegally, Moir, Everatt, Giovanetti, Scheepers, Wilkinson, Subramoney, Makatini *et al.*, 2022) with relatively low COVID-19 vaccination rate (Ilo, Das & Bello, 2024) portend some inertia to tourists' behavioural intentions towards South Africa. Perceived satisfaction risk refers to tourists' fear and concerns that engaging in tourism during the pandemic would likely not satisfy their needs for travelling and touring.

In other words, it is a form of utility risk. Perceived social risks are hesitation to travel and tour due to fear of social contacts and mass tourism. Thus, to some reasonable extent, the strict imposition of social distancing at the peak of the virus precipitates some inertia to tourist intentions. Finally, the dimension of psychological risk refers to mental conditions of negative emotions, stress, anxiety, depression, and other forms of psychological distress on people (Matiza & Slabbert, 2021; Wong & Yeh, 2009). Unarguably, the COVID-19 pandemic created psychological discomforts for people and, by extension, tourists. The construct for measuring South Africa's destination attractiveness was adapted from Richmond and Cornelius (2021). An examination of the moderating effects of the various constructs of perceived risks highlights which, among the risk dimensions, moderate(s) tourists' behavioural intentions and to what extent. Thus, the "effect size" of each dimension of perceived risks is determined and analysed using the under listed hypotheses as depicted in

Figure 1.3: Model 2 - Hypothesised moderating effects of perceived risk and technology

Source: Author's conceptualisation.

ii. *H₂: South Africa's destination attractiveness positively influences tourists' behavioural intentions towards South Africa.*

iii. *H₃: The perceived severity of COVID-19 risks negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

iv. *H₄: The perceived general vulnerability associated with COVID-19 negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

v. *H₅: The perceived risk of the COVID-19 pandemic in South Africa negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

vi. *H_6: The perceived risk of tourism satisfaction in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

vii. *H_7: The perceived social risk in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

viii. *H_8: The perceived social risk in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

Similarly, the COVID-19 pandemic precipitated an unusual increase in the adoption, utilisation, and reliance on technology at the peak of the pandemic due to the forced suspension of various segments of human activities across the world (Iskender *et al.*, 2022; Setyadi, 2021). Arguably, technological adoption and utilisation continued even beyond the lifting of all travel restrictions and eventual return to normalcy. In line with this development, the tourism space has witnessed a progressive adoption and utilisation of innovative technologies from the demand and supply sides of the tourism value chain. This, therefore, underscores this study's justification for investigating the possible positive moderating effects of adopting innovative technologies in eliciting tourists' intentions to visit and re-visit through improved destination attractiveness and enhanced tourism satisfaction quotients.

As depicted in Figure 1.1 (on p. 13), this study relied on Davis' (1989) Technological Acceptance Model in adopting the perceived usefulness and perceived ease of use of technologies as the sub-constructs in investigating the moderating effects of adopting innovative technologies in South Africa's tourism space empirically. Thus, the study hypothesised these relationships as follows:

ix.   *H_9: Perceived usefulness of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

x.   *H_{10}: Perceived ease of use of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

1.8   CONTRIBUTIONS OF THE RESEARCH

The study sets out to provide the following empirical and practical contributions:

1.8.1   <u>Empirical contributions</u>

The empirical contributions of this study lie in its identification and documentation of a number of findings in some topical areas of tourism research within the unique era of the COVID-19 pandemic. Unarguably, it is an era that is hallmarked with disruptive social, economic, and environmental uncertainties (Adesi, Ewuga, Owusu-Manu, Boateng & Kissi, 2023; Gövdeli, Özkan & Karakuş, 2023; Hitt, Holmes & Arregle, 2021; Scharmer, Martinez, Gorrell, Reilly, Donahue & Anderson, 2020). Consequently, the study fills some key research gaps in this thematic area of research. Firstly, the study quantitatively conducted an economic impact assessment of the COVID-19 disruption of the South African tourism industry. A systematic literature review on the impact of COVID-19 on South Africa's tourism space showed that the majority of the reviewed studies relied on qualitative assessments in arriving at their conclusions (Ilo *et al.*, 2023).

At the time of this study, the closest attempt at filling this obvious gap was the modelling of tourists' arrival in South Africa in order to assess the impact of COVID-19 on the tourism industry by Chipumuro and Chikobvu (2022). The number of tourist arrivals, however, does not accurately and directly quantify the value, in monetary terms, of what was lost in the South African economy due to COVID-19's impact on the South African tourism sector. This study filled this gap by conducting an economic impact analysis of the pandemic on tourism by using tourism revenues before, during, and after the pandemic.

20

This specific finding highlighted the actual economic losses that were caused by the pandemic.

Secondly, the COVID-19 pandemic rejuvenated multiple dimensions of perceived risk such that their influences practically translate to aggravated tourists' inertia regarding when and where to engage in travelling and touring. While some studies have focused on the impacts of these perceived risks in isolation from others (Han, Al-Ansi, Chua, Tariq, Radic & Park, 2020; Sikarwar, 2021; Terzić, Petrevska & Demirović Bajrami, 2022; Wang, Lai, Zhou & Pang, 2021), this investigated the various dimensions of the COVID-19-induced risk perceptions concurrently and identified their respective moderating influences on tourists' behavioural intentions. Invariably, the findings contribute to the understanding of the dynamic conditionings of tourism behaviours in a pandemic era.

Thirdly, it is evident that the COVID-19 pandemic surged the adoption and utilisation of innovative technologies across all human endeavours, predominantly as one of the adaptation strategies. As one of the most adversely affected industries, tourism ranks among the industries that increasingly embraced technological adoptions as coping, recovery, and marketing strategies. Therefore, assessing the levels of awareness of tourism technologies among users, investigating the determinants of the adoption of such technologies, and their predicting influence on tourism demand, satisfaction, and sectorial performance are considered germane to tourism technology research.

Fourthly, results from testing the mediating influence of tourism governance on the relationship between destination resilience and destination attractiveness validate the tripartite relationship between the constructs. Such validation adds to the existing research on tourism industry crisis management. Thus, the study adds to the empirical framework for analysing dependencies among the constructs in tourism crisis periods where destination resilience becomes a topical issue for tourism research. Finally, the adoption of constructs that were informed by relevant theoretical frameworks further validated the applicability of those theories empirically. Validating them within the context of the COVID-19 pandemic further extends their empirical relevance.

1.8.2 Practical Contributions of the Study

Findings and recommendations from this study provide the following practical benefits/contributions:

1.8.2.1   Benefits to the South African Government and the Department of Tourism, Republic of South Africa

One of the objectives of this study is to empirically quantify, in monetary terms, the economic impacts of COVID-19 disruption of the South African tourism sector of the economy. The findings from this specific objective are expected to be of keen interest to the government of South Africa through the Department of Tourism for a few reasons. It highlights the extent of sectorial loss, provides a basis for comparative analysis of previous projections of the impacts of the pandemic on the sector, and is a reference for reviewing the government's interventions in supporting the sector for recovery and post-pandemic stability and growth. The economic importance of the tourism sector in South Africa suggests that the government pays keen attention to the performance of the sector across the entire recovery process.

The post-pandemic global tourism space is expected to be very competitive as tourism destinations would want to use international tourism receipts to support their economic recovery (Fernández, Martínez & Martín, 2022). Consequently, issues and factors that affect destination attractiveness, image, and tourism satisfaction become topical and of strategic importance to policymakers particularly. The topical issues are, therefore, approached on two fronts: those that inhibit tourism consumption and those that facilitate tourism consumption. As a behavioural inhibitor to tourism consumption, validating the various influences of perceived risks will provide the government and tourism industry policymakers with the nature and magnitude of the influence of perceived risks in the South African tourism space. This finding will be of utmost importance in devising appropriate policy responses to address destination issues that are highlighted as risk factors for tourists.

On the other hand, through the investigation of the moderating influence of adopting innovative technologies in South Africa's tourism space, the finding is expected to justify the government's involvement in facilitating technological adoption by addressing

22

intervening legislative issues that affect or promote technological adoption in industries. Invariably, both approaches will positively influence tourist behavioural intentions towards South Africa's tourism space, thereby improving its global competitiveness and satisfaction index.

1.8.2.2   *Benefits to tourism industry managers and entrepreneurs*

Undoubtedly, the COVID-19 pandemic has had its worst devastations in the tourism industry, while the tourism businesses were majorly at the receiving end. In spite of the various government's direct interventions and bailouts, several tourism businesses collapsed, downsized, and diversified away from tourism at the peak of the pandemic (Butnaru, Maftei & Ștefănică, 2021; Rogerson, 2021; Weidmann, Filep & Lovelock, 2023). With the eventual return to normalcy, many tourism destination managers and entrepreneurs have not yet returned to their pre-pandemic operating capacities due to the losses they incurred. As such, they are yet to recover from the situation of the recessed global economy. Within this prevailing operating environment of tourism businesses and entrepreneurship in South Africa's tourism space, the findings of this study will be critically important to tourism destination managers and entrepreneurs in highlighting the predominant factors that define and predict tourists' behavioural intentions as well as the prevalence of interacting and intervening variables in tourists' purchasing decisions and actions.

On the one hand, the predictors of tourists' purchasing behaviours and the positive moderators of these behaviours, as this study empirically determines, will provide strategic insights for tourism destination managers and entrepreneurs in making investment decisions that would positively stimulate demands for South Africa's tourism products. Since the outbreak of the COVID-19 pandemic, there has been an incremental adoption of innovative technologies in the tourism space (Iskender, Sirakaya-Turk, Cardenas & Harrill, 2022; Podzharaya & Sochenkova, 2021) with limited empirical justifications for this new trend, especially in the South African tourism space. Some of these technologies are social media, immersive technologies, internet of things, artificial intelligence, machine learning, and blockchain technology. This existing gap, both in literature and in practice, is filled by this study in three ways: (i) by methodologically

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highlighting the dimensions of the innovative technologies that are currently being developed and adopted in the tourism space, (ii) by identifying their levels of awareness and adaptability in South Africa tourism space, and (iii) statistically discovering and validating their favourable interactions on the positive effects of South Africa's destination attractiveness on tourists' intentions to visit and revisit South Africa for tourism.

On the other hand, identifying COVID-19-induced restrainers to tourists' behavioural intentions is as important as discovering the motivators of tourist behavioural intentions in a time of uncertainties such as the COVID-19 pandemic era. The COVID-19 pandemic further aggravated the influence of perceived risk on travelling and touring intentions. Therefore, identifying the prevailing nature, dimensions, and the extent of influence of perceived risks on tourist behavioural intentions to particularly visit and tour in South Africa's tourism space equips tourism business managers and entrepreneurs with valuable insights. These insights, as this research validates, will be indispensable in efficiently identifying the risks to address and how best to alleviate their influences on tourists' intentions toward South Africa's tourism space. Addressing the negative influence of the various dimensions of perceived risks by South Africa's tourism destination managers and entrepreneurs would, unarguably, increase the appeal, patronage, attractiveness, and competitiveness of South African tourism in the post-pandemic era.

1.9   DELIMITATION OF THE STUDY

Tourism is a global phenomenon. As a result, the demand and supply of tourism are part of the global business ecosystem within the global tourism industry. In assessing the economic implications of COVID-19 disruption of the tourism industry, this study adopted South Africa's tourism industry as its context. Thus, the study is delimited to South Africa. In other words, the conceptualisation of this study is within South Africa's tourism sector, which is an emerging market that is globally recognised as a prime tourism destination for both the Global North and the Global South tourists. The collection of data was, therefore, limited to tourists who had visited South Africa, were visiting South Africa at the

time of the study's data collection, or indicated interest in visiting South Africa in the future as tourists.

1.10 CHAPTER SUMMARY

The unprecedented nature of the COVID-19 pandemic caused a high-scale devastation of the global tourism industry. For an emerging economy such as South Africa, whose economy is sensitive to tourism receipts, the impact of the pandemic has been enormous. The enormity of these devastations demands a wide range of responses for recovery and post-pandemic competitiveness and growth of the industry. Owing to the sector's significance to South Africa's economy, this empirical study investigated the economic impacts of the pandemic and validated post-pandemic recovery strategies and discoveries. These would effectively reverse the severe economic losses of the industry and reposition it for post-pandemic competitiveness and growth.

The study hypothesised the positive impacts of adopting innovative technologies in South Africa's tourism space and the negative influence of COVID-19-induced risk perceptions on tourists' intentions to visit and revisit South Africa. The findings from the study are of immense relevance to the government of South Africa, South Africa tourism destination managers, entrepreneurs, scholars, and academia. Unlike many others, this study used a combination of time series data and survey data to discover empirical insights and arrive at its conclusions. This approach, the study believes, is a good way of enhancing the objectivity of this study's methods. Based on the findings and conclusions, the recommendations of the study are instrumental in increasing the destination attractiveness, destination image, satisfaction, and competitiveness of South Africa's tourism space in a post-pandemic era. Invariably, the economic contributions of the tourism sector to the South Africa economy in the post-pandemic era will significantly increase and support the economy in reversing the economic recession that COVID-19 caused.

1.11 ORGANISATION OF THE THESIS

This thesis is organised in the following chapters, sections, and subsections.

1.11.1 Chapter 1: Introduction and motivation of the study

Chapter One introduced and outlined the rationalisation of the research. Specifically, it presents the study's background, articulates the statement of the problem, identifies the research objectives, and presents the research questions. It further formulated the research hypotheses, reviewed the theoretical underpinnings of the study, and identified the contributions of the research to both practitioners and the research community.

1.11.2 Chapter 2: Tourism development and economic growth

Chapter Two revisited the basic concepts and principles of tourism and tourism management. Various definitions of tourism, as well as the economic relevance of tourism, were reviewed. The chapter further reviewed the South Africa tourism space by revisiting the historical development of South Africa's tourism industry, drivers of South Africa's tourist attractions, development of niche tourism within the South Africa tourism space, and the relationship between tourism development and South Africa's economy. It also profiled South Africa as a prime tourist development. Further to that, the impacts of the COVID-19 pandemic on the tourism industry were reviewed in this chapter. This was done from two perspectives: the global perspective and the South African experience.

1.11.3 Chapter 3: COVID-19 pandemic and the tourism industry

This chapter is a comprehensive review of the literature on the effects and implications of the COVID-19 pandemic on the tourism industry. The chapter started by providing an overview of the COVID-19 pandemic, which provided a brief review of the nature and historical development of the virus and a comparison of the outbreak of the virus with those of the earlier outbreaks. It presented the impact of the pandemic on the global level and its implications on Southern Africa's regional tourism economy, with particular emphasis on the roles of the Southern Africa Development Community and the member

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countries towards supporting tourism sector recovery in the region. This chapter presented an extensive literature review of South Africa's tourism industry. First, the COVID-19 experience in South Africa was revisited and followed by the various fronts through which the pandemic impacted the country's tourism industry. The chapter documented the immediate impacts of the pandemic, the economic consequences of such impacts, the social and cultural dimensions of the tourism sector devastations, and government and industry responses to the pandemic. The chapter concluded by highlighting the tourism industry's recovery, resilience, and sustainability in the post-pandemic era.

1.11.4 <u>Chapter 4: Destination attractiveness, tourist intentions, and the moderating roles of COVID-19 perceived risks and tourism technologies</u>

Chapter four revisited the concepts of perceived risks in the tourism space, especially in an era of the pandemic. Various dimensions of perceived risk that were occasioned by the COVID-19 pandemic, as well as their moderating influences on tourist behavioural intentions, were reviewed. As an evolving research agenda in tourism, this chapter reviews the relevant literature on technology in tourism was visited in this chapter. The growing adoption, utilisation, and reliance on various aspects of innovative technologies in the tourism space were presented. Lastly, the moderating roles of technological adoption on the effects of destination attractiveness on tourists' intention to visit and revisit destinations were documented.

1.11.5 <u>Chapter 5: Research design and methodology</u>

Chapter 5 presented the rationale for the study's methodological choices in conducting the research. First, the chapter presented the philosophical assumptions of the researcher in conducting the research, which invariably guided the researcher's research approach and choice of methods. Specifically, this chapter outlined the study's research design, sampling process, data collection plans, research instruments, research ethics, data collection methods, data preparation and analyses. The statistical tools and the

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enabling software applications that were used in conducting the various analyses of the study were also disclosed in this chapter.

1.11.6   <u>Chapter 6: Presentation of data</u>

Based on the study's research strategies and methodological approaches, which were derived from the philosophical underpins outlined in Chapter 5, the collected data for the study were prepared, summarised, and presented using various data visualisation and tabulation methods. Tabulated data in this chapter were used in Chapter 7 for data validation, analysis, and discussion of findings.

1.11.7   <u>Chapter 7: Analysis of data and discussion of findings</u>

The collected data, which were prepared, summarised, and presented in Chapter 6, were validated in this chapter. Based on the results of the validation checks, the cleaned data were analysed using the proposed statistical methods. Various empirical findings were made, followed by their discussion.

1.11.8   <u>Chapter 8: Summary of findings, conclusions and recommendations</u>

The various findings of the study were summarised in this chapter. The summaries were compared and related to those of similar studies in this thematic area of research. Thus, consensual findings, as well as divergent ones, were visited. The chapter further made some substantive conclusions. It also made some recommendations based on the conclusions of the study. The recommendations aligned with both the theoretical and practical contributions of the research.

CHAPTER 2

TOURISM DEVELOPMENT AND ECONOMIC GROWTH

2.1 INTRODUCTION

As the first chapter of the study's literature review, this chapter provides the underlying concepts of the study. It conceptualised tourism and its economic significance with particular reference to South Africa. As it, it provided a brief historical development of South African tourism, the drivers of South Africa's tourism destination attractiveness, as well as its niche tourism development. It also reviewed the bidirectional relationship between tourism and South Africa's economy.

2.2 CONCEPT OF TOURISM

The conventional definitions of tourism, drawn from various dictionaries (Netto, 2009; Raj, 2002; Stergiou & Airey, 2018), revolve around three basic human activities – travel and visit, entertainment and pleasure, and exchange of values – with businesses, platformed along these activities as value chains. Thus, tourism entails physical travels and visits of persons to other locations for the purpose of being entertained by various options of pleasurable endeavours. In return, they pay for the services received. Leiper (1979) acknowledged that definitions of tourism were initially accentuated between tourists and business organisations that serve the tourists until governments, whose initial preoccupation was nurturing businesses for economic growth, realised the international linkage potentials of tourism.

Since then, international organisations, particularly the United Nations, have encouraged investments, growth, and development of the tourism industry due to its potential to contribute to world peace and global diversity (UNWTO, 2021). To this end, the first definition of tourist was adopted in 1937 by the League of Nations Statistical Committee (Organisation for Economic Cooperation and Development (OEDC), 1974) as *travellers who visit a country other than their countries of residence and spend at least twenty-four hours*. Since then, many definitions of tourism evolved through scholarship (Jafari, 1974; Nash, 1978).

However, in an attempt to harmonise the various definitions of tourism, (Leiper, 1979:392) identified and incorporated economic and non-economic approaches to defining tourism. Economic definitions summarise tourism as a conglomerate of economic activities that serve the needs of recreational travellers (Sinclair, 1998; Theobald, 2012), while non-economic definitions acknowledge the interdisciplinary nature of the subject matter (Tribe, 1997). Between the two divides, efforts in conceptualising tourism encompass transportation, accommodation, culinary, vacation, recreation and other economic services that are consumed by recreational travellers (Darbellay & Stock, 2012; Morley, 1990; Netto, 2009).

While the definitions were sufficient at the time they were conceived, innovations in travel and tours, developments in the tourism industry, and increased international integrations that were precipitated by globalisation obscured the earlier definitions of tourism. Consequently, deriving the definitions of tourism from tourists' duration of visit, inter-country travel, and purpose of travel progressively became inadequate in accommodating the complexities of modern-day tourists. For example, the sophistication of tourism technologies could make tourists virtually visit tourism spots (Filimonau, Ashton & Stankov, 2022; Perez, 2009; Rancati & d'Agata, 2022). In this instance, tourism does not necessarily involve physical travel. Scholarly responses to the quest for a unified definition of tourism coincided with developments in tourism teaching as a field of study which strived to offer a holistic presentation of tourism (Jafari & Brent Ritchie, 1981). Eventually, the pursuit for a holistic articulation of tourism definition polarised into two distinctive perspectives – tourism as an economic profession and tourism as a field of study.

Definitions of tourism as a field of study focus on the epistemology of actions, actors and relationships in tourism, which are framed within the dichotomic divides of social and management sciences (Sharpley, 2011). On the other hand, definitions of tourism as an economic profession recognise all the economic activities, processes, and value creation as well as tourist-centric attributes, conditions and circumstances that affect activities and relationships in the tourism industry (Hunt & Layne, 1991; Morley, 1990). Definitions within this perspective continue to evolve over time, space, and events, thus rendering

earlier definitions increasingly inadequate. For instance, Judd (2006:323) identified deficiencies in earlier definitions of tourism as a consumption system rather than a production system, thus suggesting that tourism should be regarded as a complete production process with distinctive value creation.

In order to overcome the idiosyncratic deficiencies inherent in scholarly definitions of tourism from practitioners' perspectives, this study adopts some technical definitions from global organisations with a mandate to manage affairs in the tourism industry at the global level. There are two justifications for this. First, adopting a globally conceived definition of tourism provides a theoretical framework to analyse, understand and communicate economic relationships that are applicable anywhere in the world. Second, definitions by world tourism government bodies are usually drawn from the practitioners' standpoints and synchronous with global developments that affect the tourism industry. Thus, this study adopts (below) the definition of tourism by the United Nations World Tourism Organisation (2021a) as a working definition:

> *"Tourism is a social, cultural, and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors (either tourists or excursionists; residents or non-residents), and tourism has to do with their activities, some of which involve tourism expenditure."*

2.3   ECONOMIC RELEVANCE OF TOURISM

The economic relevance of tourism dominates tourism research due to its direct and indirect linkages with the economy. Studies on the nexus between tourism and economic growth exist in different dimensions such as causality tests (Pisa, 2018; Su, Cherian, Sial, Badulescu, Thu, Badulescu & Samad, 2021; Wu, Wu, Wu, Liu & Wu, 2022), a significant factor for economic growth (Balaguer & Cantavella-Jordá, 2002; Banday & Kocoglu, 2015), and a basis for comparing national economies (Aslan, 2014; Pata, 2021; Pop, 2014).

Direct linkages represent the traceable inputs tourism makes to the economy in the forms of direct employment, tourists' expenditures, taxes, and foreign exchange earnings (Huseynli, 2022; Matthew, Ede, Osabohien, Ejemeyovwi, Ayanda & Okunbor, 2021; Rasool, Maqbool & Tarique, 2021; Usmani, Akram & Praveen, 2020). Indirect linkages to the economy are in the form of adjacent ancillary linkages through other sectors of the economy, predominantly the transportation, hospitality, and production sectors (Bull, 1995; Peiró-Signes, Segarra-Oña, Miret-Pastor & Verma, 2015; Pulido-Fernández & Pulido-Fernández, 2018; Wu & Wu, 2019), as well as infrastructural development (Adeola & Evans, 2019; Chipumuro & Chikobvu, 2022:1382). Using 2019 as a pre-COVID-19 reference year, the contributions of tourism to the global economy were significant. According to the United Nations World Tourism Organisation (United Nations World Tourism Organisation, 2020a), tourism provided 296 million jobs in 2019 globally and contributed $1.7 trillion to the world GDP, with 4% as a direct contribution.

At the national level, the contributions of tourism are significant to the economy of many countries that strategically situate tourism to their economies. In 2019, tourism contributed more than 50% of the GDP of Aruba and Maldives while contributing almost totally to the GDP of Macau (91.3%) in the same year (World Travel & Tourism Council, 2020b). Tourism injected £106 billion into the British economy and supported 2.6 million jobs in 2019 (VisitEngland, 2020). In South Africa, tourism, which is one of the country's major foreign exchange earners, provided 2.2 million jobs and accounted for the country's 9.2% of the total national exports. The Tanzanian tourism sector is the second largest contributor to its gross domestic product after the manufacturing sector, with a US$6,577.3 million contribution to the GPD in 2019, which represented 10.7% (Kyara, Rahman & Khanam, 2021).

To justify the basis of the latent effects of tourism on the economy, one has to evaluate both the direct and indirect linkages that it has with other sectors of the economy. Direct links exist with the goods, services, and investments that are instantaneously consumed by tourists. They comprise the value chains of the transportation, accommodation, and hospitality businesses. On the other hand, indirect linkages represent the rest of the economic activities that support businesses in the tourism industries (Mammadov, 2012;

Pillay & Rogerson, 2013; Stryzhak, 2019; Telfer & Wall, 1996). Tourism embodies a wide range of economic activities and prospects that directly translate to many other sectors and segments of every economy. Specifically, tourism produces economic activities in communication and telecommunication infrastructures, sanitation and water supply, personal and public security, cultural and tour services, customs, and immigration, as well as research and education. Figure 2.1 below captures the global inputs to the tourism sector from other industries in 2019.

Figure 2.1: Inputs into the global tourism sector, 2019

Source: United Nations Conference on Trade and Development (UNCTAD) (2021:12).

From the figure, the services industry contributed the most inputs to the tourism sector during the year under review. This is followed by capital investments and skilled labour contributions. Industrial sector contributed the least. A comparison between developed countries and developing ones showed an inconsistency across the sources of inputs to the tourism sector. Tourism sector inputs were seen more among developed countries through services and skilled labour only. Across the other sources of input to the sector, the developing nations contributed more than the developed countries.

The significance of tourism goes beyond economic relevance. Figure 2.2 (on p. 34) shows the multifaceted relevance of tourism as compiled by the United Nations. From the

33

figure, tourism has moderating effects on global peace and security, facilitates the preservation of cultural heritages and protects the global environment (United Nations World Tourism Organisation, 2021b). Furthermore, while there is no empirical evidence to identify between developed and developing nations, where economic relevance is more evident, there is, however, a unanimously upheld conclusion that tourism is a potent vehicle to alleviate poverty in developing countries (Muganda, Sahli & A Smith, 2010; Zhao & Ritchie, 2007).

An assessment of the economies of the world's poorest countries by Muhanna (2007) indicated that tourism ranked among the top service industries, which showed a positive trade balance. The study of tourism, which has become popular in the last two decades, has also broadened its contributions to humanity by creating diversification of scholarly inquiries on the subject while disseminating discoveries, innovations, and developments in tourism management and tourism-related subject matters (Brauer, Dymitrow & Tribe, 2019; Carlisle, Kunc, Jones & Tiffin, 2013; Sigala, Kumar, Donthu, Sureka & Joshi, 2021; Visser & Hoogendoorn, 2015).

Figure 2.2: Importance of tourism beyond economic relevance

<u>Source</u>:   United Nations World Tourism Organisation, May 2021 (Based on 2019 Data).

34

The economic significance of tourism was succinctly summarised by Wu and Wu (2019:87) as, firstly, among the foreign earners of any economy because it attracts foreigners to visit and consume products from their local markets. Secondly, it motivates governments of all levels, as well as businesses and entrepreneurs, to invest in tourist attractions, goods, and services. Thirdly, it has direct, indirect, induced, and spillover effects on adjacent industries, which, on the other hand, stimulate economic growth and diversification. Lastly, it creates and distributes jobs in all economies.

2.4 THE SOUTH AFRICAN TOURISM SPACE

2.4.1 <u>Historical development</u>

Over the years, the development of South Africa's tourism industry has been stimulated by two complementary elements. On the one hand, is the abundance of natural scenery and friendly climate that are attractive to tourists (Cronjéa & Du Plessis, 2020; Du Plessis, Saayman & Van der Merwe, 2017; Jonker, Heath & Toit, 2004; Odhiambo & Nyasha, 2020). On the other hand, is the government's deliberate intent to articulately operationalise the National Tourism Sector Strategy (NTSS), 2016-2026, which aimed at positioning the tourism industry as one of the key pillars of South Africa's economic growth and maintaining its overall competitiveness in the global tourism (Heath, 2014:282). From the demand side, the return to democratic government in 1994 improved South Africa's global acceptance and continues to stimulate the choice of South Africa as a prime tourist destination (Chipumuro & Chikobvu, 2022:1382).

On the supply side, the democratic transition birthed the liberation and reorganisation of domestic tourism, which encouraged more engagement and participation in the tourism business (Mkhize, 1994:249). Consequently, the industry continued to witness and document performances across international tourism, domestic tourism, and the development of niche tourism.

The post-apartheid growth and development in South Africa's tourism industry have been phenomenal, thus actualising the NTSS strategic intents. For example, in 2010, South Africa's tourism maintained growth of 15.1% which was above the global industrial growth

rate of 6.6%, contributed 2.8% to GDP, and employed 4.1% of total South Africa's employment (Department of Tourism, 2010a:10). By 2019, the contribution to GDP and employment rose to 8.6% and 9.2% respectively (Department of Tourism, 2019:34). The relevance and of course, the development of tourism to South Africa is multidimensional, accounting for the wealth of scholarship it has attracted over the years.

Current research direction has extended beyond the economic and sociocultural linkages to niche tourism, which thrives in South Africa (Boekstein & Tevera, 2012; Daniels & Spencer, 2019; Nicolaides, 2013; Nicolaides & Zigiriadis, 2011; Proos & Hattingh, 2020). Wine tourism is a rapidly developing niche at an astonishing rate due to South Africa's wealth of grapes, which concomitantly attracts growing empirical attention (Back, Tasci & Milman, 2020; Booyens, 2020; Ferreira & Hunter, 2017). Beer tourism utilises the complementary relationship between wine and beer production, sales, and consumption, thereby projecting South Africa as the favoured destination for culinary tourism (Alonso, 2011; Rogerson & Collins, 2015a; Rogerson & Collins, 2015b). Business and events tourism (Heath, 2014), sports tourism (McKay, McEwan & Baker, 2019; Rogerson, 2020; Turco, Swart, Bob & Moodley, 2010), and medical tourism (Matiza & Slabbert, 2020a) have also contributed to the development of the South Africa tourism industry.

2.4.2 <u>Drivers of South Africa's tourism competitiveness</u>

The competitive advantage of any tourism destination, generally known as tourism destination competitiveness (TDC), is a function of its attractiveness and the perceived tourist experience (Mikulić, Krešić, Prebežac, Miličević & Šerić, 2016). In other words, the perceived attractiveness of a tourist destination drives its competitiveness among competing destinations, suggesting that tourists' intentions, preferences, and effectual satisfaction are predominantly behavioural. From the business perspective, identification of tourism competitiveness is imperative for governments and businesses to position their tourism industry for stronger competitiveness that instantaneously leads to profitability and economic growth.

Crouch and Ritchie (1999:142-144) identified and summarised the drivers of destination attractiveness into two broad groups: comparative advantages and competitive

advantages. Comparative advantages consist of the nature-gifted environmental geography of a destination that is attractive to tourists. Competitive advantages, on the other hand, encompass all human activities, attributes, and strategies that a destination utilises in concurrence with its comparative advantages to attract and retain tourists. The study further identified six sub-groups that determine a destination's competitiveness from the literature (Altinay & Kozak, 2021; Cronjé & du Plessis, 2020; Crouch & Ritchie, 1999; Ferreira & Perks, 2020; Fernández, Martínez & Martín, 2022; Mikulić *et al.*, 2016), and their major components as follows:

- Core attributes and attractors (culture, history, traditions, activities, festivities)
- Tourists supporting resources and factors (accessibility, infrastructures)
- Destination Management (information, guide, marketing, stewardship, promotion)
- Qualifying determinants (costs, safety, location)
- Macro-environment (disruptive global events, technologies, innovations, demography)
- Micro-environment (tourist facilitators, entrepreneurs, travel agents, financial services, residents)

Studies have found a positive relationship between destination comparative advantages and destination competitive advantages using various combinations of the six determinants of destination competitiveness as proxies (Azzopardi & Nash, 2016; Butler, 2000; Jovanović & Ilić, 2016; Michael, Reisinger & Hayes, 2019; Mihalič, 2013; Vengesayi, Mavondo & Reisinger, 2009)

An analysis of South Africa's tourism destination competitiveness using Crouch and Ritchie's (1999) indicator framework confirms the presence of both tourism destination comparative and competitive advantages. South Africa is naturally gifted with beautiful scenery, friendly climate, spectacular wildlife, savannas, mountains, rich historical artefacts, and museums, as well as a nature-based tourism destination that is attractive to both foreigners and locals (Cronjéa & Du Plessis, 2020; Du Plessis *et al.*, 2017; Jonker *et al.*, 2004; Odhiambo & Nyasha, 2020). On the other hand, South Africa is among the African countries that are competitively positioned as a tourist destination. Credence to this was the enactment of the Tourism Act No. 72 in 1993 and the 1996 Tourism

Whitepaper on Development and Promotion of Tourism from the country's Department of Environmental Affairs and Tourism (Heath, 2014:282). The strategic intents culminated in the South African National Tourism Sector Strategy with three core themes: to grow the country's tourism industry, competitively enhance tourists' experience (satisfaction), and pursue sustainability and good governance in the tourism industry according to the Department of Tourism, (2010b:7-9).

The harmonisation of South Africa's comparative advantages with competitive advantages has, no doubt, yielded positive outcomes. While South Africa does not rank among the top tourist destinations globally, it consistently ranks among the top destinations in Sub-Sahara Africa (Dieke, 2003). Tourism competitive indices vary in scopes and methodologies, which produce different ratings of country-level competitiveness. However, one of the most reliable measures of tourism competitiveness comes from the World Economic Forum, which assesses, rates and compares country-level tourism competitiveness using a five-domain framework, namely, travel and tourism demand drivers, travel and tourism sustainability, travel and tourism policy enabling conditions, tourism enabling environment, and infrastructure. With the 2022 index, South Africa ranked 68th globally and 2nd in Africa, after Mauritius (World Economic Forum, 2022:13).

2.4.3 <u>Niche tourism development in South Africa's tourism space</u>

Diversification of interests by both suppliers and consumers of tourism created niche tourism as special interest tourism. Stone (2005:191) views niche tourism as the disintegration of tourism into large but homogeneous market sectors. For instance, medical tourism, which connotes travel and tourism for medical needs, could further be segmented into a set of micro-niches, as seen in wellness tourism, healthcare tourism, and medical travel. Rogerson and Rogerson (2021a:1380) identify two traditional approaches to conceptualising niche tourism, namely, the product supply approach that defines tourism niches based on an array of products that are made available to tourism consumers, such as medical and health care, food, wine, beer, cultural heritage, sports, religion, virtual reality, and others. The alternative approach, which the authors refer to as

the market-led approach, focuses on the characterisation of special interest tourists in terms of their motivations, behaviours, and consumption patterns. In a tourism market space, while the product approach helps destinations differentiate themselves from their competitors, the market-led approach accentuates the attractiveness of certain niches.

Ali-Knight (2010) traced the origin of niche tourism literature to the 1980s when conceptual debates around the subject emerged. Since then, niche tourism research has continued to gain traction in tourism research as new niches emerge and existing ones grow in demand and popularity. For example, disruptive technological evolutions such as immersive technologies are revolutionising the demand and consumption of cultural and heritage tourism through virtual reality (Rancati & d'Agata, 2022). Developments of niche tourism in South Africa's tourism space are in the advanced stage. This was echoed by Rogerson and Rogerson's (2021b:1131) assertion that South Africa is a fertile destination for promoting and marketing different forms of niche tourism.

Consequently, specific niches of South African tourism have continued to attract tourists (both local and international), policymakers, research debates, and empirical analyses. South Africa is acknowledged as the leading destination for medical tourism in Africa by offering state-of-the-art health care and medical procedures that are within the range of cosmetic and elective surgeries, cancer, dental, and infertility treatments (Crush & Chikanda, 2015; Mudzanani, 2016; Ormond, 2020). Furthermore, South Africa played regional host for managing public health emergencies in Southern Africa (Crush, Chikanda & Maswikwa, 2012; Crush, Chikanda, Sanders & Maswikwa, 2015). Studies on the global landscape of medical tourism show that the South African healthcare industry appeals to medical tourists from the rich Global North countries and the middle class of Global South countries, who are motivated by cheaper medical costs and shorter waiting times (Crush & Chikanda, 2015; Fan, 2020; Henama, 2014).

Similarly, the availability of advanced biomedical technologies in South Africa motivates African elites to travel to South Africa in order to receive medical treatments that are not available in their home countries (Crush *et al.*, 2012; Crush, Chikanda, Maswikwa, Labonté, Runnels, Packer & Deonandan, 2013; Ezeuduji, 2013). Lastly, the medically disenfranchised citizens of the neighbouring Southern African countries depend on

39

travelling to South Africa to equilibrate the healthcare deficits of their home nations (Crush & Chikanda, 2015; Roberts & Scheper-Hughes, 2011).

South Africa's numerous cultural heritage sites underscore the ever-growing interest in its cultural heritage tourism research. Gumede and Mdiniso (2022:1365) identify the provinces of KwaZulu-Natal, Gauteng, and the Western Cape and Free State as pivotal to the development of South African cultural heritage tourism. For example, in KwaZulu-Natal, the Ondini Cultural Centre and Museum, the KwaBulawayo Cultural Centre, Mandawe Cross, Queen Nandi's Grave, Ongoye Forest, Coward's Bush, and Shakaland Cultural Village are among the prominent relics sites that attract tourists.

Numerous studies concluded that the rich and satisfactory experiences of South Africa's cultural heritage tourism sites are responsible for tourists' intentions to visit, revisit, and recommend South Africa as an exciting destination for the cultural heritage tourism niche (Ezeuduji & Mhlongo, 2019; Gumede & Mdiniso, 2022; Nkwanyana, Ezeuduji & Nzama, 2016). Incidental to cultural heritage tourism is virtual tourism, which is precipitated by technological progressions and extensions to tourism. As a growing niche of tourism, virtual tourism relies on augmented and virtual realities to offer tourists the possibility of exploring tourist attractions such as historical sites, museums, and other remote physical environments with the aid of immersive technology (Lekgau, Harilal & Feni, 2021; Likholetov, Lisienkova & Baranova, 2016; Woyo & Nyamandi, 2021).

Furthermore, South Africa's prominence in ecotourism is propelled by its rich safaris, national parks and wildlife, which individually represent sub-tourism niches. Snyman, Sumba, Vorhies, Gitari, Ender, Ahenkan, Pambo, and Natacha (2021) acknowledged wildlife as the underlying drawcard for tourists who visit national parks, protected and conserved areas for experience and game. Ecotourism ranks among the leading sources of tourism revenue in South Africa through photographic safaris and hunting (Van Der Merwe, Saayman & Jacobs, 2021).

Other prominent niches of South African tourism, which continue to attract the growing attention of tourists, tourism practitioners, and tourism researchers, include culinary tourism which is pivoted on the tripartite conjugation of cousin tourism (Bhoola, 2020; Mnguni & Giampiccoli, 2022), wine tourism (Back *et al.*, 2020; Booyens, 2020; Ferreira,

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2020), and beer tourism in South Africa (Rogerson & Collins, 2015a; Rogerson & Collins, 2015c). Meetings, incentives, conferences, and exhibitions (MICE) is an emerging tourism niche in which business activities are contextualised within tourism services of travel, leisure, and hospitality for professionals (Lekgau & Tichaawa, 2021b; Lekgau & Tichaawa, 2022). With a long history of hosting major international events, Lekgau and Tichaawa (2021a:1204) assert that South Africa is a competitive MICE destination globally. Some other niches have been at their developmental stages with scanty literature. Rogerson and Rogerson (2021a:1381) note that while there is a dearth of empirical evidence on South Africa's adventure tourism, cruise tourism, coastal, and marine tourism, they attract notable tourist interests to South Africa.

2.4.4 Tourism and the South African economy

While the contributions of the tourism industry are significant to the global economy, the contributions of the industry at the level of national economies vary from country to country. This review has identified and documented the dichotomous potentials of South Africa's comparative and competitive advantages, which underscores Rogerson's (2017) assertion that tourism is the new economic driver for South Africa. Empirically, the nexus between tourism and South Africa's economy has been examined using various methodologies while adapting varying constructs. The causality between tourism development and economic growth has been documented in literature within four hypotheses: first is the tourism-led economic growth hypothesis. It propounds that tourism activities and businesses lead to economic growth (Deng, Ma & Cao, 2014; Tang & Abosedra, 2015; Wu & Wu, 2019).

Second, the growth-led hypothesis, which conversely argues that developments in the tourism industry are predicted by economic growth (Ahiawodzi, 2015; Alhowaish, 2016; Li, Mahmood, Abdullah & Chuan, 2013). The third hypothesis concludes that both tourism development and economic growth have a bidirectional relationship that changes over time and events that happen in the tourism industry as well as the general economy, and therefore, referred to as the feedback or reciprocal hypothesis (Aslan, 2014; Kadir & Jusoff, 2010; Nene & Taivan, 2017). Finally, quite unpopular in the literature is the fourth

hypothesis. It asserts a no-causality between tourism development and economic growth (Ozturk & Acaravci, 2009; Pisa, 2018). Extant literature on causality relationships between tourism development and economic growth in South Africa supports the first two hypotheses – the growth-led hypothesis (Krstic, Radivojevic & Stanisic, 2017; Muzekenyi, Nheta & Tshipala, 2018a) and the reciprocal hypothesis (Akinboade & Braimoh, 2010; Odhiambo & Nyasha, 2020). Implicatively, tourism income has a significant relationship with South Africa's economic growth.

The relationship between South African tourism and foreign direct investment, as an index of national economic well-being, has been previously interrogated. Findings reveal a positive relationship. For example, using exploratory research methods, Snyman and Saayman (2009) examined the factors that influence the inflow of foreign direct investment into South Africa's tourism industry. Results showed that the nature, infrastructure, and competitiveness of South African tourism space ranked high. Aluko (2021) examined the nexus between international tourism and foreign direct investment in 34 African countries using data from 1995 to 2016. Results indicated that South Africa was one of the countries with a unidirectional causality relationship between international tourism and foreign direct investment. Adeola, Boso, Osabutey, and Evans's (2020) findings also validated the significant positive relationship between the inflow of foreign direct investment and tourism development in South Africa.

Additionally, tourism significantly contributes to economic growth through direct employment of people working in the tourism sector and indirect employment for others working in sectors that are ancillary to tourism. Some of these industries are travel, hospitality, real estate, and manufacturing industries. Prior to the outbreak of the COVID-19 pandemic, the global tourism industry provided direct and indirect employment for 334 million people (World Travel & Tourism Council, 2021). In South Africa, the diversification of the tourism space means that the propensity of the industry to create jobs is high. Department of Tourism (2020) indicated that the South African tourism industry generated 2.2 million jobs in 2019. By extension, tourism serves as a potent instrument for poverty alleviation and a mechanism for addressing income inequality.

A revisit to the debate on the significance of pro-poor tourism to poverty alleviation in rural South African communities by Toerien (2020) showed that the more a community has tourists and hospitality enterprises, the higher their wealth and vice versa. Similarly, based on the direct relationship between rural tourism and poverty alleviation of the Bergvile community in KwaZulu-Natal Province, Mthembu and Mutambara (2018) discover that tourism contributes to income generation, job opportunities and entrepreneurial skills, and therefore recommend that local municipalities should strengthen partnerships between policymakers and local business sectors for increased tourism development in rural areas.

Prior studies such as Saayman, Rossouw and Krugell (2012) and Beer (2011) similarly concluded that tourism is a potent tool for alleviating poverty in South Africa. By extension, tourism aids income redistribution and the reduction of income inequality in South Africa. Thus, results from Alam and Paramati's (2016) investigation of the impact of tourism revenue on income inequality among 49 developing economies, with the inclusion of South Africa, showed that tourism revenue has inverse relationships with income inequality in developing countries.

The economic importance of tourism to South Africa has also been documented in other areas. Due to the attraction of South Africa to foreigners as a tourism destination, tourism is a major source of foreign exchange earnings (Garidzirai & Pasara, 2020; Muzekenyi, Nheta & Tshipala, 2018b; van der Schyff, Meyer & Ferreira, 2019), an effective vehicle for diversification of the economy through its direct linkages with other sectors of the economy (Meyer, 2020; Rogerson & Rogerson, 2019), and a tool for regional integration and development of Southern Africa (Hattingh, 2018; Noe, 2020; Ramukumba, 2019).

2.4.5 Profiling South Africa as a tourist destination

Beyond comparative and competitive advantages of the South African tourism industry, which have been documented extensively in the literature (Cronjéa & Du Plessis, 2020; Du Plessis *et al.*, 2017; Jonker *et al.*, 2004; Plessis & Saayman, 2018; Rylance, Snyman & Spenceley, 2017), impressions, perceptions, and other behavioural considerations of tourists form the basis of their motivations to visit and revisit South Africa as a tourist

destination. With respect to international tourism, factors such as destination image, perceived satisfaction, and perceived risks predict tourists' intention to visit and revisit a destination (Al-Dweik, 2020; Khan, Chelliah, Haron & Ahmed, 2017).

Invariably, tourists' buyer behaviours towards South African tourism are influenced by their image of South Africa and the dichotomy of their perceptions of tourism satisfaction and the associated risks. In other words, a country may be rich with both natural and built tourist attractions yet experience low tourism patronage due to a negative destination image and/or high-risk perception by tourists. For example, Matiza and Slabbert (2020b:28) acknowledged that a country may be an attractive and desirable tourism destination yet suffers a significant image deficit due to negative perception by foreign tourists. Extant literature further established a direct relationship between destination image and inbound tourists' travel behaviours (Al-Dweik, 2020; Cham, Cheah, Ting & Memon, Weru, 2021).

South Africa's position as Africa's most competitive tourism destination (World Economic Forum, 2019) and the continent's largest tourism economy (World Travel & Tourism Council, 2020a) suggests that international tourists have a positive destination image, perceptions, as well as favourable satisfaction expectations. Studies show a positive relationship between South Africa's national brand and intention to visit. For example, the analysis of South Africa's destination awareness and image by international tourists, as conducted by René and Bianca (2019), showed a positive effect of perceived destination brands with the intention to revisit South Africa as tourists. With the economic significance of repeat tourism to South Africa, Van Dyk, Tkaczynski and Slabbert (2019) identified four destination image constructs – professionalism, experiential, tangibles, and infrastructure – that predicted most international tourists' behavioural intentions (repeat tourism). Matiza and Slabbert (2020b) also concluded that South Africa's international image influences tourists' perception of the country as a tourist destination.

Studies have, however, shown that perceived destination risks intervene in the relationship between the effects of destination image on tourists' travel behaviours. Sheng-Hshiung, Gwo-Hshiung and Kuo-Ching (1997:796) define perceived risks as the risks tourists experience before or during their tourism travel to a tourist destination.

44

Tourist risks are perceived in multiple dimensions such as natural disaster risk (Armstrong & Ritchie, 2008; Higgins, 2016), physical risk (An, Lee & Noh, 2010; Çetinsöz & Ege, 2013), social risk (Fuchs & Reichel, 2006), psychological risk (Papadopoulou, Ribeiro & Prayag, 2023), financial risk (Casidy & Wymer, 2016), and crime risk (Garau, 2015). Studies conducted on tourists' risk perceptions in South African space indicated significant sensitivity.

Earlier conclusions on the destination risk profile of South Africa as the safest tourist destination in Africa, such as Visser and Rogerson (2004), had been contradicted by prevailing evidence of the presence of crime risks. For example, Adeleke, Omitola and Olukole (2008) found that xenophobic attacks not only affect the destination image of South Africa but also scare tourists away from South Africa and reduce touring activities within the country. Also, a study of the impact of safety and security of consumer behaviours and tourism demand in South Africa's townships by Chili (2018) found that the perceived escalating crime rates in major townships negatively influence tourists' decision to visit South Africa.

Notwithstanding the perceived risks of South Africa's tourist destination, data show that South Africa's profile as a prime tourism destination is significant. It simply shows that other destination attractions positively moderate the negatively perceived risk of international tourists to South Africa. This conclusion is corroborated by Chaturuka, Duffett and Haydam's (2020) investigation of crime perceptions among international tourists in Cape Town, South Africa, with findings revealing that tourists were not deterred by risks of crime, notwithstanding their favoured sentiments regarding their safety during visits. The volume of international tourists that South Africa received in the past decade is presented in Figure 2.3 below.

Figure 2.3: Inbound tourist arrivals to South Africa

Figure 2.3 shows that, on average, the number of international tourists arriving in South Africa progressively grew over the years until 2020, when the COVID-19 pandemic broke out and caused a sharp drop in tourist arrivals. However, since the end of the pandemic, which signified the end of all forms of travel bans and restrictions, the number of tourists visiting South Africa has been rising. Figure 2.4 shows the makeup of inbound tourists to South Africa by their countries of residence. Owing to their proximity to South Africa, Southern African tourists were the biggest consumers of South African tourism products and services, representing 74% of total inbound tourists to South Africa. Next to Southern Africans were European tourists, who accounted for 14% of tourists that South Africa received in the last decade. The Middle Eastern and North African tourists showed the least interest in South Africa's tourism space as they did not make up to 1% of the tourists South Africa received during the years under review.

Figure 2.4: Inbound tourist arrivals to South Africa by regions of origin

Source: Statistics South Africa (2022).

2.5 CHAPTER SUMMARY

South Africa, as a prime tourist destination, is endowed with natural resources that tourists find attractive. With a combination of comparative advantage and competitive advantage in the tourism business, South Africa's tourism space has consistently attracted both domestic and international tourists from the Global North and Global South countries. As a result, tourism has been a significant contributor to South Africa's economic growth and development.

CHAPTER 3

COVID-19 PANDEMIC AND THE TOURISM INDUSTRY

3.1   INTRODUCTION

The chapter presents a review of the implications of the COVID-19 pandemic on the tourism industry. It set off by providing a general overview of the virus that caused the pandemic. Due to the direct linkage between tourism and the economy, the chapter documented the implications of the pandemic on the global economy. It went further to review the impacts of the pandemic on the global tourism industry, the Southern African tourism industry, and finally, the South African tourism industry. In the context of this study, a review of COVID-19's impact on South Africa's tourism industry was extensively presented in this chapter.

3.2   AN OVERVIEW OF THE COVID-19 PANDEMIC

The SARS-CoV-2 that caused the COVID-19 pandemic belongs to a family of human coronavirus that was first isolated in 1965 from the respiratory tract of a patient who was suffering from a common cold (Tyrrell & Bynoe, 1966). Since then, the SARS-COV has been responsible for global epidemics with varied levels of public health emergencies. The SARS-CoV-1 (shortened for SARS), which is an earlier mutant of the coronavirus, was first discovered in 2003 through its outbreak in Canada and many Asian countries (He, Adonov, Traykova-Adonova, Cao, Cutts, Grudesky, Deschambaul, Berry *et al.*, 2004). By the end of April 2003, more than 4300 cases of the viral infection had been reported in more than 25 countries with 250-related deaths (Rota, Oberste, Monroe, Nix, Campagnoli, Icenogle, PeñAranda, Bankamp *et al.*, 2003:1).

He *et al.* (2004:1199) reported that the virus had a high tendency to spread among humans with an equally high mortality rate of between 10 – 15 per cent. Middle East respiratory syndrome (MERS) proceeded the SARS with its first emergence in Saudi Arabia in 2012. By 2016, the World Health Organisation (WHO) reported cases of the virus in 27 countries that spanned across the Middle East, Europe, Asia, and North America (Peeri, Shrestha, Rahman, Zaki, Tan, Bibi, Baghbanzadeh, Aghamohammadi *et*

al., 2020). With a case-fatality ratio of 34.4% (Al-Omari, Rabaan, Salih, Al-Tawfiq & Memish, 2019; WHO, 2022), the MERS was more deadly than the SARS.

SARS-Cov-2, the virus that causes COVID-19, was first reported in December 2019 through a genomic screening of patients with symptoms of viral pneumonia in the Chinese city of Wuhan (Sofi, Hamid & Bhat, 2020:217). By January 13, 2020, the first case outside China was reported in Thailand and within a few days, cases were reported in the United States of America, France, India, and many other countries, such that by the end of January 2020, the WHO declared COVID-19 a "public health emergency of international concern (WHO, 2020). With about 118,000 reported cases linked to 4291 deaths across 114 countries, the WHO declared COVID-19 a pandemic on March 11, 2020 (WHO, 2020). At this point, the escalating rate of viral infection had forced many countries to respond with wide-ranging measures such as the closure of international boundaries, imposition of lockdowns, and enforced quarantines of affected individuals (Rahman, Thill & Paul, 2020; Ren, 2020; Seyfi, Hall & Shabani, 2020).

Notwithstanding the efforts of various governments to contain the spread of the virus, it continued to spread across countries, regions, and communities, with different waves of the virus being experienced in many countries. However, Van Oorschot, Van Wassenhove, and Jahre (2023:1345) noted that many countries managed to flatten the curve of the viral infection in the first half of 2020. Coincidentally, it was the period that various COVID-19 vaccines were undergoing clinical trials, with the first public shots administered a year later in December 2021 (Koh, Tan, Lee, Mathews & Young, 2022:1). A combination of the flattened curve of the viral infection and the rolling out of mass vaccination, the gradual re-opening of the global economies and lifting of all travel restrictions were consolidated.

At the time of this literature review, the incident report of the COVID-19 pandemic shows a cumulative total of 775.5 million cases with 7.1 million related deaths while, on the other hand, a total of 5.47 billion doses of COVID-19 vaccines have been administered globally (WHO, 2024). This is in line with various projections that the COVID-19 virus would last for a long while (Naji, 2022; Vinod, 2021), suggesting that people still contract the virus and suffer its associated health complications. However, there is no record of any country

49

that is still under the COVID-19 public health emergency. Invariably, the world has returned to normalcy and has developed various mitigating and coping strategies against the various impacts of COVID-19.

3.3   COVID-19, THE TOURISM INDUSTRY AND THE GLOBAL ECONOMY

Contrary to other pandemics that the world has witnessed, COVID-19 has had a devastating impact on the global economy (Abba Ahmed, 2020; Mckibbin & Fernando, 2021; Naseer, Khalid, Parveen, Abbass, Song & Achim, 2023; Vagner, 2021). At the onset of the pandemic, many predictions arrived at a unanimous conclusion that the impact of the pandemic would be significant on the global economy. One of such predictions was conducted in late 2019 by the Organisation for Economic Cooperation and Development (OECD). Figure 3.1 (on p. 51) is a compilation of the immediate and projected economic impacts of the COVID-19 pandemic by Statista (2021).

From the figure, the pandemic had the steepest decline in global GDP in the second quarter of 2020, which coincided with the period of strictest measures against the spread of the virus. As discovered by Gagnon, Kamin and Kearns (2023:11), governments' stringency of lockdowns and travel bans as measures to restrict the spread of the COVID-19 virus were more negatively impactful to the global economy than deaths.

Figure 3.1: Projection of the global Gross Domestic Product

<u>Source</u>:   Statista (2021)

The pandemic's direct consequences resulted in fatalities and hospitalisation of millions of individuals across the world. As of December 31, 2023, the COVID-19 pandemic had caused 7.01 million deaths from 773.9 million confirmed cases of infection (WHO, 2023). The loss of human skills and resources has ravaging implications for the global workforce. Indirectly, the concerted efforts by governments that aimed at slowing the rampaging spread of the virus through lockdowns, travel bans, and suspension of human activities had overreaching consequences for the global economy.

Thus, the outbreak and global spread of the virus, as well as measures devised to contain it, affected the three major pillars of economic activities – production, supply chain and demand. For example, a survey on the impact assessment of the COVID-19 pandemic on the global economy by Gern and Mösle (2020:1) revealed that the pandemic resulted in a global decline in aggregate demands, disrupted value chains, and deteriorated the global financial system. By using secondary panel data of quarterly growth in real GDP for 90 countries, Khan, Khan and Shafiq (2021) found, among others, that the pandemic's restrictive measures which were taken to contain the spread of the virus were economically more injurious to economic activities in emerging and developing

51

economies. Abodunrin, Oloye and Adesola (2020:19) documented the consequential impacts of the COVID-19 pandemic on the global economy through loss of skilled and experienced workforce, reduction in labour supply, exacerbation of global poverty, and reduction in productivity, which ultimately and negatively impacted global economic growth.

3.4 COVID-19 AND THE TOURISM INDUSTRY

The tourism industry is an integral component of the general economy, and any prevailing circumstance that directly affects the general economy has varied implications for the tourism industry. There is a consensus that the COVID-19 pandemic affected the global economy (Abba Ahmed, 2020; Fernandes, 2020; Mckibbin & Fernando, 2021). This section will, therefore, review the impacts of the COVID-19 pandemic on the global tourism industry, the impacts of the pandemic on the South African tourism industry and the implications of the pandemic's impacts on the global economy.

3.4.1 <u>Impacts of COVID-19 on the global tourism industry</u>

As widely documented in the literature, the COVID-19 pandemic hit the tourism industry and its related industries in unimaginable dimensions, ranging from holiday to tourism intentions (Kock, Nørfelt, Josiassen, Assaf & Tsionas, 2020; Pappas, 2021), travels (Gössling, Scott & Hall, 2021; Škare, Soriano & Porada-Rochoń, 2021), and to the share values of tourism firms (Liew, 2020). The peculiarity of the impacts of the pandemic on the tourism industry was derived from the various mitigative measures imposed by almost all governments against the spread of the virus. Invariably, the measures halted activities in the tourism industry between 2020 and 2021.

According to the United Nations World Tourism Organisation (2020b), 97 countries closed their borders against tourists between the first and second quarters of 2020, 67 tourism destinations either completely or partially suspended international flights, while 39 of them prohibited travellers from coming from certain countries. As one of the countries that had the longest and strictest travel restrictions due to the COVID-19 pandemic, New Zealand

closed their borders against tourists for more than two years. This is notwithstanding the fact that the country welcomes more than three million tourists annually, whose spending represents 20 per cent of the country's total foreign income and 5 per cent of its GDP (Aljazeera, 2022).

Beyond the tourism industry, the impacts of the COVID-19 pandemic have been noted in its allied industries. The UNWTO estimated that there were 67 million fewer international tourists in the first quarter of 2020, which culminated in a total loss of US$80 billion. Many studies found enormous losses in revenues, employment, and business activities in the tourism industry as a result of the COVID-19 pandemic (Fotiadis, Polyzos & Huan, 2021; Gössling *et al.*, 2021; Jones, 2022; Sucheran, 2021). Similarly, the hospitality industry, which invariably shares a business ecosystem with the tourism industry, suffered significantly during the pandemic. Joao (2021:324) noted that the restrictions on travel, which affected tourism activities, resulted in the cancellation of bookings and reservations in the hospitality industry. As a labour-intensive industry which drives employment creation, the COVID-19-induced devastation of tourism, travel, and hospitality industries caused widespread job losses across the globe.

The recovery of the global economy was disrupted by the discovery of many other variants of the COVID-19 virus. Table 3.1 below (p. 54) is a summary of the various variants of COVID-19, their dates of discovery, and places of discovery as compiled by the WHO. The discoveries further stalled the kick-starting of the global tourism industry. The discovery of new variants of the virus necessitated the reversal of eased lockdowns and the re-introduction of travel restrictions among few countries (Glass, 2020; Noureddine, Chakkour, El Roz, Reda, Al Sahily, Assi, Joma, Salami *et al.*, 2021; Saha, Tanmoy, Tanni, Goswami, Sium, Saha, Islam, Hooda *et al.*, 2021). While it was empirically difficult to forecast the recovery paths and patterns of the global tourism industry within the intermittent discoveries of other variants of the various, as posited by Zhang, Song, Wen and Liu (2021), the complete removal of travel bans and restrictions of movement kick-started the global economy and set the recovery path for the global tourism industry.

Table 3.1:   New COVID-19 Variants, Dates and Places of Discovery

WHO label	Pango lineage*	GISAID clade	Nextstrain clade	Additional amino acid changes monitored°	Earliest documented samples	Date of designation
Alpha	B.1.1.7	GRY	20I (V1)	+S:484K +S:452R	United Kingdom, Sep-2020	18-Dec-2020
Beta	B.1.351	GH/501Y.V2	20H (V2)	+S:L18F	South Africa, May-2020	18-Dec-2020
Gamma	P.1	GR/501Y.V3	20J (V3)	+S:681H	Brazil, Nov-2020	11-Jan-2021
Delta	B.1.617.2	G/478K.V1	21A, 21I, 21J	+S:417N +S:484K	India, Oct-2020	VOI: 4-Apr-2021 VOC: 11-May-2021
Omicron*	B.1.1.529	GR/484A	21K	-	Multiple countries, Nov-2021	VUM: 24-Nov-2021 VOC: 26-Nov-2021

Source: WHO (2022).

3.5   COVID-19 PANDEMIC AND SOUTHERN AFRICA'S TOURISM INDUSTRY

3.5.1   Tourism in Southern Africa

South Africa is both the economic and tourism hub of the Southern Africa region (Arndt & Roberts, 2018; Dube, 2020; Mlambo & Ogunnubi, 2018), which implies that developments or conditions that impact the economic well-being of South Africa also affect the regional economy of Southern Africa proportionately. Due to geographical proximity and regional economic integration through the Southern African Customs Union and the Southern African Development Community (SADC), the economies of the regional countries are interconnected with varied interdependence (Malefane, 2020; Mlambo, 2018). Similarly, the tourism industries of the countries within the region have considerable levels of interconnectivity through a number of channels, such as the rural tourism routes and community-based tourism that are popular in the region (McLaren & Heath, 2013; Mearns, 2012). Woyo (2017) further noted that the policy of mutual visa exemption among the countries of the region facilitates the growth of domestic tourism within the region.

54

The region's tourism space benefits from a consortium of connected tourism spaces of the member countries, thereby providing a diversification of tourism niches and products. Earlier studies on the trends and future prospects of Southern Africa's tourism industry revealed that the industry was among the most significant industries to the regional economies whose unprecedented growth was derived from a compulsive need for economic diversity, foreign currency generation, employment creation, and the general improvement in the living standards of people in the region (Rogerson, 2009; Zibanai, 2014). Extant literature of Southern African tourism evolves across various thematic clusters with wildlife and nature-based tourism (Dube, 2022; Jerome & Sabuhoro, 2024; Lekgau & Tichaawa, 2020; Stone, Stone, Mogomotsi & Mogomotsi, 2022), cultural and heritage tourism (Makandwa, de Klerk & Saayman, 2023; Öter, 2017; Sifolo, 2020), community-based tourism (Leonard & Musavengane, 2022; Segobye, Mpolokang, Shereni, Mago & Seleka, 2022), and tourism sustainability (Hoogendoorn & Fitchett, 2019; Jerome & Sabuhoro, 2024), dominating the Southern Africa tourism research.

Prior to the outbreak of the COVID-19 pandemic, the SADC countries recognised the importance of tourism to the region's economy and commissioned the SADC Tourism Programme (2020 – 2030). The programme was a regional policy thrust to *"serve as a roadmap to guide and coordinate the development of sustainable tourism industry in the region and to facilitate the removal of barriers to tourism development and growth in the region"* (Southern African Development Community (SADC), 2019). In other words, it was a mechanism that was conceived to accelerate regional economic growth from their connected domestic tourism. The programme was expected to utilise the region's tourist potential through its interconnected rural tourism routes that were found to attract both domestic and international tourists (McLaren & Heath, 2013; Mearns, 2012). The relevance of tourism to the region has been documented through local economic development (Hattingh, 2018; Noe, 2020), employment generation and sustainable livelihoods (Lekgau & Tichaawa, 2020; Spenceley, 2012), and poverty reduction, especially in Southern Africa's rural communities (Snyman, 2017).

3.5.2 <u>**Implications of the COVID-19 pandemic on the regional tourism industry**</u>

With high geographical mobility within the region, the incidence of COVID-19 cases and mortality were relatively high in Southern Africa, which accounted for half of the reported cases in Africa by February 2021 (Shoko & Njuho, 2023:1-2). In part, it was due to the fact that South Africa, as the regional hub (Arndt & Roberts, 2018; Dube, 2020; Mlambo & Ogunnubi, 2018), dominated both the region's incident cases and mortalities. Table 3.2 is a representation of Southern Africa's regional experience of COVID-19 from a selection of 10 Southern African countries, showing that South Africa accounted for about 80% of the regional incident cases and 87% of the region's mortalities as of April 6, 2021 (Van Wyngaard & Whiteside, 2021:119).

Table 3.2:   COVID-19 data for Southern African countries as of April 6, 2021

	Cases	Mortalities
Angola	22717	543
Botswana	41710	616
Eswatini	17354	669
Lesotho	10707	315
Malawi	33673	1124
Mozambique	68227	782
Namibia	44886	538
South Africa	1552416	52995
Zambia	89009	1222
Zimbabwe	36934	1525
Total	**1917633**	**60329**

<u>Source</u>: Adapted from Van Wyngaard & Whiteside (2021:119).

Furthermore, with South Africa as one of the epicentres of the viral infection (Melber, 2020; Smith-Sreen, Miller, Kabaghe, Kim, Wadonda-Kabondo, Frawley, Labuda, Manuel *et al.*, 2022), Southern Africa was considered as the worst-hit region in Africa (Massinga

Loembé, Tshangela, Salyer, Varma, Ouma & Nkengasong, 2020; Shoko & Njuho, 2023). Consequent to the high cases of COVID-19 transmission in the region, Seidman (2021) noted that the stringent response of most Southern African countries had negative impacts on the region's economy.

Implicatively, the regional tourism industry was further impacted as a result of the stringent nature of the member countries' responses toward the spread of the viral disease. Musavengane, Leonard and Mureyani (2020:10) noted that the sharp decline in inbound tourists in the region's major tourism countries, such as South Africa, Seychelles, Botswana, Mauritius, Zambia, and Zimbabwe, affected their tourism industries and the regional economy in varied proportions. Rogerson and Rogerson (2021:1028) further concluded that the COVID-19 pandemic set back the gains of the SADC in regional tourism growth.

3.5.3 Regional response to COVID-19 devastation of the tourism sector

The Southern Africa Development Community's implementation of the SADC Tourism Programme (2020 – 2030) in 2019 signified a strategic intent of the regional authority in coordinating the development of sustainable tourism through a coordinated removal of barriers to regional tourism growth and development (SADC, 2019:6). Despite the fact that the SADC Tourism Programme (2020 – 2030) was articulated and formulated in line with the United Nations World Tourism's (UNWTO) broad agenda for Africa (SADC, 2019:6), there is a dearth of empirical evidence of the SADC's response to COVID-19's devastations of Southern Africa's regional tourism sector. Ilo, Das and Bello (2024:9) observe that the Community's response to the outbreak of the pandemic was predominantly on the health, agriculture (food security), and transportation sectors. Musavengane (2022) highlights the negative impact of the politicisation of COVID-19 Omicron on Southern Africa's tourism sector.

Evidence of institutional response to the COVID-19 devastation of Southern Africa's tourism sectors was documented at national levels (Ilo *et al*. 2024:9-11). This is, however, contrary to the expected regional coordination of interventions by the SADC against the pandemic's impact on the tourism sector, which was advocated by the UNWTO (2021).

An investigation of Southern African responses to the COVID-19 pandemic by Masiya, Mandiyanike, Molosiwa and Mazenda (2021) studied only South Africa and Botswana, with findings suggesting disparity in responses between the two countries. In the absence of a regional frontier for responding to the pandemic, Musavengane, Leonard and Mureyani (2020) identify financial and technological inequalities among the member countries of the Southern African region as the reason for variations in the levels of responses to the pandemic's impacts on their tourism industries.

Expectedly, the level of empirical evidence in relation to national interventions varied with the significance of tourism contributions to their national economies. There is a plethora of documented evidence of government interventions against COVID-19's devastations of the tourism sectors of notable Southern African countries such as South Africa (Cheteni & Mazenda, 2022; Nhamo, Dube & Chikodzi, 2020; Nyawo, 2020; Rogerson & Rogerson, 2020b; Viljoen & Maphosho, 2023), Tanzania (Mbise, 2021; Mwamwaja, 2020), Mauritius (Chummun & Mathithibane, 2020).

3.5.4 Southern Africa's post-pandemic recovery pathways

In line with tourism sector recovery frameworks of previous disasters that impacted the tourism industry, the UNWTO released the national recovery plans at the onset of the COVID-19 pandemic. Unlike other tourism sector recovery frameworks such as the Tourism Recovery Scorecard (Khazai, Mahdavian & Platt, 2018) and Tourism Disaster Resilience Scorecard for Destinations (Basurto-Cedeño, Gretzel, Chulmo Koo & Pennington-Gray, 2016), the UNWTO's national recovery plans categorised institutional interventions on the tourism sector into three pillars of national recovery strategies – *mitigation, recovery, and stability* (UNWTO, 2020). The pillar of mitigation identified governments' efforts in managing COVID-19 and mitigating its devastations in the tourism sector.

Recovery assessed governments' investments in preparing and repositioning the tourism sector for post-pandemic recovery, while stability focused on governments' strategies towards sustaining and consolidating the post-pandemic recoveries in the tourism sectors and sectorial growth. The UNWTO's national recovery plan is made up of 23 indicators

across the three pillars. Ilo, Das and Bello (2024) adopted the UNWTO's national recovery framework in assessing Southern Africa's post-COVID-19 recovery efforts in the region's tourism industry. Data were sourced from the official websites of the Southern African countries, relevant indicators from the Oxford COVID-19 Government Response Tracker (OxCGRT), and the UNWTO's database for national and international policy responses towards accelerating tourism industry recovery. The result of the analysis of Southern Africa's recovery efforts across the UNWTO's three pillars of tourism sector recovery is presented in Figure 3.2 below.

Figure 3.2: Distribution of Southern African countries' recovery responses

Source: Culled from Ilo, Das and Bello (2024:10).

The figure (Figure 3.2) shows, on the one hand, disproportionate levels of intervention by the SADC countries across the three recovery pillars and an imbalance in the collective

efforts of the countries over the three pillars of tourism sector recovery in the region. Notwithstanding the identified imbalance among the countries' interventions, Mauritius, Seychelles, South Africa, and Zimbabwe showed a high commitment to tourism sector recovery, while Zambia, Lesotho, and Mozambique showed the lowest recovery commitments. The variations among the SADC countries' commitment levels were linked to their financial and technological resources Musavengane *et al.* (2022:2).

The regional tourism industry's recovery hinged, to a large extent, on tourists' perception of risk and safety in travelling and touring post-pandemic. As such, the regional government recognised the crucial relevance of tourism governance in supporting the recovery of the regional tourism industry. In line with the reported COVID-19 vaccine hesitancy (Fajar, Sallam, Soegiarto, Sugiri, Anshory, Wulandari, Kosasih, Ilmawan *et al.*, 2022; Sallam, 2021), the vaccination coverage of the region was considerably low at about 40% (Ritchie *et al.*, 2023). Invariably, the coverage has implications for the regional tourism recovery pace on the basis of the nexus between travel risk perception and travel behaviour in a pandemic period (Neuburger & Egger, 2021). However, as part of the post-COVID-19 effort at repositioning the regional tourism industry, there is a growing call for the revision of the 2019 SADC programme for Southern Africa's tourism industry as a mechanism for improving the contributions of the region's tourism contributions to their regional economy (Yingi, 2022).

3.6 COVID-19 IN SOUTH AFRICA

The first case of COVID-19 infection in South Africa was confirmed on March 5, 2020 (Presidency of South Africa, 2021:3). Within days after the first confirmed case of the viral infection was reported, the number of cases increased exponentially, which necessitated the presidential declaration of a state of disaster, and a nationwide lockdown on March 23, 2020 (Presidency of South Africa, 2021:3). Subsequent months saw the country contending with one of its worst public health disasters that was marked with widespread contractions of the virus, mass hospitalisation and escalating fatality rate. It was asserted that South Africa was one of the worst-hit countries in Sub-Saharan Africa and became

both the global and regional epicentres of COVID-19 infections (Dube, 2020; Rogerson & Rogerson, 2022b).

Figure 3.3 was culled from Osayomi, *et al.* (2021). It represents a geographical analysis of COVID-19 morbidity in Africa between March 2020 and August 2020. Map A shows the incidents of COVID-19 across African countries, while Map B presents the fatality rates of the viral disease across African countries. Both maps show that South Africa had the worst experience of the pandemic in Africa, which implies that it had the highest vulnerabilities to the COVID-19 pandemic.

Figure 3.3: Geographical distribution of COVID-19 morbidity in Africa

<u>Source</u>:   Osayomi, *et al.* (2021:801-802).

Across the provinces of the country, the incidents of viral infection varied considerably. Arashi, Bekker, Salehi, Millard, Botha and Golpaygani's (2022) comparison of the provincial distributions of COVID-19 cases is presented in Figure 3.4. In line with the presentation of both the incident rates and mortality rates across Africa (Figure 3.3), the provincial incident rates and mortality rates are presented (Figure 3.4). It showed that most confirmed cases were recorded in Gauteng Province, followed by Western Cape and Kwazulu-Natal provinces. Most fatalities of the pandemic were recorded in the Eastern Cape and Western Cape provinces.

Figure 3.4: Provincial distribution of COVID-19 cases and death in South Africa

Responses from the government of South Africa were coordinated across the various stages of the pandemic period. With the announcement of a national state of disaster and the following imposition of a nationwide lockdown and international travel ban, the government managed the containment of the spread of the virus with five levels of alert. Mabuka, Naidoo, Ncube, Yiga, Ross, Kurehwa, Nare, Silaji *et al.* (2021) and Tong, Shi, Zhang and Shi (2022) documented that the National Lockdown Alert Level 5, which was characterised by the most stringent restrictions and lockdown was imposed between March 26 and April 30, 2020. Alert Level 4, which saw a partial easing of restrictions on movements, lasted between May 1 and May 31, 2020. From June 1 and August 17 was Alert Level 3.

With the second and third waves of the pandemic in addition to the discovery of the Omicron variant of the virus in November 2021 (Tegally, Moir, Everatt, Giovanetti, Scheepers, Wilkinson, Subramoney, Makatini *et al.*, 2022; Tong *et al.*, 2022; Vaughan, 2021), the national alert levels were changed in response to the escalating number of infections. The discovery of the Omicron significantly impacted the recovery process, particularly in the tourism sector. Vermooten (2023) found that the discovery of Omicron in South Africa and the government's response to the discovery caused a significant decline in air transport and tourism to and from South Africa. However, with slowed

infection rates in the following year with the national distributions of COVID-19 vaccines across the country, the government announced an end of the national state of disaster on April 5, 2022, and lifted all restrictions and conditions of movement within the country and between other countries (South African Government, 2022).

3.7 IMPACT OF THE COVID-19 PANDEMIC ON SOUTH AFRICA'S TOURISM INDUSTRY

3.7.1 <u>Immediate Impact</u>

The South African tourism industry, like many other tourism industries, was not insulated from the pandemic. As a country whose economic contributions from the tourism sector are significant – the fourth and fastest growing industry (Akinboade & Braimoh, 2010:152), the immediate and remote impacts of the pandemic were devastating (Dube, 2020; Nhamo, Dube & Chikodzi, 2020b; Nyawo, 2020). With more than half a million confirmed cases of COVID-19 infections by August 1, 2020, South Africa became the fifth worst-hit country after the United States of America, Brazil, Russia, and India (Rogerson & Rogerson, 2020b). The government's response to the escalating rate of the viral infection and the associated deaths was to impose the strictest level of lockdown, restrictions of movement, and closure of its borders in accordance with the alert system of the declared national state of emergency (Presidency of South Africa, 2021:3). To the tourism industry, the implication of the various mitigation measures against the spread of the virus was a closure of businesses in the industry with devastating consequences.

Across the various segments and niches that make up South Africa's tourism industry, there is a plethora of empirical evidence on the multipronged negative implications of the forced business closure in the tourism industry. Dube (2020) shows that the COVID-19-induced lockdown in South Africa's tourism industry caused many businesses in the industry to either go into administration or outright liquidation. In the same vein, a COVID-19 impact assessment on South Africa's tourism industry by Rogerson and Rogerson (2020b) concludes that the industry was the most affected by an 83% decline in tourism business revenue, with 58% of the tourism firms unable to service their debt obligations, while another 54% was unable to cover their fixed costs as of March 2020.

Lewis, Browne and Houdet (2021) further show that the decline in global tourism as a result of the pandemic negatively impacted South Africa's small, medium, and micro enterprises (SMMEs), which rely on tourism income as a vehicle for development. Similar to global tourism, domestic tourism in South Africa was significantly impacted as a direct consequence of lockdown, travel bans, and restrictions on public gatherings within the country (Aina & Alabi, 2022; Bama & Nyikana, 2021; Rogerson & Rogerson, 2022; Sucheran, 2021). Visiting friends and relatives, which, according to Dube-Xaba (2021:856) constitutes more than half of South Africa's domestic tourism market, was also affected by the travel restrictions that hallmarked the pandemic period (Dube-Xaba, 2021; Rogerson & Rogerson, 2023).

Evidence also shows that the pandemic affected every tourism niche in South Africa. The noted impacts of the COVID-19 pandemic on the evolving trajectory of niche tourism development in South Africa (Rogerson, 2011) necessitated a call for a renewed policy focus on niche tourism in the wake of the pandemic (Rogerson & Rogerson, 2021). Closure of national borders, as well as the general risk perception towards COVID-19, instantaneously cut off medical tourists from visiting South Africa (Deonarain & Ramoersad, 2024). Similarly, South Africa, a known destination for meetings, incentives, conferences, and exhibitions (MICE) for international tourists, was also affected (Lekgau & Tichaawa, 2022). The devastating impacts of the pandemic were also documented in other South Africa's tourism niches, such as wildlife and safari (Van Der Merwe, Saayman & Jacobs, 2021; Visser & Marais, 2021), cruise and coastal tourism (Rogerson & Rogerson, 2022b; Sucheran, 2021; Vermeulen-Miltz, Clifford-Holmes, Snow & Lombard, 2022), sports tourism (Hemmonsbey, Tichaawa & Knott, 2021; Martín-González, Swart & MaríaLuque-Gil, 2020), and religious tourism (Nyika, Ivanovic & Griffin, 2022).

3.7.2 Economic consequences of the pandemic

Tourism in South Africa has been extensively documented and acknowledged as a significant contributor to the South African economy (Abrahams, 2019; Aluko, 2021; Odhiambo & Nyasha, 2020; Rogerson, 2017). Implicatively, the established adverse impacts of the COVID-19 pandemic on South Africa's tourism industry have farfetched

economic consequences for the country. On the immediate, the abrupt cessation of business activities in the industry as a result of the pandemic caused a 75% contraction in South Africa's tourism economy, which amounted to an 8% shrinkage in the country's overall GDP in 2020 (Booyens, Rogerson, Rogerson & Baum, 2022:125). Data on COVID-19 business impact assessment from the Department of Tourism, South Africa, as reported by Rogerson and Rogerson (2020b:1088), show that the 83% decline in the tourism sector revenue as of March 2020 became a burden to the government with reference to saving tourism businesses and jobs.

Coincidental with the declining economic fortunes of the tourism industry was the risk of redundancies, job losses, and exacerbation of unemployment in South Africa (Booyens *et al.*, 2022). In the tourism sector, Rogerson and Rogerson (2020b) projected that 1.5 million would face business closures with attendant job losses. This is further echoed by the preliminary economic impact assessment of the COVID-19 pandemic on South Africa's hotel sector, which showed job losses, reduced salaries and redundancies as a result of the severe economic consequences of the pandemic (Sucheran, 2021). With the existence of a substantial informal sector in the tourism sector (Rogerson & Visser, 2014), Musavengane, Leonard and Mureyani (2020) extrapolated the COVID-19 knock-on effect on the livelihoods of tourism-dependent communities and their local tourism value chain.

Small-scale tourism businesses also suffered substantial losses as a result of the COVID-19 pandemic. An investigation of the pandemic's crisis management responses of small tourism firms in South Africa shows that microenterprise accommodation providers suffered severe financial losses due to the pandemic, with few viable mechanisms to cope with the crisis (Booyens *et al.*, 2022). Tour guides, who form an integral part of the tourism value chain (Abd El Kafy, 2021; Çetinkaya & Öter, 2016) and operate mainly as small-scale firms (Nemasetoni & Rogerson, 2005) were proportionately impacted. Mbatha, Harilal and Tichaawa (2021) and Odeku (2021) conclude that the South African tour guides were among the most impacted role players in the tourism sector for facing the precarious consequences of the national lockdown levels without financial insulation as many of them did not qualify for South Africa Tourism Relief Fund (Nhamo *et al.*, 2020b:369).

3.7.3 <u>Social and cultural implications</u>

Beyond the economic impacts of the COVID-19 disruption of the South African tourism industry, the social and cultural implications of the pandemic were also documented. The forced restriction of movement and public gathering, as well as the publicised advocacy for social distancing, assaulted the conceptualisation of community-based tourism as a tourism that pursues local development and socio-environmental sustainability while offering a special tourist product on account of its local attachment by Ruiz-Ballesteros (2023:2664). It is evident that South Africa's most tourism-dependent communities suffered the most vulnerabilities of the COVID-19 pandemic due to the reduced flows of tourists and visiting friends and relatives travel across many South African small towns and rural municipalities (Rogerson & Rogerson, 2020a).

Furthermore, an evolving nexus between South Africa's tourism and poverty alleviation through pro-poor tourism-led local economic development interventions (Rogerson, 2006) was affected. Two studies highlighted the impacts of the COVID-19 pandemic on two different provinces of the country. Giddy, Rogerson and Rogerson (2022) attribute the 4.8% decline in the local economy of Thaba Chweu Municipality, Mpumalanga Province in 2020 to the COVID-19 pandemic. It contends that the municipality's consistently high number of leisure trips of leisure seekers before the COVID-19 pandemic was responsible for its local GDP's growth rate of 19% before the pandemic. Rogerson, Lekgau, Mashapa and Rogerson (2022) blame the pandemic's devastation of the local economy on the lack of infrastructural resilience despite the municipality's wealth of cultural and heritage assets. Both municipalities were categorised as tourism-dependent localities (Giddy *et al.*, 2022).

3.7.4 <u>Government and Industry Responses</u>

Literature on the South African government's responses to the devastations of the COVID-19 pandemic on the tourism sector is substantive due to the various mechanisms the government devised. At the onset of the pandemic, the foremost preoccupation of many governments was to halt the spread of the virus and save lives and businesses (Kotzé, 2020; Nhamo, Dube & Chikodzi, 2020a; Zhou, Ayandibu, Chimucheka & Masuku,

2023). However, the concomitant effect of travel bans and movement restrictions that significantly affected the tourism sector (Dube, 2020; Sucheran, 2021; Young, 2020) necessitated immediate government interventions to save businesses and jobs in the tourism sector. Most studies affirm that the South African government predominantly used financial interventions such as the Tourism Relief Fund (TRF) and the Relief Fund for Tourist Guides (RFTG) to support tourism businesses and freelancers (Cheteni & Mazenda, 2022; Nyawo, 2020; Rogerson & Rogerson, 2020b; Viljoen & Maphosho, 2023). However, Nhamo *et al.* (2020b:369) noted that the South Africa Tourism Relief Fund Qualification Matrix excluded many enterprises that did not qualify for relief funds.

Through the Department of Tourism, the government created the Tourism Relief Fund that supported small and medium enterprises in the tourism sector with a one-off grant of R50,000 each as a way to subsidise their operating expenses and fixed costs (Department of Tourism, 2021). This intervention, in addition to collaborating with adjoining Departments of Labour and Employment, to improve efficiency in the disbursement of Unemployment Insurance Fund by firms in Tourism, Travel and Hospitality to their employees (Department of Tourism, 2021:19). In a broader interventionist approach, the government introduced a combination of fiscal and monetary policy plans, though aimed at the entire economy, but with special considerations to critical sectors (Arndt, Davies, Gabriel, Harris, Makrelov, Modise, Robinson, Simbanegavi *et al.*, 2020). The major purpose of the policy was to ensure liquidity between households and business entities.

Non-financial interventions were mainly policy frameworks towards mitigating the impacts of the pandemic and coordinating recovery plans for the industry. The Tourism Sector Recovery Plan (TSRP) was developed to foster a partnership between the government and the industry players in the tourism sector in support of the sector's long-term recovery (Viljoen & Maphosho, 2023). Furthermore, findings from an analysis of the responses of Southern African countries to the region's tourism industry using the United Nations World Tourism Organisations' (UNWTO) National Recovery Plans show that South Africa comparatively responded adequately in mitigating the devastations of the pandemic (Ilo, Das & Bello, 2024).

Businesses in the tourism industry devised various coping strategies in response to the harsh realities of the COVID-19 pandemic. In contending with significantly declined business revenues, many tourism businesses adopted cost-cutting measures (Mbatha *et al.*, 2021; Rogerson, 2021), while those that were unable to meet their financial obligations with unstainable financial support went into liquidation or administration (Dube, 2020; Rogerson & Rogerson, 2020b). In the MICE tourism sub-sector, business event firms postponed or cancelled booked events and restructured their operating costs in response to the lockdowns and travel restrictions. They further readjusted their business models to include virtual and hybrid events as a coping strategy at the end of the pandemic period (Bartis, Hufkie & Moraladi, 2021; Lekgau & Tichaawa, 2021). In nature-based tourism (Giddy & Rogerson, 2021), tourism enterprises responded to the COVID-19-devastation of the South African tourism industry with staff reductions and wage cuts and adjusted their pricing and marketing with the prevailing domestic market conditions.

68

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Businesses in the tourism industry devised various coping strategies in response to the harsh realities of the COVID-19 pandemic. In contending with significantly declined business revenues, many tourism businesses adopted cost-cutting measures (Mbatha *et al.*, 2021; Rogerson, 2021), while those that were unable to meet their financial obligations with unstainable financial support went into liquidation or administration (Dube, 2020; Rogerson & Rogerson, 2020b). In the MICE tourism sub-sector, business event firms postponed or cancelled booked events and restructured their operating costs in response to the lockdowns and travel restrictions. They further readjusted their business models to include virtual and hybrid events as a coping strategy at the end of the pandemic period (Bartis, Hufkie & Moraladi, 2021; Lekgau & Tichaawa, 2021). In nature-based tourism (Giddy & Rogerson, 2021), tourism enterprises responded to the COVID-19-devastation of the South African tourism industry with staff reductions and wage cuts and adjusted their pricing and marketing with the prevailing domestic market conditions.

3.7.5   Recovery, resilience, and sustainability in post-COVID-19

Research on the COVID-19 disruption of the tourism industry produced a number of emerging research agendas that situate conveniently across tourism recovery, resilience, and post-COVID-19 industry stability and sustainability (Kwok & Koh, 2021). Many studies contend that the recovery of the tourism industry hinged on financial stabilisation and incentivisation mechanisms to redress the economic losses to the stalled business activities in the industry (Chikodzi & Dube, 2023; Dube, 2020; Sucheran, 2022). With the progressed return to normalcy, which commenced with the lifting of bans on local travel and public gatherings, attention shifted to domestic tourism as a veritable vehicle for tourism industry recovery (Dube-Xaba, 2023; Nyikana & Bama, 2023; Rogerson & Rogerson, 2023).

On the account that not all tourism enterprises benefit from the South African government's relief fund, devising and employing strategies for attracting tourists was considered a tourism recovery approach (Lewis *et al.*, 2021; Martín-González, Swart & MaríaLuque-Gil, 2020; Mokabe, 2023). More so, the administration of COVID-19 vaccines

globally and the attendant boosting of travel confidence was found as a pathway to global tourism industry recovery (Dube, 2020; Dube, 2022; Vermeulen-Miltz, Clifford-Holmes, Snow & Lombard, 2022). Sucheran (2022) identified governance and collaborative partnerships among tourism stakeholders towards rebuilding tourists' trust as a focal pathway to recovery.

Tourism industry resilience or destination resilience, according to Ilmola (2016:218), refers to a destination's ability to avoid or bounce back from impactful adverse events, which is drawn from the interplay between vulnerability and adaptive capacity. On the basis of this conceptualisation, Kupika and Dube (2023) maintain that building tourism resilience is a panacea to promoting a safe and sustainable tourism economy in Southern Africa, using Zimbabwe and South Africa as study areas. Thus, an assessment of COVID-19 impact, the recovery and resilience of the tourism industry in Limpopo province by Dube and Nhamo (2024) shows minimal government support with unstable public utility, high inflation, and a global economic downturn. Invariably, the finding indicated low destination resilience in the province. In KwaZulu-Natal province, Gumede (2022) identifies the government's resilience building for SMMEs through the enforced vaccination against COVID-19. There are also prepositions to build resilient smart cities (Woyo & Ukpabi, 2022), improve institutional resilience (Chidakel, Eb & Child, 2020), and invest in social capital towards community-based resilience (Musavengane & Kloppers, 2020) in post-pandemic South Africa's tourism industry.

In the literature, there is a nexus between tourism resilience and tourism sustainability, as the former is considered the first way to improve the latter (Dahles & Susilowati, 2015; Fabry & Zeghni, 2019; Lew, 2013). Arguably, the post-COVID-19 sustainability of South Africa elongates along with the recovery of the tourism industry, its resilience, stability, and competitiveness. Consequently, emerging research themes on revitalising South Africa's tourism economy circumnavigate tourists' behavioural considerations (Chipumuro & Chikobvu, 2022; Matiza & Kruger, 2022), perceived risks, health and safety concerns in tourism spaces (Matiza, 2020; Matiza & Slabbert, 2021), and technological adoption and transformative tourism (Lekgau, Harilal & Feni, 2021; Woyo & Nyamandi, 2021).

3.8   CHAPTER SUMMARY

South Africa is a prime destination attractiveness that has witnessed the arrival of tourists from both the Global North and Global South countries. With variations in the tourists' interests, South Africa has been able to sustain their loyalty, which shows that the various special interest tourism, otherwise known as niche tourism, has been attractive to tourists. Similar to other tourist destinations, the outbreak of the COVID-19 pandemic and various bans and restrictions on movement significantly affected the arrival of tourists to South Africa. As a regional hub, the high number of cases of the viral infection in South Africa impacted the national economy and the regional economy of Southern Africa, which, by extension, has implications for the global economy. The multifaceted implications of the pandemic were extensively reviewed and documented in this chapter.

CHAPTER 4

DESTINATION ATTRACTIVENESS, TOURISTS' BEHAVIOURAL INTENTIONS, AND THE MODERATING ROLES OF COVID-19 PERCEIVED RISKS AND TOURISM TECHNOLOGIES

4.1 INTRODUCTION

Based on the study's thrust that the revitalisation of the post-COVID-19 pandemic tourism economy is susceptible to some subsisting conditions and influences, this chapter documents the concepts, influences, and dimensions of perceived risk and technological innovations in tourism. It first reviews the concepts of destination attractiveness, tourists' behavioural intentions, and their relationships. It goes on to discuss the various dimensions of perceived risk in tourism spaces and tourism technologies. The chapter concludes by reviewing the interaction influence of perceived risk and technological adoption.

4.2 DESTINATION ATTRACTIVENESS AND TOURIST BEHAVIOURAL INTENTIONS

Vengesayi, Mavondo and Reisinger (2009) conceptualised destination attractiveness as the perceived capacity of a tourism destination to satisfy the needs of tourists. Based on this conceptualisation, Sangpikul (2018) considers it as one of the critical determinants of tourists' behavioural intentions. By implication, the demand for tourism largely depends on the destination attractiveness of tourist sites and services within a tourism space, usually a country. In tourism marketing and management, destination attractiveness is a concept that is of prime importance to destination managers for two principal reasons: from the supply side of the tourism business, destination attractiveness defines the performance and competitiveness of tourism destinations (Corne & Peypoch, 2020; Zadeh Bazargani & Kiliç, 2021). From the demand side, destination attractiveness is a predictor of tourists' destination brand equity (Behboodi, Arabshahi & Danishwar, 2022; Rodríguez-Molina, Frías-Jamilena, Del Barrio-García & Castañeda-García, 2019; Saeed & Shafique, 2020). Furthermore, the pull dimension of Crompton's (1979) Push – Pull

71

Theory provides the theoretical underpinning of the predictive effects of destination attractiveness on tourism behaviours, which ultimately translate to visit and revisit intentions.

Destination attractiveness and destination image are the two sides of a coin that strongly influence tourists' visit and revisit intentions, as well as their affective destination brand equity. Destination attractiveness encompasses both physical (such as natural beauty, cultural heritage, infrastructure, and amenities) and non-physical (service tourism, facilitation, and support services) destination offerings that appeal to tourists (Song, Chen & Chen, 2020:2). On the other hand, destination image constitutes the impression, perception, and mental representation that tourists have about a destination. According to Haarhoff (2018:1), it encompasses knowledge, perceptual beliefs, affective feelings, and the overall impression that tourists hold about a particular destination. Implicatively, destination attractiveness is destination-specific, while destination image is tourist-specific.

Considerations on destination attractiveness, therefore, centre on specific attributes of destinations that make them appealing to tourists, while personal judgments and impressions about a specific destination sum up what is known as the image of a destination. The interplay of the two concepts – destination attractiveness and destination – defines tourists' decisions to engage in tourism in a particular destination, thus providing answers to tourists' buying decisions of *when, why*, and *where* to tour. Extant literature has proof of significantly positive relationships between destination attractiveness and destination image (Kim & Perdue, 2011; Prebežac & Mikulić, 2008; Yacob, Johannes & Qomariyah, 2019), with each of them having a strong influence on tourists' visit intentions and ultimate tourism satisfaction (Asca, Ardiansyah & Dara, 2023; Wishal Nafis, 2019).

For a good number of reasons, South Africa's attractiveness as a tourism destination has a rich literature. South Africa's rich biodiversity is a major source of attraction for tourists (Di Minin, Fraser, Slotow & Macmillan, 2013; Nicolaides, 2013; Ramaano, 2021), thus offering them a wide range of interests within its ecotourism. More so, South Africa has numerous cultural heritage resources and attractions (Nyambiya, Mutyandaedza, Mugabe, Muchanyangi & Zhou, 2022), which make it a favoured destination for cultural

72

and heritage tourism. Rogerson and van der Merwe (2015:236) contend that cultural heritage tourism is a significant component of South Africa's tourism strategy. Studies have also found that South Africa's climate and scenery contribute to its destination attractiveness (Fitchett & Hoogendoorn, 2018; Saayman & Du Plessis, 2004). Other than natural attractions, Saayman and Du Plessis (2003) noted that South Africa's built environment and tourist attractions contribute to the country's destination image and attractiveness.

Beyond tourist attractions, destination peculiarities and conditions such as exchange rates, infrastructure, and accessibility have direct effects on tourists' experience, satisfaction, and destination attractiveness. Several studies found that exchange rates between the Rand and the currencies of many developed and some emerging countries favour foreign tourists, invariably moderating tourists' intentions to visit South Africa positively (Plessis & Saayman, 2017; Saayman & Saayman, 2013). Tourism infrastructure was found to have significant effects on tourists' behavioural intentions and arrivals in South Africa (Seetanah, Durbarry & Ragodoo, 2010). Although South Africa's infrastructure does not fully meet the needs of tourists with disabilities (Plessis & Saayman, 2017), it ranks high among African destinations that support accessible and inclusive tourism, thus a source of motivation for tourists' behavioural intentions from this demographic segment.

In terms of special interest tourism, otherwise known as niche tourism, South Africa is a prime destination. It is a prominent hub for medical tourism, attracting medical tourists from both the Global North and Global South and the rest of Africa (Mangwane & Ntanjana, 2020; Matiza & Slabbert, 2020; Nicolaides & Zigiriadis, 2011). Its popularity for intercontinental cuisines (Singh & Bhoola, 2016), a booming wine industry with well-developed wine routes (Booyens, 2020; Ferreira & Hunter, 2017), as well as the growing interest in beer tourism (Collins, 2015b) position South Africa as an attractive destination for culinary tourism. More so, South Africa remains the best destination of choice for meetings, incentives, conferences, and exhibitions (MICE) in Africa by consistently occupying the first position according to the International Congress and Convention Association (ICCA) (2023) ranking.

73

Other growing niches that are of special attraction to tourists include (LGBT) tourism due to South Africa's recognition, liberalisation, and legalisation of lesbian, gay, bisexual, and transgender (LGBT) practices and preferences in the continent (Comer, 2018; Hattingh & Bruwer, 2020; Madinga, Van Eyk & Amoah, 2023). Tourism niches on the cruise, coastal, and marine activities (Rink, 2020; Rogerson & Rogerson, 2019), pilgrimage and religious tourism (Apleni, Vallabh & Henama, 2017; Linda & Nzama, 2020), sports tourism (Hemmonsbey & Tichaawa, 2020; Siyabulela, 2016), film tourism (Loedoff, 2014), and halal tourism (Bhoola, 2020) are other tourism niches in South Africa that attract empirical attentions.

Tourist' behavioural intentions to engage in tourism with reference to a particular geographical location is known as intentions to visit or revisit. It is the end-product of tourists' behavioural considerations. Tourist intention to visit or revisit refers to people's willingness to visit a destination for the purpose of tourism (Chen, Shang & Li, 2014:793). In line with the complexities of buyer behaviours, tourist intention to visit is a product of the interplay of numerous factors, considerations, and concessions. However, the Push – Pull Theory by Crompton (1979) offers one of the most comprehensive explanations of tourists' behavioural intentions by decomposing the motivational factors into two broad compartments – the push and pull factors. The push factors are tourist-centric, while the pull factors are destination-centric. Thus, destination managers and marketers build their competitive strategies on the pull factors with the aim of increasing destination attractiveness and eliciting tourist visit intentions to their countries in line with their (tourists) push factors.

In literature, evidence abounds on the positive influence of South Africa's tourism competitiveness, destination attractiveness, and destination image on tourists' visit intentions (Cronjéa & Du Plessis, 2020; Du Plessis, Saayman & Van der Merwe, 2015; Mlambo & Ezeuduji, 2020). Furthermore, with the diversity of South Africa's tourism products leading to market segmentation, findings from various studies on tourists' intentions to South Africa for specific tourism products are indicative of positive relationships between destination attractiveness and intention to visit. For instance, Mudzanani (2016:454) found that South Africa is an attractive medical tourism destination

on account of the affordable and quality medical services that are offered in the country. Matiza and Slabbert (2020) further revealed that South Africa's social-cultural place brand significantly influences medical tourism to the country.

A combination of traditional tourist attractions and a high number of religious events that take place in South Africa, usually during the Easter season, are the motivating factors for religious tourism in South Africa (Apleni *et al.*, 2017). Customer value has a positive influence on behavioural intention towards LGBT tourism in South Africa (Madinga *et al.*, 2023). Despite being a non-Islamic country, Aji, Muslichah and Seftyono (2020) found that tourists engage in halal tourism in South Africa because Muslim's intention to visit non-Islamic countries was not directly influenced by perceived halal risk and Islamic values but indirectly through attitudes.

4.3   COVID-19 PERCEIVED RISKS AND TOURISTS' BEHAVIOURAL INTENTIONS

Risk perception is a dominant behavioural consideration of tourist intentions. In its simplest meaning, risk connotes the probability or chance of suffering bodily harm or a loss of value. Value in this context is multifaceted; it could be financial, economic, health, social, psychological, satisfaction, safety, and security values, to mention but a few. Risks arise when there are possibilities of suffering bodily harm or losing one or more items of value (Haimes, 2009). Thus, phrases such as security risks, financial risks, social risks, and many others have emerged as concepts that are methodologically operationalised in empirical studies. It is on this basis that Bubeck, Botzen and Aerts (2012:1483) define perceived risk as the combination of "perceived probability" and "perceived consequences" [of the occurrence] of a certain event or activity.

The definition connects two perceptions – the possibility of an event occurring and such an event has consequentially negative implications on life, properties, and any other things of value. Since perception varies with individual differences, risk perception is subjective. As such, Chen, Ishfaq, Ashraf, Sarfaraz and Wang (2022:2) affirm that risk perception is the subjective judgement of the severity of a known risk. On the one hand, risk perception is influenced by many factors, such as emotional intelligence, cognitive biases, and socio-cultural orientation (Schudy, Zurek, Wisniewska, Piejka, Gaweda &

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Okruszek, 2020; Xu, 2018). On the other hand, it influences tourists' behavioural intentions and predicts their choice of destinations (Crowley-Cyr, Gershwin, Bremser, Abraham, Moreno Martin, Carreño & Wüst, 2022; Lim, 2022; Mandina & Du Preez, 2022).

Tourist decisions to travel and tour are based on the concept of buyer purchasing decisions (Nurmazidah, 2021:443), which are intrinsically influenced by several factors. Tourist personality expected benefits of touring, destination image, risks and uncertainties, destination marketing, and branding are some of the validated factors in the literature that influence tourists' visiting decisions (Hilšerová, 2022; Nurmazidah, 2021; Shaikh, Dars, Memon & Kazi, 2020). While these factors have varying degrees and nature of influence on tourists' visit intentions, perceived risks have been unanimously found to have a negative influence due to behavioural dispositions to risks and uncertainties (Artuğer, Hasan, Ismail & Islam, 2017; Kaushik & Chakrabarti, 2018). It is based on this that many studies concluded that perceived risk is a factor that has a significant negative influence on travel and tourism-related decisions (Kozak, Crotts & Law, 2007; Law, 2006; Rittichainuwat & Chakraborty, 2009) and intentions (Çetinsöz & Ege, 2013).

Additionally, studies that investigated the moderating effects of perceived risks on any predictors of tourists' visit intention or tourism satisfaction found negative interactive effects. For instance, the analysis of the moderating effects of perceived risk on the effects of tourism information search motivation and tourism satisfaction by Park, Park, Oh, Kim and Park (2016) established a positive relationship between tourism information search motivation and tourism satisfaction with negative moderating effects of perceived risk between the two variables. It is, however, in peculiar cases that perceived risks positively moderate the relationships between tourism demand predictors and behavioural responses. Soundararajan, Singh and Gera (2023) found perceived risks to be a positive moderator on the effects of word of mouth on behavioural drivers to engage in adventure tourism. Naturally, part of the motivating factors of adventure tourism is some appetite for taking risks, dealing with uncertainty, and engaging in precarity.

Prior to the outbreak of the COVID-19 pandemic, various dimensions of perceived risks were operationalised, and their impacts on tourism behaviours were investigated and

76

documented. As one of the foremost works on dimensions of tourism risk that served as the starting point for many exploratory studies on tourism risk perceptions, Roehl and Fesenmaier (1992) validated financial risk, psychological risk, physical risk, satisfaction risk, social risk, equipment risk and time risk as the prevailing dimensions in tourism spaces.

Evolutionary changes in ecological, political, economic, social, and epidemiological environments such as natural disasters, pandemics, political, and economic crises continually modify the dimensions of perceived risks with reference to intentions to travel and tour. For instance, after the September 11, 2001, terrorist attack in the United States of America, the risk of terrorist attacks became profoundly a perceived risk for international tourism demand. This conclusion is based on the assessment of perceived risk in international tourism by Lepp and Gibson (2003), which validated terrorism risk, criminal risk, cultural risk, religious risk, and dietary risk as indicators of perceived risks for tourists' intentions. Yang and Nair (2014a) used a number of notable tragedies that affected the global tourism industry, such as the 9/11 attack, the SARS outbreak, the Asian Tsunami, and the Bali bombing, to propose a framework to guide the operationalisation of the effects of perceived risks on tourist affective behaviours.

The globalised nature and associated devastations of the COVID-19 pandemic prompted various agendas for tourism research. Among these is the multidimensionality of risk perceptions in all spheres of human endeavour. Invariably, studies on COVID-19-induced risk perception in tourism were well-documented from different methodological perspectives (Nair & Pratt, 2022; Pandey & Joshi, 2021; Waluya, Ridwanudin & Zahirah, 2021; Zhang, Sun & Lu, 2023). However, De Rooij, Van Liempt and Van Bendegom (2022) is one of the studies that explored and validated constructs that uniquely measured COVID-19-induced risk dimensions for a number of reasons.

First, the study adopted a quantitative design using exploratory factor analysis to identify the significant risk dimensions during the COVID-19 pandemic. The quantitative approach reduced the risk of bias in identifying the significant risk dimensions that characterise the COVID-19 pandemic. Second, it investigated the effects of the validated dimensions of perceived risks on tourists' revisit intentions, thus operationalising the indicators during

the pandemic. Third, it contextualised a known tourist destination that had been receiving tourists before the pandemic. Thus, below are the study's six validated dimensions of COVID-19 perceived risks that influence tourists' behavioural intentions, which this research adapted and contextualised in South Africa's tourism space.

4.3.1 <u>Severity of COVID-19 pandemic</u>

In comparison with other viral outbreaks that the world had contended with, COVID-19 was far more contagious, with a high mortality rate (Farzanegan, Gholipour, Feizi, Nunkoo & Andargoli, 2021; Pitlik, 2020). The declaration of the virus outbreak as a pandemic by the WHO (2020) was due to the speed with which the COVID-19 virus was spread to every part of the world, with high hospitalisation and fatality rates. The implications of the high contagion and fatality rates of the COVID-19 virus on the global economy were farfetched. First, it caused a global public health disaster that nearly overwhelmed the global health practitioners (Alhalawi & Sutantri, 2022). The high rate of hospitalisation and mortality of the viral disease depleted the global population and the global workforce and reduced global purchasing power (Botha & de New, 2020; ILO, 2020; Zachara-Szymańska, 2022). In the tourism industry, the impact of the pandemic was even more severe. While other sectors could mitigate the impacts of the pandemic, the restrictions of movement, both locally and internationally, adversely affected the industry.

With an eventual return to normalcy and the opening of the global economy that marked the beginning of the post-pandemic era, the demand for tourism was inhibited by their knowledge and experience of the severity of the COVID-19 pandemic, otherwise known as the perceived severity of the COVID-19 pandemic. This dimension of risk perception assesses visitors' and tourists' personal dispositions, judgements, and impressions on the severity of the COVID-19 virus in their personal lives. The findings from Kliestik, Stofkova, and Seemann's (2021) assessment of the impact of the COVID-19 pandemic on the quality of life underscore the perception of the severity of COVID-19 as a profound risk. More so, the continuous rise in daily infections and fatalities of the COVID-19 pandemic, as well as the extensive media coverage of the pandemic's fatalities, heightens

the impression of the COVID-19 pandemic as a dreaded virus, thus affecting tourists' intention to travel and tour.

4.3.2 <u>General vulnerability of COVID-19 pandemic</u>

COVID-19 caused a wide range of disruptions and devastations in almost all spheres of human endeavours for two major reasons. Firstly, the high number of infected persons with rising death tolls created global panic, fear, and anxiety (Del Rio, Collins & Malani, 2020; Kumar & Nayar, 2021; Stang, Standl & Jöckel, 2020), thus heightened people's risk aversion. Secondly, in an attempt to contain and halt the contagious spread of the COVID-19 virus, various governments-imposed travel bans, movement restrictions, and controlled social activities (Gazzeh, Abubakar & Hammad, 2022; Rahman, Thill & Paul, 2020). Consequently, people's natural lifestyles were distorted, thus resulting in different forms of discomfort, stress, and anxiety. The generality of COVID-19 vulnerability stems from the globalisation of the pandemic – tourists contend with the pandemic in both their home countries and intended tourism destinations.

A number of studies have documented the various ways through which the general vulnerability of COVID-19 has impacted the tourism industry. Rahman, Gazi, Bhuiyan and Rahaman (2021) examined the impacts of COVID-19 on tourists' perception of travel risk management with findings showing that the vulnerabilities of COVID-19 significantly affect travel risk perceptions across choice of transportation channels, tourism service delivery, avoidance of overpopulated destinations, and general hygiene and safety precautions. More so, an assessment of COVID-19 risk perception on South Korean behavioural intentions towards tourism by Bae and Chang (2020) shows, among other things, that affective risk perceptions negatively exerted influence on tourists' behavioural intentions. However, as the world transits beyond the impressions and perceptions of the COVID-19 pandemic, it is expected that the level of influence of the general vulnerability of the virus will continue to diminish.

4.3.3   South Africa-specific vulnerability of the COVID-19 pandemic

Tourist destinations represent geographical delineations with unique characteristics. With variations in the rates of COVID-19 infections and fatalities across the world (Bignami-Van Assche & Ghio, 2022; Sorci, Faivre & Morand, 2020), perceptions of risks across countries varied. Brand-related vulnerability of COVID-19-induced risk perception refers to the country-specific variations in risk indices of tourism destinations. For instance, at the peak of the pandemic, the United States of America became the world's epicentre of the COVID-19 virus (Maani & Galea, 2020), while South Africa and Spain were regional epicentres (Garcia-Carretero, Vazquez-Gomez, Gil-Prieto & Gil-de-Miguel, 2023; Majam, Fischer, Phiri, Venter & Lalla-Edward, 2021).

Beyond recording the highest rate of infections of the COVID-19 virus in Southern Africa, South Africa became one of the originating countries for one of the variants of the virus, code-named Omicron (Tegally, Moir, Everatt, Giovanetti, Scheepers, Wilkinson, Subramoney, Makatini *et al.*, 2022). COVID-19 brand-related vulnerability, therefore, refers to the country-specific risk perception arising from a country's peculiar COVID-19 cases and fatalities. The Department of Tourism (202314) equally acknowledged the prevalence and influence of perceived risk of South Africa-specific vulnerability to the pandemic when it noted that the country's "brand continued to be under pressure due the country's association with the 501Y.v2 variant of the COVID-19 virus".

4.3.4   Satisfaction risk associated with COVID-19 pandemic

Tourists' visit and revisit intentions are based on some level of expectations and satisfaction. Satisfaction risk, therefore, refers to the perceived risk of a tourism destination not being able to meet the expectation levels that motivate tourists to undertake tourism. From the evaluation of post-COVID-19 tourism satisfaction in the hospitality industry, Bader, Al Rousan, Khasawneh, and Niyas (2023:155) found that there was a shift in the satisfaction level across the three main service options that determine tourism satisfaction, namely, travel facilitation, facilities for tourists at their destinations, and accommodations. Understandably, many tourism and hospitality businesses that suffered the devastating impacts of the COVID-19 pandemic are yet to

80

bounce back to their pre-COVID-19 operating capacities, while some collapsed. As a coping strategy, some others diversified away from the tourism business (Butnaru, Maftei & Ștefănică, 2021). The awareness of these service losses translates to perceived satisfaction risks for tourists.

In the literature of perceived tourism risk, satisfaction risk is synonymous with performance risk. Satisfaction risk is tourist-centric, while performance risk is destination-centric. However, both approaches assess identical risk influence. An investigation of the level of service quality in hospitality businesses during the COVID-19 pandemic and its effects on revisit intentions by Günaydin (2022) showed that while service quality significantly influences revisit intention, the pandemic negatively impacted the level of service quality in hospitality businesses. Furthermore, a bibliometric analysis of COVID-19 tourism literature showed that perceived risk and tourism satisfaction ranked as the seventh and eighth key terms among the ten most occurring terms in the context of COVID-19 tourism research (Xin, Hizam-Hanafiah & Yin, 2022:1382-1383). As one of the components of fear associated with COVID-19, Tu, Park and Ding (2023) found that tourists' perception of satisfaction and value have a mediating influence on tourism intentions.

4.3.5 Social risk associated with COVID-19 pandemic

In the literature on perceived risks in tourism research, social risk is a well-documented risk dimension even prior to the COVID-19 pandemic (Çetinsöz & Ege, 2013; Roehl & Fesenmaier, 2016; Yang & Nair, 2014b). According to Peláez, Vaccaro and Cabrera (2018:2374), social risk is the possibility of a person suffering any damage or loss that originates from a social cause or activity, which, in many cases, depends on the environmental conditions surrounding the person. In other words, social risk encompasses a wide range of social, cultural, and institutional factors that interact with known hazards and, therefore, influence behavioural responses to the source of risk.

Social risk is one of the dimensions of the perceived risk that was heightened due to the COVID-19 pandemic, owing to the contagious nature of the virus. Travel and tourism are entwined with social activities within social environments such that many empirical

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sources concluded that the spread of the COVID-19 virus was precipitated by travel and tourism (Dube-Xaba, 2021; Farzanegan, Gholipour, Feizi, Nunkoo & Andargoli, 2021; Sigala, 2020). The perceived social risks associated with the COVID-19 pandemic are the risks of contracting the virus, infecting families and friends, being hospitalised, and, in fatal cases, death.

Extant literature on the impact of COVID-19-induced social risk in tourism is documented from varied perspectives. Rahmafitria, Suryadi, Oktadiana, Putro and Rosyidie (2021) used the Theory of Planned Behaviour to examine the influence of knowledge, social concern, and perceived risk on tourists' intention to travel during the COVID-19 pandemic era. Results show that the behavioural theory provided explanations about the influence of knowledge, social concerns, and perceived risks on tourists' behaviours. Based on the established influence of perceived social risk on the customers of hospitality businesses, Shin and Kang (2020) found the use of technological innovations effective in maintaining social distancing and cleanliness as a risk-reduction strategy. COVID-19 has also been found to have significantly changed the daily lives of tourism and hospitality consumers due to social distancing and other risk-averse actions, which, by extension, have affected their preferences and consumption patterns (Im, Kim & Choeh, 2021).

4.3.6 Psychological risk associated with COVID-19 pandemic

Earlier studies such as Adam (2015) and Chew and Jahari (2014) had combined psychological risk and social risk as one component of perceived risk. However, COVID-19 experience has shown that they exist in separate dimensions. For instance, the imposition of travel bans and lockdowns was aimed at slowing down the spread of the COVID-19 virus and, invariable, reducing social risk. However, such measures increased fear, stress, anxiety, negative emotions, and depression in people during lockdowns and compulsory isolations such as quarantines (Erbiçer, Metin, Çetinkaya & Şen, 2021; Rodas, Jara-Rizzo, Greene, Moreta-Herrera & Oleas, 2022).

Psychological risk refers to events, conditions, and factors that cause impaired cognitive functions, negative emotions, stress, anxiety, depression, and other forms of psychological distress on people. Psychological discomfort was one of the widely

82

reported consequences of the COVID-19 pandemic for many reasons. Media coverage of the pandemic, particularly social media, was very extensive, with varying degrees of information distortion (Radwan, Radwan & Radwan, 2020; Su, Mcdonnell, Wen, Kozak, Abbas, Šegalo, Li, Ahmad *et al.*, 2021). Travel bans, lockdowns and restrictions on movements and social gatherings were unnatural to people and, as such, had negative psychological effects (Rodas *et al.*, 2022). Quarantine and forced isolation caused loneliness with associated anxiety and depression (Boursier, Gioia, Musetti & Schimmenti, 2020).

Variations in the rates of COVID-19 infections and associated fatality rates across the countries and demography (Nuhu, Humagain, Alorbi, Thomas, Blavos & Placide, 2022; Sasson, 2021), the mitigating responses that various governments devised to contain the virus (Lim & Rahmandad, 2020), the impacts of the pandemic, and the associated risk perceptions on the tourism industry varied across the countries. For several reasons, South Africa is one of the countries with heightened COVID-19 perceived risks for travellers and tourists. South Africa was one of Africa's epicentres of the virus at the peak of the pandemic (Majam *et al.*, 2021) and became an originating country of one of the variants of the virus (Tegally *et al.*, 2022). More so, South Africa is one of the African countries with relatively high vaccine hesitancy (Cooper, Van Rooyen & Wiysonge, 2021). Invariably, the actual effects of the various dimensions of perceived risks in visiting and touring in South Africa post-COVID-19 pandemic are most likely to be high and significant.

4.4   TOURISM TECHNOLOGIES IN COVID-19 ERA

Since the outbreak of COVID-19 and its eventual declaration as a pandemic, adoption, utilisation, and pervasion of technology substantially increased. As posited by Dwivedi, Hughes, Coombs, Constantiou, Duan, Edwards, Gupta, Lal *et al.* (2020:17), the escalating spread of the COVID-19 virus and the attendant lockdown and imposition of movement restrictions heightened the focus on automation technologies and artificial intelligence solutions. Consequently, the reliance on technology was visible in all spheres of human endeavours. For instance, the adoption of virtual learning platforms in the educational sector as a mitigating response to the closure of contact and physical learning

was widespread (Almarzooq, Lopes & Kochar, 2020; Chick, Clifton, Peace, Propper, Hale, Alseidi & Vreeland, 2020; Wordu, Woryi, Charley & Nkpolu-Oroworukwo, 2021).

The health sector, which directly and overwhelmingly contended the ravaging devastations of the pandemic on public health, extensively relied on technology for safety, support, and service delivery. Disruptive technologies such as artificial intelligence, telehealth, telemedicine, and robots were increasingly deployed to minimise contact medical services (Clipper, 2020), facilitate contact tracing (Samuel & Sims, 2023; Walrave, Waeterloos & Ponnet, 2021), occupational therapy interventions in mental health delivery (Daly, Isdell, Moynihan, O'Callaghan, O'Leary, Pepper & Pennisi, 2022), and public health informatics (Snowdon, Kassler, Karunakaram, Dixon & Rhee, 2021). Other sectors such as supply chain and distribution (Asgharifard, 2022), agriculture and food security (Ukolova, Shikhanova, Pototskaya, Novikova & Vasiliyeva, 2021), and hospitality industry (Chadee, Ren & Tang, 2021) equally witnessed unprecedented demand and reliance on technological interventions against the pandemic.

As a result of the COVID-19 pandemic, technology acceptance, adoption, and utilisation have been identified as one of the five emerging research themes (Yang, Zhang & Rickly, 2021). By extension, the tourism industry has witnessed a remarkable embrace of technological innovations since the outbreak of the COVID-19 pandemic (Podzharaya & Sochenkova, 2021). In other words, the devastations of the global tourism industry – one of the most impacted sectors by the COVID-19 pandemic – spurred the adoption and utilisation of various technological innovations since the pandemic. Through a bibliometric analysis, Ndou, Mele, Hysa and Manta (2022) provided evidence of how COVID-19 accelerated the adoption, utilisation, and diffusion of numerous technologies in tourism spaces and value chains. With the growing number of scholarly contributions on technology adoption in tourism during and after the COVID-19 pandemic, two perspectives emerged for evaluating and synthesising the extant literature.

One of these approaches is the assessment of changes in the technological adoption across the tourism services space due to the COVID-19 pandemic. Tourism service space, according to Torres (2022), combines tourism products, services, places, and activities that contribute to the overall tourist experience. As documented by Torres

84

(2022:435), the evolving tourism Service space because of COVID-19-induced adoption of technologies produced five pillars, namely, health technologies, safety and sanitation technologies, digitalised identification and passes, contactless technologies, immersive technologies, and tourist monitoring and distancing technologies. This approach is service-oriented.

4.4.1 Service-oriented technology adoption in the tourism space

4.4.1.1 Health, safety, and sanitation technologies

Health, safety, and sanitation technologies are a selection of technologies that were devised to mitigate against the health, safety, and sanitation threats in the tourism industry as a result of the COVID-19 pandemic. Li, Wang, Abbas, Hassan and Mubeen (2022) note that technologies for social distancing, crowd controlling, digital health passports and big data were deployed and relied on in making decisions to reopen travel and tourism. Others include robotised AI, touchless mechanisms, neutering and disinfecting public spaces and measuring and reporting human temperatures. In the same vein, Kumar, Kumar, Saini, and Kumar (2022) note that robotics technology was increasingly used in travel, tourism, and hospitality in the wake of the COVID-19 health crisis. They observed that flying drones were used to sterilise crowded tourist areas, increased use of autonomous vehicles (self-driving vehicles) by travellers and tourists, and non-human deliveries. An increasing number of hotels are being operated by robots in carrying out routine tasks such as carrying guests' luggage, serving guests, operating vending machines, guiding guides, and cleaning hotel rooms (Choi, Oh, Choi & Kim, 2021; Mukherjee, Baral, Venkataiah, Pal & Nagariya, 2021).

4.4.1.2 Digitalised identification and passes

According to Torres (2022:436), digitalised identification and passes refer to a collection of verified digital credentials and attributes that people use online, which are similar to their conventional real-world identities. Biometric identification systems and e-passports were the major technologies within the digitalised identification and passes, as they were used to provide digital identity control in cross-border travel during and after the COVID-19 pandemic (Sigala, 2020).

85

4.4.1.3 Contactless technologies

Contactless technologies provide touch-free processes and activities aimed at reducing the risk of contracting the COVID-19 virus and further spreading the virus. Notable innovations within contactless technologies include the Near Field Technology (NFT), Radio Frequency Identification (RFID), and Bluetooth technology. With these technologies embedded in smart gadgets such as smartphones, smart tablets and scanners, Torres (2022) notes that many activities in the tourism and hospitality industry, such as payments, check-ins, identifications, and guides, were conducted contactless.

4.4.1.4 Immersive technologies

Immersive technologies allow the replication of real-world realities with digital realities while providing a sense of immersion to users (Tom Dieck & Han, 2021:110). Before the outbreak of the COVID-19 pandemic, there had been growing research on the adoption of immersive technologies in the tourism space. For instance, a critical review of the research progress on augmented reality (AR) and virtual reality (VR) between 2000 and 2018 in tourism and hospitality by Wei (2019) showed that the tourism and hospitality industries used up-to-date AR/VR technologies with the rate of adoption higher in big organisations due to investment risk. Kounavis, Kasimati and Zamani (2012) investigated the challenges and prospects of enhancing the tourism experience through augmented reality. Results showed that while the innovative technology had various limitations that hindered substantial end-user adoption, it had the potential to complement the tourism experience.

With the outbreak of the COVID-19 pandemic that caused travel bans and restrictions of movement, the demand and popularity of immersive technology in tourism soared. Podzharaya and Sochenkova (2021) found that the digitalisation of tourism through virtual tours of cities and museums around the world gained more popularity during the quarantine restrictions. The "New Normal" has also spurred growth in demand for virtual reality, augmented reality, and mixed reality in various tourism spaces (Baroroh & Agarwal, 2022; Kongtaveesawas & Suwaree, 2022; Pratisto, Thompson & Potdar, 2022).

4.4.1.5 *Tourists' monitoring and distancing technologies*

Tourists' monitoring and distancing technologies, as the last pillar of the *New Tourism* Servicecape, are a number of technologies that facilitated the monitoring of tourists and ensured physical distancing among tourists and others. Torres (2022:439) indicated that SafeCount and Zanwave were used in airports, recreational centres, and shops to count people and manage spaces, respectively, during the easing of travel restrictions after lockdowns and travel bans. SafeCount and Zanwave are innovating technologies that digitally count people within a defined location and have the ability to control access. Gretzel, Fuchs, Baggio, Hoepken, Law, Neidhardt, Pesonen, Zanker and Xiang (2020) also admitted that technology was used to mitigate global transmission issues such as tourist inspections and contact assessments during the pandemic.

4.4.2 Application-oriented technology adoption in the tourism space

An alternative to service-oriented technology adoption in tourism is application-oriented adoption, which is in line with Linares-Vásquez, Mcmillan, Poshyvanyk and Grechanik's (2014) classification of software applications into various domain categories. Application-oriented technology adoption, therefore, approaches the adoption and utilisation of innovative technologies from the standpoint of the prevailing technologies adopted to support the tourism industry in a pandemic era. Some of the technological innovations that have dominated the literature on technological innovations in tourism are social media, mobile applications, virtual reality, biometric technologies, the Internet of Things (IoT), Artificial Intelligence (AI), machine learning, and blockchain technology.

4.4.2.1 *Social media*

Social media is one of the most popular offerings of innovative technologies that have been adopted in tourism before, during, and after confinements that were associated with the COVID-19 pandemic. Prior to the outbreak of the pandemic, social media had been used as a potent digital platform for destination marketing (Arlt & Thraenhart, 2011; Fath, Fiedler, Li & Whittaker, 2017; Kayumovich & Kamalovna, 2019). A literature review of social media applications in the tourism and hospital industry by Leung, Law, van Hoof and Buhalis (2013) produced five domains: promotion (marketing), product distribution,

communication, management, and research. With the COVID-19 pandemic, the scope of social media application in tourism did not change noticeably; however, the reliance on it soared significantly due to increased reliance on digital marketing as a result of the pandemic (Chloridiany, 2021). Specifically, social media has been effectively used to influence travel and tourism behaviours in the COVID-19 era (Liu & Chong, 2023; Madureira & Alturas, 2022), destination marketing, branding, and communication (Chiwaridzo & Masengu, 2023; Pachucki, Grohs & Scholl-Grissemann, 2022), and provides a platform for maintaining tourist engagements, satisfaction, reviews and feedback that are valuable for the tourism industry (Hvass & Munar, 2012; Moro & Rita, 2018).

4.4.2.2 *Mobile apps*

The evolution of cloud computing further extended the application and adoption of mobile app technologies to many other functional areas (Liang, Wang, Dong, Zhang & Qi, 2021). Tourism and hospitality industries are among the industries with increased mobile applications that are hosted on mobile devices such as mobile phones, tablets, and wearables. Mobile apps have revolutionised the way people communicate, shop, pay, play, work and perform other various endeavours of human lives that invariably extend to tourism activities (Jia, Li & He, 2016). From travel bans, lockdowns, and imposition of physical distancing as well as the heightened risks of contracting the COVID-19 virus, the reliance on mobile app transactions soured exponentially.

This exponential increase is due to the prevalence of numerous software applications that were developed in addition to existing ones on the mobile application platforms. In addition to mobile payments, bookings, reservations, and check-in apps, the COVID-19 pandemic necessitated the development and adoption of a new array of mobile apps that host self-service kiosks, digital health passports, vaccination certifications, weather alerts, crowd and traffic alerts, destination marketing information (Shukla & Kulshreshtha, 2021; Torres, 2022). An investigation of the effectiveness of using mobile apps in Saudi Arabia's tourism industry showed a promising positive impact of mobile apps in the industry (El-Sofany & Abou El-Seoud, 2023).

4.4.2.3 Virtual reality, extended reality, and mixed reality

Also referred to as immersive technology, it encompasses all the related technologies that give people the feeling of the virtual world in a physical environment. Šlosar, Voelcker-Rehage, Paravlić, Abazovic, De Bruin, and Marusic (2022:2-5) identified four broad categories of technologies that make up immersive technologies as virtual reality (VR), augmented reality (AR), mixed reality (MR), and extended reality (XR). Basically, immersive technology provides users with a multisensory experience and satisfaction that stimulates and imitates real-world interactions. Through cultural and heritage tourism, the tourism industry became one of the receptive industries to the emergence of virtual reality technologies (Ross, Saxena, Correia & Deutz, 2017).

Further developments and innovations in virtual reality technologies increasingly created varying levels of immersive experiences in tourism. From the extant literature, Beck, Rainoldi and Egger (2019) categorised them into three levels, namely, non-immersive virtual reality in tourism (Huang, Backman, Backman & Chang, 2015), semi-immersive virtuality in tourism (Zarzuela, Pernas, Calzón, Ortega & Rodríguez, 2013), and fully immersive virtual reality in tourism (Marasco, Buonincontri, van Niekerk, Orlowski & Okumus, 2018). From non-immersive virtual reality to fully immersive virtual reality, the real-life reality diminishes while technological immersion increases.

One of the purposes of virtual reality in tourism is to enable potential tourists to experience a destination before the actual visit, which, according to Wan, Tsaur, Chiu and Chiou (2007), has better advertising effects than traditional brochures and leaflets. With the COVID-19 pandemic, the demand and adoption of virtual reality in the tourism space have increased. Seshadri, Kumar, Vij and Ndlovu (2023:173) showed evidence that the pandemic caused a wider-scale adoption and utilisation of virtual reality in tourism applications, while Fan, Jiang and Deng (2022:13) assert that virtual tourism became a hotspot in the pandemic era.

4.4.2.4 Biometric technology

Biometric technology refers to a collection of software applications that use biologically unique characteristics of individuals, such as fingerprints, facial recognition, and iris

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patterns, to identify, verify, authenticate, and authorise individuals and their actions. As one of the earliest studies on the application of biometric technology in tourism and hospitality, Meyersa and Millsb (2007) identify two functionalities of biometric technology that are crucial to the industries: (i) enhancement of service management through improved security, customer relations and business management, and (ii), reduction of costs associated with identity theft and unauthorised access. Mills, Meyers and Byun (2010) summarised the potential business benefits of biometrics, such as increased customer convenience, operational efficiency, and security.

Consequently, biometric technology has been deployed in hotels and tourist resorts for self-check-ins through either fingerprint recognition or facial scans (Hua, 2016). According to Meyersa and Millsb (2007), Borgata Hotel Casino (USA) deployed a biometric facial recognition solution to facilitate in identifying card cheaters and unwanted guests, while the Waldorf Towers utilised fingerprint recognition for in-room safes. Research on the application of biometric technologies since the COVID-19 pandemic is emerging. For instance, a baseline study of pandemic and biometric technologies shows, among other things, a paradigm shift in the application of biometric technologies from contact-based applications to contactless applications since the outbreak of the deadly virus (Iwasokun, Akinwonmi & Bello, 2022).

4.4.2.5 Internet of Things (IoT)

One of the 21st-century disruptive technologies is the Internet of Things. Since its connotation in 1999 by Kevin Ashton (Li, Xu & Zhao, 2014:243), the definitions of IoT have varied among practitioners, scholars, and enabling technologists. However, the basics of IoT simply imply the existence of digital objects within known networks. The combination of the two words "Internet" and "Things", according to Li *et al.* (2014:244), means an interconnection of the worldwide network (such as the Internet) based on sensory, communication, networking, and information processing technologies. In its simplest meaning, IoT refers to the utilisation of the connectivity between users' smart devices and the internet for varying beneficial options. Since the formative ages of IoT, its application to tourism space has been evident.

Earlier studies focused on the embedment of IoT with the development of smart cities (Guo, Liu & Chai, 2014; Kaur & Kaur, 2016). For instance, Cavada, Elahi, Massimo, Maule, Not, Ricci and Venturini (2018) examined how the IoT enables new methods of exploiting the synergy between the physical and digital worlds in creating interactions between tourists and destination services towards improved tourism experiences. However, with advancements in IoT technologies, research attention has diversified to specific tourism niches. Mei (2020) analysed how the situations and problems in coastal and marine tourism could be mitigated by deploying IoT. Similarly, Lin, Liu and Lu (2019) demonstrated the effectiveness of deploying IoT in improving tourism attractiveness through optimal management of service benefits in recreation parks.

During the COVID-19 pandemic, IoT was used to enhance safety measures such as the implementation of health protocols, monitoring of social distancing and promotion of contactless transactions and activities (Ghaleb, Bin-Thalab & Alselwi, 2021). In the tourism space, IoT was one of the technological platforms for developing intelligent tourism information services by providing real-time tourism-related big data on scenic tickets, accommodation, weather, and other meteorology information on destinations, thereby enhancing tourism experience and satisfaction (Liu, 2022).

4.4.2.6 Artificial intelligence (AI)

Technological innovations and advancements come with varying levels of automation. As technological innovations journeyed across industrial revolutions, automation continued to advance (Glawe & Wagner, 2020) until the 4th industrial revolution that ushered in the cognitive abilities of technological algorithms, otherwise known as artificial intelligence. According to Cantisani, Grani, Tovoli, Piscaglia and Catalano (2020:356), artificial intelligence refers to "reason and discover meaning, generalise, or learn from past experience, thus able to perform tasks normally requiring human interaction". Consequently, AI spearheads the invasion of autonomous and generative technologies in human history, driving the introduction of self-driving automobiles, chatbots, speech-recognition and interactively generative software applications.

91

The cognitive ability of AI technology makes its applicability to almost all human endeavours. In healthcare, AI has improved disease diagnosis, the accuracy of prognoses, the analysis of medical imagery, and the use of data mining to improve patient outcomes (Alugubelli, 2016; Reddy, Fox & Purohit, 2019). AI has been the driving force behind precision medicine (Hamamoto, Suvarna, Yamada, Kobayashi, Shinkai, Miyake, Takahashi, Jinnai *et al.*, 2020). AI is increasingly used in finance for fraud detection, risk assessment and management, customer service chatbots, and algorithmic foreign exchange trading (Adam, Wessel & Benlian, 2021; Bao, Hilary & Ke, 2022; Bogojevic Arsic, 2021). Similarly, AI's adoption in education has been on the increase through generative AI for teaching, learning and research (Baİdoo-Anu & Owusu Ansah, 2023; Barros, Prasad & Śliwa, 2023); in manufacturing, it is used for predictive maintenance, quality control and process optimisation, (Chouchene, Carvalho, Lima, Charrua-Santos, Osório & Barhoumi, 2020).

In the tourism and hospitality sector, the adoption of AI is also on the rise. For destination managers and tourism businesses, AI has increasingly become a prominent tool for providing and supporting customer services (Buhalis, 2020; Leung, 2021). As such, research on AI in tourism is also on the rise. Kazak, Chetyrbok and Oleinikov (2020) noted that the tourism and hospitality industry business in a highly digital era is susceptible to numerous factors that complicate the decision-making process. On such a basis, they suggest the adoption of neural network technologies as an effective solution in discovering and utilising hidden relationships in business data. More so, the adoption of AI-based chatbots in tourism is becoming popular and widespread (Hanji, Navalgund, Ingalagi, Desai & Hanji, 2024; Rafiq, Dogra, Adil & Wu, 2022). Pillai and Sivathanu's (2020) investigation of customers' behavioural intention and actual usage of AI-powered chatbots in tourism shows that the predictors and motivators of the use of chatbots in the industry are the technology's perceived ease of use, perceived usefulness, perceived trust, and perceived intelligence.

Other applications of AI in tourism are the disintermediation of tourism processes (Sekuloska & Erceg, 2021) and virtual assistants (Du, Zhao, Wu & Feng, 2021). With a focal shift in tourism development from quantity to quality in response to the compelling

92

impacts of the COVID-19 pandemic (Nurrahma, Hakim & Parmawati, 2021), there has been an acceleration in the adoption of technology-driven contactless services, virtual assistance, robotics, and AI tools in the tourism industry (Khan, Khan & Khan, 2022). Through a bibliometric literature review of AI in tourism from 2000 to 2022, Ab Rashid and Aziz (2022) found, among others, that the application of AI in the tourism industry has had positive effects on tourism stakeholders. Prominent among these positive effects are an increase in total revenue for tourism businesses, further technological developments, improved inclusion for the disadvantaged and disabled, and increased scientific production and collaboration among scholars across the world.

4.4.2.7 Machine learning

Although scholars and practitioners have used artificial intelligence and machine learning interchangeably, Kirtil and AŞKun (2021:225) emphasise that machine learning is one of the AI tools with specialised functionalities and, therefore, with distinct applications. Thus, separating it from AI in this review stems from its distinct application and deployment in tourism with enormous empirical studies. Machine learning is among the first AI algorithms to be applied in the tourism industry, thus prompting early research in machine learning in the tourism and hospitality industries. From extant literature, the application of machine learning in tourism is documented in three major clusters: tourism demand prediction and modelling, recommender system, and sentiment analysis. Machine learning has been used to resolve the issues of unused facilities, unsold event tickets and other under-capacity utilisation problems in the tourism and hospitality industries and to forecast service demands (Li, Li, Pan & Law, 2021; Yu & Chen, 2022).

Machine learning models have thus far been found to be an efficient method of improving predictions in tourism demands (Claveria, Monte & Torra, 2015). According to Ricci, Rokach and Shapira (2015), a recommender system is a set of software tools and algorithms that provide suggestions for items that are most likely of interest to a particular application user. Nilashi, Bagherifard, Rahmani and Rafe (2017) used data from TripAdvisor to confirm the effectiveness of the machine learner's recommender system for the tourism industry. Similarly, Phade, Barve, M and Kulkarni (2019) and Bailkeri,

93

Karadiguddi, Koshavar, Tigadi and Bhatkande (2023) found machine learning's recommender system effective in the tourism industry.

An extension of the effective recommender system of machine learning is sentiment analysis. Sentiment analysis examines people's emotions over a known issue or object. The by-product of sentiment analysis is the determination and authentication of public opinions or emotions towards an issue (Mäntylä, Graziotin & Kuutila, 2018). In a product or service context, sentiment analysis invariably provides user reviews. With machine learning algorithms, sentiment analyses have been conducted on various web platforms, mostly on social media platforms, with millions of users who have the convenience of expressing their emotions over various subjects.

As indicated by Rai and Ahirwal (2018), the framework of sentiment analysis is based on machine learning algorithms in authenticating tourism industry reviews. Based on this, Phade *et al.* (2019) proposed a machine-learning approach for building a recommendation system for the tourism industry using sentiment analysis. In line with the increased deployment and dependency on technology due to the COVID-19 pandemic, the application of machine learning in the tourism industry also increased with the emergence of new thematic areas. Due to the varying effects of the pandemic on destination images across countries, machine learning has been widely used for destination branding and marketing (Arefieva, Egger & Yu, 2021; He, Deng, Li & Gu, 2021). It has also been used to determine parameters that affect tourism revenue (Ozturk, Guler & Polat, 2023) and predict real estate values for tourism centres and facilities (Alkan, Dokuz, Ecemiş, Bozdağ & Durduran, 2023).

4.4.2.8 Blockchain technology

As one of the disruptive technologies of the fourth industrial revolution, blockchain technology evolved to solve the ever-growing need for improved trust, transparency, and accountability in the digital community. Rizal Batubara, Ubacht and Janssen (2019) opine that blockchain is a digital system of fortified trust that motivated the development of an accountable and transparent blockchain-based e-government system for Indonesia. According to Crosby, Pattanayak, Verma and Kalyanaraman (2016:7), blockchain is a

distributed database of digital events, records, and transactions that are executed and shared among participants in which shared information cannot be erased or modified but verified by the majority of participants within the chain. Due to the numerous prospects of blockchain technology in tourism, researchers' attention has been progressively increasing. As one of the foremost writers on blockchain in tourism, Önder and Treiblmaier (2018) propose three research propositions that focus on the trustworthiness of rating systems, global adoption of cryptocurrency as a payment option, and disintermediation in the tourism industry. Unarguably, the three propositions mainstream the unique attributes that underlie the appeal of blockchain technology in the tourism industry.

A trustworthy rating system stems from the blockchain's decentralised database of participants' records and the consensual verification of transactions within the technology's peer-to-peer network (Önder & Gunter, 2020; Tyan, Guevara-Plaza & Yagüe, 2021). As a secure and globalised payment option, cryptocurrencies have become increasingly popular as digital assets and a payment method that affects the global financial markets (Önder & Gunter, 2020) and transcends beyond national financial controls and restrictions (Safiullin, Savelichev, Elshin & Moiseev, 2020). It is an appealing technological advancement in tourism since the tourism business is predominantly international. Disintermediation of the tourism value chain is supported by blockchain's peer-to-peer business ecosystem, where service providers deal directly with tourists in a secured network (Parekh, Jaffer, Bhanushali & Shukla, 2021).

Before the COVID-19 pandemic, blockchain technology was most applicable and researched in medical tourism due to the synchronisation of its algorithms with the recurring challenges and issues in the medical tourism value chain (Panina, Simbuletova & Kakhuzheva, 2022; Tyan *et al.*, 2021). However, with the COVID-19 pandemic, responses were on the tourism industry generally. Arguably, the travel bans and restrictions of movements as consequences of the pandemic adversely affected the medical tourism business. The application of blockchain in the tourism industry in the era of COVID-19 has been within the functional landscape of the technology. Balasubramanian, Sethi, Ajayan and Paris (2022) assert that the devastating impacts of

the COVID-19 pandemic demand innovative means of mitigating inherent challenges in the tourism business, such as foreign currency risks, information credibility, fraudulent practices, and opportunistic behaviours of intermediaries in the tourism sector. To this end, the study strongly recommends the adoption of blockchain as a part of the "New Normal" business landscape in the tourism sector.

More so, bin Bakri, Neo, and Teo (2023) propose the global SmartHealthCard, a COVID-19 vaccine pass system that is built on blockchain technology. It enables quick verification of tamper-proof COVID-19 tests and vaccination status, which aids transmission control while respecting users' privacy. From the systematic literature review of blockchain applications in the tourism and hospitality sector, the post-COVID-19 pandemic, Jain, Singh, Mishra and Rana (2023) found six emerging dimensions, namely: smart tourism, tourism destination-focused, traveller-focused, digital payments, token economy, and technology implementation and adoption. Invariably, these dimensions drive the new research agenda for the adoption of blockchain technology in the tourism industry.

4.5 THE MODERATING EFFECTS OF PERCEIVED RISK AND TECHNOLOGIES

4.5.1 The moderating effects of perceived risks

The relationship between destination attractiveness and tourists' behavioural intentions is universally known. Thus, there is a direct and linear relationship between destination attractiveness and tourists' intentions to visit and revisit a tourism destination (Jung, Ha & Shin, 2022; Kim & Perdue, 2011; Vengesayi *et al.*, 2009; Wishal Nafis, 2019). However, owing to the complexities of tourists' behavioural intentions, a number of factors, issues, and considerations acting at different times and spaces affect the linear relationship between destination attractiveness and tourist's intentions to visit or revisit destinations. One of these factors is perceived risk. In other words, the strength of the predicting effects of destination attractiveness on tourists' behavioural intentions is moderated by tourists' risk quotients.

In the extant literature, studies that established the effects of perceived destination risk on tourist intention (Artuğer, 2015; Çetinsöz & Ege, 2013; Cui *et al.*, 2016; Hasan *et al.*,

2017), as well as the mediating effects of perceived destination risk on the relationship between destination attractiveness and tourist intentions abound (Harun, Obong, Kassim & Lily, 2018; Kaushik & Chakrabarti, 2018; Khan, Chelliah, Haron & Ahmed, 2017). Arguably, the globalised nature of the COVID-19 pandemic extended risk perceptions beyond destination risks to tourists' home and travel risks, which resulted in a global risk perception in the post-COVID-19 era.

By implication, the COVID-19 pandemic resulted in the multidimensionality of risk perceptions in the tourism industry. However, some studies focused on the selection and isolation of these risks on tourist intentions and satisfaction (Nair & Pratt, 2022; Waluya *et al.*, 2021) in a selection of African countries (Mandina & Du Preez, 2022) and among South African travellers, not particularly, tourists (Plank, Gomes, Caldas, Varela & Ferreira, 2023). In the context of South Africa's tourism space, this study found a research gap in the moderating effects of the multidimensional risk perception on the relationship between destination attractiveness and tourist intention to visit/revisit South Africa. Therefore, the findings of this study will fill this obvious gap in the literature.

4.5.2   <u>The moderating effects of tourism technologies</u>

Generally, the reliance on technological innovations in the wake of the COVID-19 pandemic increased exponentially across all spheres of human endeavours (Clipper, 2020; Iskender, Sirakaya-Turk, Cardenas & Harrill, 2022; Walrave *et al.*, 2021). In the tourism industry, the adoption and utilisation of innovative technologies by both providers and consumers of tourism services also increased (Chloridiany, 2021; Ghaleb *et al.*, 2021; Li *et al.*, 2022; Podzharaya & Sochenkova, 2021). It, therefore, suggests that technology is instrumental in supporting the tourism industry during the pandemic era and contemporarily facilitates value creation, distribution, and utilisation in the industry. In other words, technological innovations have, since the pandemic, been contributing to the quality of the tourism industry value chain and improving service delivery and/or satisfaction in the industry, thereby serving as a moderating variable between destination attractiveness and tourists' behavioural intention. Similar to the earlier gap that this study

97

aims to fill, the moderating effects of adopting and utilising technological innovation in the South African tourism industry is another gap in the literature that this study aims to fill.

4.6 CHAPTER SUMMARY

The chapter presented a review of the study's constructs, namely, destination attractiveness, tourists' behavioural intentions, perceived risk and technological adoption in tourism service spaces. The six COVID-19-dominant dimensions of perceived risk and the two domains for assessing technological adoption were conceptualised, while their moderating influences on the relationship between destination attractiveness and tourists' behavioural intentions were also presented. The chapter also presented the two approaches for analysing the nature and level of technological adoption in the tourism service space.

CHAPTER 5
RESEARCH METHODOLOGY

5.1 INTRODUCTION

The preceding chapters provided the theoretical background of this study with the formulation of the research hypotheses in Section 1.6 of Chapter 1, followed by an extensive review of relevant literature. In this chapter, the practical steps in testing and validating the hypothesised relationships and causalities are provided with their rationalisations. Specifically, the study adopted a methodological synopsis that provided a roadmap for carrying out all activities within the study's research methods. First, the philosophical basis for adopting a paradigm for the study's research design was reviewed. Based on the research design, data definitions, types, measurements, and sources are presented in line with their underlying sampling processes. Ethical considerations surrounding data collection, handling and conducting the entire research are discussed along with the disclosure of required clearances and approvals that authorised the entire data management process. Lastly, the data management processes, which include data collection, cleansing, diagnoses, selection of statistical tools, and analyses, are concisely presented and discussed.

Figure 5.1: **Methodological Synopsis**

Source: Author's design.

Figure 5.1 is the methodological synopsis of the study. It shows the nature and flow of the activities that constitute the entire methodological activities of the research. Details of each of the activities in the synopsis are, therefore, presented below.

5.2 PHILOSOPHICAL UNDERPINS OF THE STUDY

Empirical studies are conducted within philosophical assumptions and boundaries. These assumptions and boundaries provide the presuppositions of the research with reference to the nature of reality, knowledge, and ethics. There are two stages of philosophical

assumptions in research: the broad philosophical assumptions, which are concerned with the ontology, epistemology, and axiology of research, while the narrow philosophical assumptions, otherwise called research philosophy, are concerned with specific assumptions that inform the methodological choices across the research process (AbuRaya & Gomaa, 2020:375).

5.2.1 <u>Philosophical assumptions</u>

Generally, philosophical assumptions refer to beliefs, impressions, perceptions, and dispositions about knowledge. It is a belief system about the development of knowledge (Saunders, Lewis & Thornhill, 2019). Philosophical assumptions ensure that a research's epistemological, ontological, and axiological assumptions are consistent with their adopted research designs and methods. In other words, the philosophical assumptions of a research study are contained within the broad assumptions of epistemology, ontology, and axiology. Ontology refers to assumptions about the nature of reality. It refers to researchers' perceptions of realities within the context of their studies and how they deal with those realities. Ontology is the study of reality through the conceptualisation of essences such as interactions, relationships, and models (Grbich, 2013). It is within this philosophical assumption that this study used models to hypothesise relationships between the various constructs from a selection of theoretical frameworks.

Epistemology, on the other hand, refers to assumptions about knowledge – what constitutes valid, legitimate, and acceptable knowledge and, eventually, how the knowledge is communicated to others (Saunders, Lewis & Thornhill, 2023). Thus, the epistemological stance of this research is based on the development and communication of new knowledge based on an existing body of knowledge where the new knowledge fills gaps in the existing knowledge. The study, therefore, relies on existing knowledge to identify knowledge gaps and methodologically derive insights from empirical data to fill the gaps and communicate new knowledge.

Finally, axiological assumptions incorporate the role of value and ethics in the research process. It relates to the ethical and moral dimensions of research. It is, therefore, concerned with the researcher's impressions, beliefs, and perception of ethical issues

and considerations while conducting an empirical study (Mcdaniel, Borgen, Buchanan, Butterfield & Amundson, 2020). The researcher's perceptions of ethical issues in conducting this research are fundamentally indispensable and critically imperative. As such, the study sought, procured, and adhered to all the relevant ethical clearances and approvals before carrying out some of the activities within the research process. It also conducted the research with strict stipulations and expectations of the approved ethical requirements.

5.2.2 <u>Research Philosophies</u>

According to Saunders *et al.* (2023:131-132), research philosophy is an organised system of beliefs and assumptions that underpin a researcher's methodological choices regarding research designs, procedures for data collection, methods of data analysis, reporting of research findings, discussion of findings, and conclusions. It influences the selection and justification of research paradigms, research strategies, and research methods, reflecting the researcher's assumptions, beliefs, and values in carrying out the research (Mcdaniel *et al.*, 2020). The choices along the methodological process of research suggest that researchers are expected to rationalise and align each of their choices logically.

5.2.2.1 *Research paradigms*

The first methodological choice to make under the research philosophy is the adoption of a research paradigm that conveys the philosophical understanding of the research. Research paradigm means a set of assumptions about the world and the techniques for making inquiries into the world (Punch, 2014:19). It connects the ontological, epistemological, and axiological assumptions in shaping a researcher's impressions about reality. It influences their selection of research approaches, techniques, and methods (Tronvoll, Goudarzi, Brown, Gremler & Edvardsson, 2011). Although research paradigms exist in various dimensions and modifications, this study relied on four dominant research paradigms by Saunders, Lewis and Thornhill (2009:119) to justify its methodological choices.

Table 5.1 below is a summary of the four dominant paradigms are interpretivism, positivism, realism, and pragmatism. The ontological, epistemological, and axiological assumptions underlying each of these paradigms, as summarised below, were adapted from the comparison of four research philosophies in management research.

Table 5.1: **The four dominant research paradigms in management research and their impacts on data collection and analytical techniques**

	Interpretivism	Positivism	Pragmatism	Realism
Ontological assumptions	Researchers' view of the nature of reality is multiple, socially constructed, subjective and may change	Researchers' view of the nature of reality is objective, external and independent of social actors	Researchers have external and multiple views of the nature of reality but choose the best that enables them to answer research questions	Researchers' view of the nature of reality is objective and exists independent of human thoughts, beliefs, or knowledge; however, interpreted through social conditioning
Epistemological assumptions	Researchers' view on what constitutes acceptable knowledge is through subjective meanings and social phenomena	Researchers' view on what constitutes acceptable knowledge is that only observable phenomena can provide credible facts and data. It focuses on reducing phenomena to their simplest terms through generalisations	Researchers' views on what constitutes acceptable knowledge, either or both observable phenomena or subjective meanings, provides acceptable knowledge which depends on the research question. It integrates different perspectives to support data interpretation	Researchers' view on what constitutes acceptable knowledge is based on observable phenomena that can provide credible facts and data. Insufficient data mean inaccuracies in sensations (direct realism)

103

Axiological assumptions	Subjective assumption of research because the research itself is part of what is being researched. It does not separate itself from what is being researched	The researcher's stance is objective because the researcher is independent of the data. Research is taken in a value-free way	Values play an important role in interpreting results. The researcher adopts both	Research is value-laden because the researcher's world views are biased by their cultural experience and upbringing
Data collection techniques that are most often adopted	Data are mostly qualitative from small samples but with in-depth investigations	Data are highly structured from large samples, and measurements are quantitative. However, qualitative data can also be used	Mostly adopt mixed or multiple method designs and could be both quantitative and qualitative	The adopted method could be quantitative or qualitative but must fit the subject matter

Source: Saunders *et al.* (2009:119).

From the table (Table 5.1), the research philosophy adopted in this study reflects the assumptions of positivism. Therefore, the researcher approached the economic implications of COVID-19 disruption of South Africa's tourism industry from the positivist view. Ontologically, the researcher assumes that the nature of reality is external, objective, and independent of social actors. As such, the study assumes that the realities of the world are real, measurable, and independent of the researcher's subjective perceptions and opinions.

The epistemological assumptions within the positivist paradigm believe that it is only observable phenomena that can provide credible data, facts, and information. It, therefore, relies on a combination of empirical evidence and the application of scientific methods in producing knowledge. As Pathak and Thapaliya (2022:11) posit, it is a science-based method of inquiry which, by implication, detaches the researchers from the research and ensures that their roles remain objective. In this study, the researcher believes that the knowledge of the subsisting relationships among the constructs and

104

variables in the study can only be gained through the observation and measurement of the constructs and variables. The researchers, therefore, remain objective across the entire research process. Finally, axiological positivism, which assumes that a researcher is independent of the data and maintains an objective stance throughout the research process, places values and ethics at premium points. It integrates the objectivity and value-laden aspects of research in shaping knowledge creation.

This philosophical assumption is the ethical basis of this research in handling the data process. Firstly, the ethical approvals required to collect data for this study were sought and obtained from the Faculty of Economic and Management Science, University of Pretoria Ethics Committee (Appendix A). Secondly, data collection was conducted within the strict ethical considerations that are contained in the ethics clearance. Thirdly, data collection was independent of the researcher; the researcher neither influenced the measures nor the responses from the respondents. Finally, analyses and communication of results were independent of the research and, as such, could be replicated.

5.3   RESEARCH APPROACH

Based on the philosophical underpins of the study, the resultant methodological choices are summarised using Saunders *et al.*'s. (2009:108) research onion, as depicted in Figure 5.2 below. The ontological, epistemological, and axiological intersections of the researcher's assumptions and perceptions resulted in the adoption of the positivist research paradigm.

Figure 5.2: The research onion

Source: Saunders *et al.* (2009:108).

Between the two major research approaches – deductive research and inductive research which are distinguished based on how theories are developed and used in research, the study adopted the deductive research approach. The deductive research approach is undertaken when researchers test a theory by starting with the theory from the literature, hypothesise relationships based on the theory, collect data, make findings, confirm or reject hypotheses based on the theory, and then revise the theory (Bryman, 2012:24). The deductive research process is summarised in Figure 5.3 (on p. 107).

Figure 5.3: The deductive research process

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┌─────────────────────────────────────┐
│                                      │
│         ┌──────────────────┐         │
│         │    1. Theory     │         │
│         └──────────────────┘         │
│                  │                   │
│                  ▼                   │
│         ┌──────────────────┐         │
│         │   2. Hypothesis  │         │
│         └──────────────────┘         │
│                  │                   │
│                  ▼                   │
│         ┌──────────────────┐         │
│         │ 3. Data collection│        │
│         └──────────────────┘         │
│                  │                   │
│                  ▼                   │
│         ┌──────────────────┐         │
│         │   4. Findings    │         │
│         └──────────────────┘         │
│                  │                   │
│                  ▼                   │
│         ┌────────────────────────┐   │
│         │ 5. Hypotheses confirmed or│ │
│         └────────────────────────┘   │
│                  │                   │
│                  ▼                   │
│         ┌──────────────────────┐     │
│         │ 6. Revision of theory │    │
│         └──────────────────────┘     │
│                                      │
└──────────────────────────────────────┘
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Source: Bryman (2012:24).

The research process of this study followed the deductive research process. The theories upon which the study's hypotheses were formulated were presented under the study's conceptual frameworks. The hypothesised relationships among the variables and constructs were tested using data that were collected for the research. Findings confirmed some hypotheses and rejected some. Based on the results of the hypotheses, relevant theories were revised in line with the empirical conclusions from the extant literature. While the deductive research approach relies on theories in making generalisable observations and findings, the inductive research approach relies on observations and data in developing theories (Bryman, 2012; Punch, 2014; Saunders *et al.*, 2023).

With the deductive research process as the study's research approach, the study adopted the survey method as the research strategy for sourcing data for the research. According to Bryman (2012:188), survey research involves the collection of data by structured

interview or questionnaire through a sampling process. The quantitative research method was adopted as the research method based on the survey method as the research strategy.

Quantitative research entails the collection of numeric data for the purpose of explaining a particular phenomenon whose research questions are more suited to be answered quantitatively (Muijs (2004:2). Watson (2015:44) added that quantitative research encompasses methods that use numeric data to investigate social phenomena systematically. The study's strict reliance on quantitative research stems from the concomitances of the researcher's positivistic assumptions about reality and the distinct qualities of quantitative research, such as objectivity and measurability of data, generalisability from the use of large sample sizes, replicability, precision, and accuracy (Bryman, 2012:175; Saunders *et al.*, 2023:184; Uzunboylu, Prokopyev, Kashina, Makarova, Chizh & Sakhieva, 2022:51).

With the time horizons of data drawn between cross-sectional and longitudinal data, this study used both horizons of data. Time series data on tourism expenditure in South Africa are longitudinal data, while responses from the questionnaires that were administered to tourists constitute the cross-sectional data. The methodological choices made in this study are represented by the highlighted options in the Research onion (Figure 5.2 on p. 106).

5.4   RESEARCH DESIGN

Based on the research approach adopted by this study, a quantitatively explorative research design was adopted to empirically assess the economic impacts of the COVID-19 pandemic on the South African tourism industry and examine post-pandemic recovery strategies for the competitiveness of the country's tourism space. The choice of this methodology is informed by the desire to effectively determine the nature and relevance of both predictor, mediating, and moderating variables on South Africa's destination attractiveness and tourists' behavioural intentions. Thus, this study employed two dimensions of data based on time horizon – time series data and questionnaire data – and employed statistical methods in exploring insights within the confines of the specific

objectives of the study. As concluded by Jonker and Pennink (2010), the outcome of quantitative studies is in testing of theories in a predetermined reality, using numerical data to reveal theoretical insights from the key variables and constructs of the study, namely tourism income, tourist arrivals, economic growth; proxied by Gross Domestic Product (GDP), Dollar-Rand exchange rates, destination attractiveness, risk perceptions in the tourism space, technological adoption in tourism space, and tourists' intention to visit and revisit South Africa.

5.5   DATA FOR THE RESEARCH

The study used two distinct sets of data: the primary data and the secondary data. The nature and sources of the two dimensions of data that were used in this are presented in the following subsections.

5.5.1   Primary data

The two considerations for the primary data that were collected for this study are the nature and the source of data.

5.5.1.1 Nature of primary data

The primary data for this research are questionnaire data that were collected through the administration of the research questionnaire. The data are psychometric responses that were measured using the Likert Scale. The study adopted a 5-point scale to measure the constructs of the study indirectly. The 5-point scale was calibrated from strongly disagree to strongly agree. The researcher's use of a 5-point scale was informed by a number of benefits it offers in objectively measuring respondents' opinions, perceptions, and dispositions. It provides some levels of sensitivity and variability, which allows the researcher to capture the nuanced responses in the varied degrees of agreement or disagreement (Joshi, Kale, Chandel & Pal, 2015). Details of the use of the Likert Scale in measuring the constructs of the study are provided in Section 5.7: Research Instruments. The primary data were used to test Hypotheses ii to viii.

5.5.1.2 Sources of primary data

The primary data were sourced from the questionnaire responses of tourists who have either visited South Africa for tourism or intend to visit South Africa for tourism. Since the population of the study is considered to be infinite and the researcher's intention was to collect as many data points as possible, the researcher relied on both physical and digital methods to distribute the questionnaire to the target respondents.

5.5.2 Secondary data

The two considerations for the collection of secondary data are the nature of the data and the source of data.

5.5.2.1 Nature of secondary data

Secondary data was used to test the first hypothesis of the study, whose primary aim was to determine the economic impact of the COVID-19 pandemic on the South African tourism industry. From the literature, most studies that assessed the impact of the COVID-19 pandemic on South African tourism used primary survey data (Dube, 2020; Odeku, 2021; Van Der Merwe, Saayman & Jacobs, 2021; Van Heerden & Roos, 2021). Therefore, a methodologically different approach to assessing the pandemic's impact on the country's tourism industry has the potential to reveal deeper insights, especially when an objectively measured dataset is used. To this end, this study used time series data. Time series data, according to Beard, Marsden, Brown, Tombor, Stapleton, Michie and West (2019), are repeated measurements of variables at regular time intervals over a period of time.

Therefore, using time series data in quantitative research has the advantage of revealing changes that occurred in a phenomenon over a given period. This study utilised longitudinal secondary data in the form of time series data of (i) yearly inbound tourism expenditure in South Africa (in United States Dollars) from 1995 to 2021, (ii) the yearly number of inbound tourists to South Africa from 1995 to 2021, (iii) South Africa GDP (in South Africa Rand) from 1995 to 2021, and (iv) the daily exchange rates between the United States Dollar and South Africa Rand from 1995 to 2021.

The dimensions of time series data used in this study are in accordance with the variables used in testing the hypothesis. Thus, the data for the independent variable (tourism) were proxied by the dollar value of the inbound tourism expenditure in South Africa. The data for the dependent variable (South African economy) were proxied by the Gross Domestic Product (GDP) of South Africa, while the Dollar-Rand exchange rates were used as the control variable. As longitudinal data, the time-space for the secondary data was from 1995 to 2021. It covered a substantive pre-COVID-19 period (1995 to 2019) and the COVID-19 period (2020 to 2021).

5.5.2.2 Sources of secondary data

The secondary data were obtained from two publicly available sources: data for the inbound tourism expenditure in South Africa were sourced from the United Nations World Tourism Organisation (UNWTO). Data for the GPD and the Dollar-Rand exchange rates were collected from the World Bank Data Bank.

5.6   SAMPLING PROCESS

The sampling process involves the determination of sample size and the sampling technique the researcher adopted in collecting data to the tune of the sampling size. It is noteworthy to state that the sampling process applies only to the collection of the primary data. With cross-sectional data, sampling is used to determine which sampling unit becomes of interest to a study. For time series data, which are longitudinal, time-space is used to determine data that becomes of interest to a study. Thus, the explanations presented in this section apply to the collection of primary data for the study.

5.6.1   <u>Sample size determination</u>

The sample size of a study is usually a function of the size of the population as well as the nature of the statistical analysis to be conducted on the collected data (Lenth, 2001; Verma & Verma, 2020). For this study, the population is non-finite; thus, the applicable sample size determination techniques are the ones that establish the minimum sample size that supports the applicable analysis (Louangrath, 2014). Therefore, the minimum sample size depended on the nature of the statistical analysis. The adopted statistical method for testing the research hypotheses, the Covariance-Based Structural Equation

111

Modelling (CB-SEM), whose data are questionnaire (primary) data, generally requires a large sample size as one of the multivariate analyses.

To achieve the desired level of statistical power of the SEM, McQuitty (2004:177-178) suggested a large sample size. In the literature, the definition of "large sample size" for the application of SEM has been a subject of controversy as there is no consensus on the minimum sample size. Kline (2023:16) suggested a minimum sample size of 200 for SEM based on reviews of studies in different areas of research. However, it stressed that a sample size of 200 may be too small for complex models or non-normally distributed outcomes. Since factor analysis is an integral part of SEM, Tabachnick and Fidell (2019:481) recommended a minimum sample size of 300. A review of 74 SEM studies from four journals of management information systems by Christopher Westland (2010) showed an average sample size of 375.

However, in an attempt to solve the controversy over the minimum sample size requirement for SEM and provide a logical basis for choosing a sample size, (Hair, Hult, Ringle & Sarstedt, 2017) made a distinction between the two approaches to SEM – Covariance-based (CB-SEM) and Partial Least Square SEM (PLS-SEM) in relation to sample size determination for SEM. This study adopted the CB-SEM and, as such, adopted the rule for sample size determination according to CB-SEM, which provided that the minimum sample size should be ten times the number of indicators that are used in measuring the constructs (Hair *et al.*, 2017:24). Accordingly, with 41 indicators that measured the study's ten constructs, the minimum sample size for using SEM in analysing the relevant specific objectives of this study became 410. In other words, a minimum of 410 questionnaire respondents were needed to support the SEM statistical analyses of this study. Studies such as Chaudhary and Islam (2021) used this method of sample size determination in investigating the impacts of risk perception on tourist satisfaction and behavioural intentions using the CB-SEM statistical method.

5.6.2 Sampling technique

With the aim of exceeding the minimum sample size requirement of the study as established in the preceding section, the researcher adopted a combination of sampling

techniques that facilitated the achievement of the sampling purpose. First, for the purpose of achieving a national spread of the tourist sites and locations across South Africa, the researcher adopted a simple random sampling technique in selecting 5 of the nine provinces that comprise the country's geopolitical structure. The randomly selected provinces are the Eastern Cape, Gauteng, KwaZulu-Natal, Mpumalanga, and Western Cape. Secondly, for the purpose of distributing the questionnaire, the researcher adopted convenient sampling methods as a means of getting as many responses as possible. Lastly, for the digital distribution of the questionnaire, the researcher adopted the snowball sampling method. With this method, recipients of the digital copies of the questionnaire were asked to circulate the copies within their electronic circles (email, anonymous links) and their social circles (social media friends and followers).

5.7 RESEARCH INSTRUMENTS

The research instruments for this research are applicable only to the primary data of the study. Thus, unlike the secondary data, whose measurements were independent of the researcher and existed before the study, the primary data were measured following the standard procedures of statistical scale measurements. In other words, while the secondary data existed as variables before this research, the primary data were measured and collected through research instruments. Invariably, this section discusses the research instruments that are applicable to the study's primary data only.

5.7.1 <u>The study constructs</u>

5-point Likert scale question items were adapted from relevant studies that had previously measured and validated the constructs under empirical investigations. As such, the questionnaire was used to measure the four major constructs of the study, namely destination attractiveness, tourists' behavioural intentions (intention to visit and/or revisit), COVID-19-induced risk perceptions, and technological adoption. COVID-19-induced risk perception has six dimensions, namely: Severity of the COVID-19 pandemic, general vulnerability of the pandemic, South Africa-specific vulnerability, satisfaction risk, social risk, and psychological risk.

Technological adoption in the tourism space has two dimensions: perceived usefulness and perceived ease of use of innovative technologies in the tourism space. Except for the construct for tourists' behavioural intentions, the 5-point Likert scale for all other constructs used *Strongly agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, and Strongly disagree*, and were coded 5, 4, 3, 2, and 1 respectively. The options for tourists' behavioural intentions were *Very likely, likely, indifferent, unlikely, and very unlikely*, and they were similarly coded 5, 4, 3, 2, and 1, respectively.

The questionnaire (Appendix 2) comprises three sections: Introduction, Demographics, and Question items. The introductory section introduced the respondents to the study by providing the broad objectives of the study, the details of the researcher, contact details of the researcher's study advisers, disclosure statements on the survey's confidentiality and anonymity, as well as a request for expression of consent by the prospective respondent before commencing to respond to the questionnaire. The demographic section asked questions on the respondents' age, gender, educational qualification, level of yearly income and their countries of residence. The section for the question items consists of the questions that were used to measure the constructs under study. Table 5.2 is a summary of the study's constructs. It provides the names, codes, number of items, and sources of their measuring scales that made up the study constructs.

Table 5.2: Research constructs and measurement scale

S/No.	Construct	Codes	No. of Items	Measuring Scale
1	Destination attractiveness	DA1 to DA5	5	Adapted from Wu, Hsieh, Yang, Huang and Ku (2022)
2	Severity of COVID-19 virus	RSEV1 to RSEV3	3	Adapted from De Rooij, Van Liempt and Van Bendegom (2022); (Ruan, Kang & Song, 2020)
3	General vulnerability of the pandemic	RGEN1 to RGEN3	3	Adapted from De Rooij *et al.* (2022)

114

4	South Africa-specific vulnerability	RSAF1 to RSAF3	3	Adapted from De Rooij *et al.* (2022)
5	Satisfaction risk	RSAT1 to RSAT4	4	Adapted from De Rooij *et al.* (2022)
6	Social risk	RSOC1 to RSOC4	4	Adapted from De Rooij *et al.* (2022)
7	Psychological risk	RPSY1 to RPSY6	6	Adapted from De Rooij *et al.* (2022)
8	Perceived usefulness of technology	TPU1 to TPU5	5	Adapted from Davis (1989), Saadé and Bahli (2005)
9	Perceived ease of use of technology	TPE1 to TPE5	5	Adapted from Davis (1989); (Saadé & Bahli, 2005)
10	Tourists' behavioural intentions	TBI1 to TBI3	3	Adapted from Torabi, Shalbafian, Allam, Ghaderi, Murgante and Khavarian-Garmsir (2022)
	Total		**41**	

<u>Source</u>: Researcher's compilation

5.7.2 <u>Control variables</u>

In addition to the constructs and the adapted scales that were used to measure them, this study controlled for the effects of tourist's age, gender, educational qualification, and income level. This is in line with previous studies that used this demographic information as the control variables (Aji, Muslichah & Seftyono, 2020; De Rooij *et al.*, 2022; Papastathopoulos, Ahmad, Al Sabri & Kaminakis, 2019). Table 5.3 (on p. 116) shows each of the options from which respondents were asked to indicate their demographic

115

information. The number of codings of each option is also presented in the table. For the purpose of statistical analysis, the measures of the demographic variables were used to control for respondents' age, gender, educational qualification, and income.

Table 5.3:   Measures of control variables

	Control variable	Option	Coding
1	Age	Below 20*	1
		21 – 30	2
		31 – 40	3
		41 – 50	4
		51 – 60	5
		61 and above	6
2	Gender	Do not want to indicate	1
		Non-binary	2
		Female	3
		Male	4
3	Educational Qualification	Primary education	1
		Secondary education	2
		Diploma	3
		Bachelor's degree	4
		Master's degree	6
		Doctoral degree	7

116

4	Income	Less than USD5,000	1
		USD5,001 - USD15,000	2
		USD15,001 - USD25,000	3
		USD25,001 - USD35,000	4
		USD35,001 - USD45,000	5
		USD45,001 - USD55,000	6
		More than USD55,000	7

Source: Author's compilation. *Minors were not allowed to take part in the survey.*

5.8   RESEARCH ETHICS

In line with the axiological disposition of the researcher, all ethical considerations of this study were given prime attention. The researcher strictly complied with all the ethical requirements of the Faculty of Economic and Management Sciences, University of Pretoria, for a doctoral study. Through the Faculty's Committee for Research Ethics, the researcher applied for an ethical clearance through Protocol no: EMS110/22 (Appendix 1). No data collection, either through the pilot or actual collection, was conducted until the ethical clearance was approved. Upon the approval of the ethical clearance, data collections were conducted within the ethical clearance's approval guidelines. Additionally, the following ethical principles for data collection through a survey method were strictly adhered to as prescribed by De Vos, Strydom, Fouché and Delport (2005:57-63).

To obtain informed consent for respondents' participation in the survey, the researcher provided details of the research study on the introductory part of the research instrument. The introductory part contained information about the research, such as the main purpose of the research, the personal and contact details of the research, the study advisers and their contact details (email addresses), a statement on confidentiality, anonymity, voluntary nature of the research, and an option to willingly express consent or decline

117

consent to participate in the survey. The combined letter of introduction and informed consent is provided in Appendix B.

The researcher expressed in writing that participation in the survey was anonymous and confidential. The researcher also ensured that the privacy of the participating respondents was not violated and that their anonymity and confidentiality were strictly adhered to. For instance, the instrument did not contain any questions on personal details, there were no pictures of the participants taken during the survey, and there was no collection of the personal electronic information of the participants' devices for those who responded to the survey digitally or electronically.

Participants were adequately informed that their participation in the survey was completely voluntary and that they were free to opt-out at any time they so wished. There were no forms of inducement or coercion to participate in the survey. However, some participants were motivated to participate in the survey by sharing the researcher's Wi-Fi so that they could connect with their devices and respond to the questionnaire. Others were offered the University of Pretoria branded pens as a token of appreciation for participating in the survey.

In order to indicate and document that participants willingly participated in the survey after their privacy, anonymity, and confidentiality had been guaranteed, the questionnaire requested an expression of consent as a condition for participating in the survey. Those who expressly declined their consent were not allowed to respond to the questionnaire either physically or digitally.

Beyond the data collection stage, the researcher maintained ethically responsible procedures in data handling, analyses, dissemination of the findings of the study and other processes and activities of the research.

5.9 PILOT TESTING

With the approval of the study's ethical clearance, the researcher subjected the research instrument to a test to confirm that it represents a reliable instrument for data collection in accordance with the various measurement scales of the study. Thus, the research

instrument was pretested in two phases to ensure face validity and content validity. The first phase of the pretesting was carried out with the study advisers, who reviewed and revised the questionnaires and confirmed that the questionnaires were both face and content valid.

The second phase of pretesting was an online distribution of the questionnaires to 25 respondents, as well as a physical distribution of 25 copies. The aim was to ensure that the two channels were suitable for data collection since they were the researcher's intended channels for distributing copies of the questionnaire. Forty-four copies of the pretested questionnaire were returned with face validity, showing that all the measurement scales were deemed appropriate. Expectedly, the success of the question items derived from the study's adoption of measurement scales from previous studies that validated the constructs. The pilot testing also indicated that there were no technical challenges in responding to the questionnaire digitally.

5.10 DATA COLLECTION

Information provided on the research processes, from the sampling process to pilot testing, applies to the primary data of the research. In this section, the collection of the two district dimensions of data for the study is presented.

5.10.1 <u>Primary data collection</u>

The primary data for this study were collected from the questionnaire responses of tourists who either visited South Africa for tourism or expressed their intention of visiting South Africa for the purpose of tourism. With the researcher's aim of collecting as many responses as possible from the study's target audience, the following methods were used to collect primary data for the study.

   a. **Physical distribution of questionnaire:** The researcher travelled across the tourist cities and attractions in the sampled provinces of South Africa, interacted with tourists, distributed the research instrument, and collected data from them. These visits were undertaken between September 2023 and January 2024 in the provinces of Eastern Cape, Gauteng, KwaZulu-Natal, Mpumalanga, and Western

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Cape, and data was physically collected via engaging with tourists who were in South Africa for tourism. The researcher was assisted by a few field research assistants who helped to distribute copies of the questionnaire.

In Eastern Cape Province, data were collected from the Nelson Mandela Museum, Sunshine Coast, and Amakhala Game Reserve. In Gauteng Province, data were collected from the Cradle of Humankind, Union Building, Freedom Park, Apartheid Museum, and Nelson Mandela Square. Data were collected in Kwazulu-Natal Province's tourist attractions, namely Sodwana Bay Resort, Isimangaliso Wetland Park, Hluhluwe Hilltop Game Reserve, Durban Beach, Ushaka Marine World, Durban Habour, and uMtentweni Beach, Port Shepstone. In Mpumalanga Province, data were collected from tourists in Kruger National Park, Skukuza International Airport, and Alzu Game Reserve. Data were also collected from a selection of tourist attractions in the Western Cape, namely the Table Mountain, Victoria and Alfred Waterfront, Kirstenbosch Botanical Garden, The Castle of Good Hope Museum, and Iziko Bo-Kaap Museum.

The researcher was assisted by a few field research assistants who helped to distribute copies of the questionnaire.

b. **Digital distribution of questionnaire:** In addition to distributing printed copies of the questionnaire to the respondents, the researcher used the University of Pretoria trademarked Qualtrics®, a web-based survey application that hosts the online data collections through various channels that were provided by the application. Qualtrics is a robust and sophisticated web platform for creating and delivering web-based surveys for academic research purposes (University of Florida, 2023). It has many channels for hosting surveys across many platforms. The researcher adopted all the survey channels that Qualtrics provides: mobile app, anonymous link, the quick response (QR) code, email, and social media gateway links.

i. **Mobile app:** The researcher downloaded the Qualtrics mobile app on mobile devices such as digital tablets and mobile phones. The field assistants used it to collect tourists' responses through their mobile devices. This group of respondents were physically present at the visited tourist sites.

ii. **Anonymous links:** An anonymous link was generated from the Qualtrics application and shared with tourists who instead preferred to respond to the questionnaire through a web link that would not disclose any part of their personal details or those of their digital devices.

iii. **The Quick Response (QR) code:** The QR code offers a contactless sharing of data and information between digital devices through a digital device's camera. The QR code was generated from the Qualtrics app and was embossed on the printed copies of the questionnaire. It gave the tourists the option of scanning the QR code and using it to respond to the questionnaire without physically touching the printed copies of the questionnaire.

iv. **Email:** Based on the study's snowball sampling technique, the questionnaire was also shared with some potential tourists who were asked to further share it among their cycles and groups. This distribution method aligns with the researcher's intentions of getting as many responses as possible from tourists.

v. **Social media platforms:** The researcher utilised the potency of social media in galvanising responses from target respondents across diverse populations, as some studies posited (Aji *et al.*, 2020; Lin, Liang, Xue, Pan & Schroeder, 2021; Murphy, Hill & Dean, 2014; Weller & Kinder-Kurlanda, 2016). To this end, the researcher used Facebook, Twitter, and LinkedIn to reach more respondents and elicit responses from them.

5.10.2 Secondary data collection

The secondary data were downloaded from the public websites of the host organisations. Data for the inbound tourism expenditure in South Africa were collected from the website

121

of the United Nations World Tourism Organisation's 145 key tourism statistics (United Nations World Tourism Organisation, 2023). The collected data on the inbound tourism expenditure in South Africa are the yearly time series data from 1995 to 2021. Data for 2020 and 2021 are referenced as the COVID-19 pandemic data in the dataset. Data for South Africa's GPD and the Dollar-to-Rand exchange rates were collected from the World Bank data bank (World Bank, 2023). While Data for the GDP were annual values from 1960 to 2021, the data for the Dollar – Rand exchange rate were daily values from 1990 to 2021. For the purpose of statistical analysis, the rates were annualised, while the adopted timeframe for the three variables was from 1995 to 2021.

5.11   DATA PREPARATION

In statistical data analysis, data preparation is also called data screening and data cleaning. It simply means preparing data for analysis. As recommended by Tabachnick and Fidell (2019:52), data screening before data analysis is an indispensable part of multivariate data analysis, which is the analytical domain of this study. Data preparation entails screening the collected datasets so as to identify and manage wrong or missing data points with the overall aim of ensuring that the dataset is fit for analysis.

With large-sized datasets, the presence of wrong or incomplete data points is natural; therefore, handling them before statistical analysis improves the quality and reliability of results. The two predominant issues in data screening are missing data and outliers (Kwak & Kim, 2017; Langkamp, Lehman & Lemeshow, 2010). By using a combination of primary and secondary data in this study, data preparation for the two distinct sets of data was conducted separately. For instance, due to the structured nature of the questionnaire used in this study, it was impossible to encounter outliers because definite options were provided. However, missing data were prevalent due to the submission of incomplete questionnaires or abandoning the questionnaire for reasons such as opting out from participating in the survey.

Contrary to the prevalence of missing data in the primary data, there were no missing data in the secondary data used in this study; however, the issue of outliers was considered due to the nature of the data. Outliers are common with time series data, and

as such, they were identified and treated before analyses were carried out. Putting it succinctly, the researcher treated the issue of missing data in the primary data and outliers in the secondary data before analysing the data.

Missing data arise from information loss, dropouts, and incomplete responses from study participants; as such, this leads to a smaller sample size than intended and the tendency to compromise the reliability of the results of the study (Kwak & Kim, 2017:407). Missing data could be random (missing completely at random) or not at random. However, the study only witnessed missing data at random, which was due to some cases, such as participants' withdrawal of consent after starting the survey, omission of entries, and submission of questionnaires before completing them.

To avoid sampling bias, which is the major consequence of missing data, researchers usually adopt various methods of treating missing data, such as complete case analysis (pairwise deletion), imputation or weighted re-distribution (Langkamp *et al.*, 2010:2-3). Although complete case analysis has been criticised for data exclusion with an increased risk of bias, this study, however, adopted this method on the condition that the proportion of deleted missing data was not up to 5% of the sample size; otherwise, the imputation method would have been used. Such proportion is considered insignificant and, as such, would not affect the quality of the results.

5.11.1 Treatment of outliers

An outlier is a data point or observation that is substantially different from other data points in a dataset (Hair, Black, Babin & Anderson, 2019:48). In other words, outliers lie far beyond the majority of other data points. A major consideration for treating outliers before data analysis is that outliers, unlike other data points, are not normally distributed and, therefore, have the tendency of compromising the results of data analysis (Kwak & Kim, 2017:409). Among the three popular methods of treating outliers (trimming, weighted values, and robust estimated method), this study used the trimming method to exclude outliers before data analysis. This is in line with the pairwise deletion of missing data in the primary based on the insignificant proportion of outliers in the time series dataset.

5.11.2 <u>Respondent misconduct</u>

Apart from missing data due to incomplete responses to the question items in a questionnaire, respondent misconduct is another issue that is dealt with during data screening. Respondent misconduct refers to any action of the respondents in completing the questionnaire in any way that does not represent their true knowledge or opinion about the subject. It covers all forms of deliberate misrepresentation, fabrication, or falsification of responses to a questionnaire (Eastwood, Derish, Leash & Ordway, 1996). The researcher used visual observation to identify and delete any responses that were suspicious of being respondent misconduct. Such responses were identified when there were no variations in a respondent's responses across all the question items. In other words, where a respondent consistently selects a particular option across all the question items, it is considered as a respondent's misconduct and, therefore, be deleted before data analysis is done. Using a statistical method, any responses whose standard deviations are less than 0.25 were considered respondent misconduct and, therefore, removed before data analyses.

5.12 QUALITY CRITERIA

Beyond the screening and cleaning of data that were done in the preceding section, there are other qualitative examinations of the collected data for the study. These examinations are carried out to confirm that the minimum quality criteria of the datasets meet the fundamental assumptions and conditions of the adopted statistical tools for testing the study's hypotheses. In other words, the quality criteria quantitatively establish the benchmarks for accepting the results of the data analysis. The University of Pretoria (2021:8) made a broad distinction between the quality criteria of a qualitative study and that of a quantitative study. While the quality criteria of qualitative research are made up of credibility, confirmability, dependability and transferability of results, the quality criteria of quantitative research, on the other hand, are made up of reliability and validity checks. As a quantitative study, the quality criteria of the study, with reference to the adopted statistical methods, are presented in the following subsections.

5.12.1 Reliability criteria

Reliability, according to Field, Miles and Field (2012:12), refers to the consistency of a research instrument in measuring an attribute across many situations. It is a measure of the consistency in measuring a latent variable from one respondent to another through a questionnaire. Reliability is mostly applicable to quantitative research instruments that are used for collecting primary data through surveys. However, the application of reliability in secondary data, such as the time series data, as one of the datasets of this study, entails the consistency of meanings and measures of the variables ascribed to the time series data across years of study. As presented in this subsection, reliability checks done in this study only apply to the analysis of the primary data using Structural Equation Modelling (SEM). Construct reliability, otherwise known as composite reliability, assesses the extent to which a construct or set of constructs are consistent in measuring what they intend to measure (Straub & Gefen, 2004). For example, this study adapted various measurement scales from previous studies in measuring constructs such as destination attractiveness and perceived risks in tourism spaces. Construct reliability assesses the consistency of measuring destination attractiveness or perceived risks across all the responses that were received through the questionnaire.

The reliability of measurement scales used in this study was assessed using both Cronbach's alpha and composite reliability (CR). In determining the reliability of constructs, particularly in SEM, a commonly acceptable reliability threshold of at least 0.70 ($\alpha \geq 0.70$) is recommended (Nunnally & Bernstein, 1994). However, Ramu, Osman, Abdul Mutalib, Aljaberi, Lee, Lin and Hamat (2023:6) provided in Table 5.4 (on p. 126) a more flexible approach to measuring and interpreting various ranges of construct reliability statistics.

Table 5.4: Interpretation of reliability statistics for measurement scales

	Range of alpha values	Interpretation
1	Less than or equal to 0.50	Unacceptable level of reliability
2	0.50 – 0.79	Acceptable level of reliability
3	0.80 and above	Excellent level of reliability

Source: Ramu *et al.* (2023:6)

The Cronbach alpha values that are calculated with the aid of the Statistical Package for Social Sciences (SPSS®) and the Analysis of Moment Structures' (AMOS®) composite reliability are alternatives to conducting reliability analysis. The study used the AMOS® to computer the composite reliability of the constructs and adopted the interpretations in Table 5.4 to decide the basis of accepting or rejecting the reliability of the study's measurement scales.

5.12.2 Validity criteria

Conversely, Validity measures the extent to which a measurement instrument such as the questionnaire correctly measures the construct it aims to measure. According to Field *et al.* (2012:12), construct validity assesses whether a research instrument measures what it was designed to measure. When used in quantitative research, validity measures how data from a construct closely represents the construct. For example, this study adopted a five-question item from Wu *et al.* (2022) in measuring destination attractiveness. Therefore, the validity of the adopted construct measures the extent to which it actually measures the attractiveness of South Africa as a tourism destination from actual and potential tourists who responded to the research questionnaire. There are two dimensions of construct validity: convergent validity and discriminant validity.

126

5.12.2.1   Convergent validity

In this study, the adoption of constructs that have multiple indicators as their measurement scales necessitates the evaluation of their convergent validity. According to Carlson and Herdman (2010:18), convergent validity indicates the extent to which two or more indicators capture a common construct. In using the SEM technique, Gefen, Straub, and Boudreau (2000) suggest that the multiple indicators that measure a construct should theoretically correlate. In other words, the multiple-question items that measure a construct through convergent validity are assessed to show whether they converge (correlate) in measuring the construct or not. Convergent validity is measured using Average Variance Extracted (AVE), which is calculated by dividing the sum of squares of constructs' factor loadings by the number of indicators that make up the construct. Empirically, constructs with an AVE of at least 0.5 show evidence of convergent validity (Bagozzi, Yi & Phillips, 1991). The study used the SPSS AMOS® v.28 software to assess the convergent validities of all the constructs used.

5.12.2.2   Discriminant validity

The measure of discriminant validity contrasts with that of convergent validity, hence its opposing name, divergent validity. It assesses the degree to which the measures of a construct differ from those of other constructs (Anderson & Gerbing, 1988). With the study's multiple constructs, discriminant validity will be used to measure how each measure of the constructs differs from one another. Through a Confirmatory Factor Analysis (CFA), the study also used the SPSS AMOS® to assess the discriminant validities of the constructs. Although the Fornell & and Larcker Criterion (FLC) and Heterotrait-Monotrait ratio (HTMT) are used to assess discriminant validity, this study adopted the HTMT ratio to assess the discriminant validity of the constructs with 0.9 as the maximum acceptable threshold as suggested in the literature (Henseler, Ringle & Sarstedt, 2015).

5.12.3   **The goodness of fit indices**

On the one hand, reliability and validity criteria relate to the fitness of the adapted measurement scales in adequately measuring the constructs of the study. On the other hand, the model's goodness of fit is used in testing the hypothesised relationships of the constructs within a model. Thus, assessing the reliability and validity of the adopted constructs is considered in the literature as a more stable, objective, and reliable test of fitness due to their neutrality of sample size variations (Bagozzi & Yi, 1988; Peugh & Feldon, 2020; Ryu, 2014). The study adopted a number of goodness of fit indices in assessing the extent to which the developed models were a good measure of the hypothesised relationship based on the recommendations by Hair *et al.* (2019:635-647). However, more attention was paid to the fitness of the internal structure of the model in providing explicit information as to the nature of the individual indicators, as supported by Bagozzi and Yi (1988:80).

5.12.3.1 *Chi-square goodness of fit (CMIN)*

Generally, model fit compares the hypothesised relationships (theory) with reality (observations), and one of the widely used tools for assessing a model's goodness of fit is the Chi-Square. In SEM, the chi-square measures the differences between the observed covariance matrix and the estimated covariance matrix. Using the SPSS AMOS®, the chi-square goodness of fit is expressed by the CMIN values. Since the CMIN is sensitive to the sample size of the data used for the analysis, studies suggest that the absolute fit index is used instead (Kenny & McCoach, 2009). The absolute fit index is achieved by dividing the CMIN by the data's degree of freedom (CMIN/df). In literature, 3 – 5 is the generally acceptable range for the absolute goodness of fit index, with the p-value being greater than the study's level of significance (Hu & Bentler, 1998; Moss, 2009). However, Ullman (2001) suggests that a CMIN/df of less than 2 or slightly above 5 is admissible as a good fit.

5.12.3.2 Root mean square error of approximation (RMSEA)

SEM analyses are mostly multivariate in nature. As such, a common challenge with a large sample size of most multivariate analyses with SEM is the rejection of the chi-square goodness of fit due to the p-value failing to be insignificant (being more than 0.5). The RMSEA provides corrections for model complexity by considering the sample size of data. A low RMSEA (< 0.80) indicates a better fit and is generally acceptable (Hu & Bentler, 1998; Mohamed Mohamed Elsayed & Nagy Aneis, 2021; Moss, 2009). However, due to the sensitivity of the RMSEA to sample size, Hair *et al.* (2019:642) provided a guide for an acceptable range of RMSEA for SEM analysis. The guide considers sample size and number of constructs in a model for fit assessment.

5.12.3.3 Standardised root mean square residual (SRMR)

The SRMR is the adjustment of the root mean square residual (RMR), which is the square root of the means of residuals. It assesses the predictive power of each covariance. Standardising the root mean residual provides a common basis for comparing fit across models. Lower RMR and SRMR values indicate better model fit, while higher values represent worse fits; however, any value below the threshold of 0.08 is considered acceptable (Hu & Bentler, 1998).

5.12.3.4 The goodness of fit index (GFI)

The goodness of fit index, like the RMSEA, is a fit statistic that aims to indicate less sensitivity to sample size. The acceptable values for GFI range from 0 to 1, with higher values indicating better fit (Hair *et al.*, 2019).

5.12.3.5 Comparative fit index (CFI)

The CFI compares the null model with the hypothesised model by assuming that there are no relationships between the model's constructs. Its values range between 0 to 1, with higher values indicating better fit. Hair *et al.* (2019:639) noted

129

that the CFI has become one of the most widely reported fit indices to supplement the chi-square goodness of fit because of its relative insensitivity to model complexity.

5.12.3.6 Trucker-Lewis's index (TLI)

TLI compares the chi-square values of the null and hypothesised models and, as such, takes into account model complexities. Similar to other indices, its values range between 0 and 1, with higher values indicating a better fit.

The minimum sample size of the study is 410. Therefore, adopting the conditions from the adapted table was based on the N > 250 (sample size being more than 250). The number of constructs in a model is represented by "m". With the study's ten constructs, the highlighted portion of the table was used to assess the model fit of the SEM analyses.

The study used the AMOS® software in combination with Gaskin, James, Lim and Steed's (2023) plugins (version 28) to estimate the model fit statistics.

5.12.4 **Validity of time series estimates**

The quality criteria presented so far apply to the primary data and the models that they were used to test. With the secondary data and their corresponding model estimates, the required quality criteria vary significantly. Unlike the primary data, where constructs are measured indirectly, the secondary data measured their variables directly. As a result, the required quality checks on them are different. With reference to the specific objectives of the study for which the time series data is used, the two most important validity checks are the BG- LM test and the BPG-Het test.

5.12.4.1 BG- LM test

In time series analysis, the Breusch-Godfrey (BG) test is the commonly used method to detect the presence of serial correlation in Autoregressive Distributed Lag (ARDL) models (Gujarati, 2003:425-426). It is also called the Lagrange multiplier (LM) test. The test's null hypothesis is there is no serial autocorrection, which makes it popular in detecting autocorrelation in time series analysis. As such, it is an essential tool for assessing the reliability of regression models.

5.12.4.2 BPG-Het test

BPG-Het stands for Breusch-Pagan-Godfrey Heteroskedasticity. In econometrics, the assumption of homoscedasticity holds that the variance of residuals (error term) remains static over all the levels of independent variables. The violation of this assumption is known as heteroskedasticity. The presence of heteroskedasticity indicates biased and inefficient parameter estimates in time series models.

5.13 DATA ANALYSIS

After the successful completion of the data screening and cleaning processes, data analysis followed. Based on the study's specific objectives, the data analysis processes were categorised into two dimensions: econometric analysis and structural equation modelling. Figure 5.4 (on p.132) shows a diagrammatic scheme of the entire data analysis processes that the study employed.

Figure 5.4: Data analysis methods used in the study

Source: Researcher's design

5.13.1 Autoregressive distributed lag (ARDL) model

The first objective of the study is to determine whether the COVID-19 pandemic significantly impacted the economic contributions of tourism to South Africa's economy or not. Contrary to various studies that adopted qualitative methodologies in assessing the economic impacts of the COVID-19 pandemic on South Africa's tourism industry (Ilo, Das & Bello, 2023), this research set out to quantify the economic impacts of the pandemic on tourism contributions to the national economy. In order to achieve this specific objective, the study employed the autoregressive distributed lag (ARDL) model ARDL model and the Chow test. The ARDL model was used to reconfirm the long-term relationship

132

between tourism contributions to the economy, tourism income and the number of inbound tourists while being controlled by the Dollar – Rand exchange rates for the periods of analysis. The Chow test was used to determine the possible existence of a structural break in South Africa's tourism income due to the COVID-19 pandemic around the prevalent period. Relevant diagnostic tests associated with these analyses have been presented and explained in Section 5.12.4. This section, therefore, presents the tests that were conducted within the model specification.

The ARDL model was specified as:

$$
\begin{aligned}
\Delta TI_t = \alpha &+ \sum_{i=1}^{n1} \beta_1\, \Delta TI_{t-i} + \sum_{i=0}^{n2} \beta_2\, \Delta INBOUND_{t-i} + \sum_{i=0}^{n3} \beta_3\, \Delta REEXR_{t-i} \\
&+ \sum_{i=0}^{n4} \beta_4\, \Delta DUMC19_{t-i} + \varphi_0 TI_{t-i} + \varphi_1 INBOUND_{t-i} + \varphi_2 REXR_{t-i} \\
&+ \varphi_3 DUNC19_{t-i} + \varepsilon_t
\end{aligned} \tag{5.1}
$$

Where:

TI = Tourism Income

INBOUND = Number of inbound tourists

REEXR = Dollar – Rand exchange rates

DUMC19 = A dummy for COVID-19

α = The constant or intercept of the model

$\beta_1 - \beta_4$ = The short-run coefficients

$\varphi_1 - \varphi_3$ = The long-run coefficients

ε_t = the residual of the model

Based on the model specification, tourism income (TI) represents the yearly United States Dollar income to South Africa measured by the inbound tourism expenditure from 1995

133

to 2021, a period that covered both the pre-COVID-19 pandemic and the recovery period after the pandemic. The number of inbound tourists (INBOUND) is a unit measure of the number of tourists that visited South Africa for tourism purposes from 1995 to 2021. Owing to the fact that South Africa's Gross Domestic Product (GDP) is measured and expressed in South African Rand while the inbound tourism expenditure was measured in the United States of America's Dollar by the United Nations World Tourism Organisation (UNWTO), the exchange rate between the two currencies (REEXR) for the periods under study was obtained. Although the exchange rates for the period were obtained on a daily basis, they were annualised so as to maintain the same measurement span as other indicators of the model.

The model for the Chow test for the determination of a possible existence of structural break triggered by COVID-19 around the prevalent period of the pandemic is shown below:

$$\text{SB} = \frac{(Sc - (S_1 + S_2))/k}{(S_1 + S_2)/(N_1 + N_2 - 2k)} \qquad (5.2)$$

Where,

SB = Structural break

Sc = Sum squared residuals of the combined data

$S1$ = Sum squared residual of the first group

$S2$ = Sum squared residual of the second group

N1= number of observations in the first group

N2 – number of observations in the second group

The test statistic follows the F-distribution with k and $N_1 + N_2 - 2k$ degrees of freedom.

5.13.2 **Structural Equation Modelling**

The remainder of the study's objectives of this study aims to assess the predictive influence of South Africa's destination attractiveness on tourists' behavioural intentions and are moderated by perceived risks and potential adoption of innovative technologies in South Africa's tourism space via the survey data. To achieve this, SEM was considered and employed as the most suitable statistical tool for the following reasons:

▪ As a multivariate statistical tool, it simultaneously estimates causative relationships among a series of constructs, which are represented by multiple interconnected and interrelated measurable indicators that are incorporated into a model (Hair, Black, Babin & Anderson, 2010).

▪ It allows for the indirect measurement of latent variables through observable variables, which makes it a good tool for testing theories and hypothetical relationships (Bagozzi & Yi, 1988; Gultekin, Gültekin, Uzun & Gök, 2017).

▪ Methodologically, recent advancements have shown that SEM provides a strong statistical tool for simultaneously analysing complex data samples, which enhances the robustness and generalisability of its findings (Muthén & Satorra, 1995).

From Figure 5.4 (on p. 132), SEM has two analytical dimensions: the estimation of the measurement model and the estimation of the structural model. Figure 5.5 (on p. 136) was adapted from Hair *et al*. (2019:626) to describe the flowchart of statistical analyses that are involved in SEM.

Figure 5.5: The structural equation modelling process

Source: Adapted from Hair *et al.* (2019:626).

5.13.2.1   *Measurement model estimation*

The first process in SEM is the estimation of the measurement model. From Figure 5.5, estimating the measurement model comprises steps 1 – 4: Definition of constructs, development and specification of the measurement model, designing of a study to produce empirical results, and assessment of the model's validity. From the conceptualisation of the research framework and development of hypotheses (in Chapter 1), the study has taken the first three steps. Assessment of the models' validity in step 4 is part of the analytical process that the study performed in the proceeding chapter. However, the methods, processes, and thresholds for confirming or rejecting the validity of the models have been presented in Sections 5.12.1 through 5.12.3, namely, construct reliability, construct validity, and goodness of model fit.

136

5.13.2.2 *Structural model estimation*

The success of measurement model estimation approves the estimation of the structural model. The structural model, according to Hair *et al.* (2019:643), shows and evaluates the dependence relationships between the models that researchers presented in their hypotheses, which are otherwise called the researcher's model. In other words, the structural model shows how the constructs in a model influence one another, either directly (main or direct effect) or indirectly (moderating or mediating influence). The structural model estimation is represented by the last two steps in Figure 5.5, namely specifying the structural model and assessing the structural model. Based on Model 2, the explicit model is specified in Section 4.13.3, while the assessment is conducted in Chapter 6. Thus, while the study used the hypothesised model (Figure 1.3 on p. 18) in Chapter 1 to conceptualise the structural model of the study, Chapter 6 used the specified explicit model in Subsection 4.13.3 to assess the structural model. Based on the validity and reliability of the model, the study made substantive conclusions and recommendations. The study used Andrew Haye's PROCESS® macros of SPSS®, version 29, to test the specified model of the SEM.

5.13.3 Structural equation model estimation

Structural equation model estimation refers to the estimation of the parameters of the conceptualised model. While the conceptual model diagrammatically presents the set of relationships between constructs with arrows depicting the direction of causality, the path model or statistical diagram represents a set of equations that visually depict how the effect sizes of each relationship in the conceptual model are actually estimated using mathematical models. In other words, the path model or statistical diagram shows the modelled estimations of the relationships between the relationships in a conceptual model. In this subsection, the conceptualised model, represented by Figure 1.3 (on p. 18), is converted to a path model (Figure 5.6), from which a set of equations that represent the study's hypothesised relationship between the constructs are produced. This set of equations represents the implicit model that was estimated in Chapter 7, using the data collected from the study to produce the explanatory model.

137

Figure 5.6: The path model

5.13.3.1   Implicit model

Based on the path model in Figure 5.6, the existing relationships between the ten constructs of Model 2 were presented below as the study's implicit model.

$TBI = \alpha + \beta_1 DA + \beta_2 AGE + \beta_3 GEN + \beta_4 EDU + \beta_5 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RSEV + \beta_{3i}(DA \ X \ RSEV) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RGEN + \beta_{3ii}(DA \ X \ RGEN) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RSAF + \beta_{3iii}(DA \ X \ RSAF) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RSAT + \beta_{3iv}(DA \ X \ RSAT) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RSOC + \beta_{3v}(DA \ X \ RSOC) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 RPSY + \beta_{3vi}(DA \ X \ RPSY) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$TBI = \alpha + \beta_1 DA + \beta_2 PUT + \beta_{3vii}(DA \ X \ PUT) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

$$TBI = \alpha + \beta_1 DA + \beta_2 PET + \beta_{3viii}(DA \times PET) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$$

Where,

TBI = Tourists' behavioural intentions towards South Africa

DA = South Africa's destination attractiveness

AGE = Age

GEN = Gender

EDU = Education

INC = Income

RSEV = Perceived severity of COVID-19

RGEN = Perceived general vulnerability of COVID-19

RSAF = Perceived South Africa's specific vulnerability to COVID-19

RSAT = Perceived satisfaction risk

RSOC = Perceived social risk

RPSY = Perceived psychological risk

PUT = Perceived usefulness of technological adoption in tourism

PET = Perceived ease of use of technology in tourism

5.14 CHAPTER SUMMARY

The chapter presented and justified the methodological choices that the researcher made across the research process. The philosophical assumptions of the study, which informed the research approach and selection of a research design, were exhaustively presented. Thus, the study adopted a survey as the appropriate research strategy and selected a quantitative research method. The sampling process and the development of research instruments were rationalised. The chapter presented all the sources and channels of data collection it adopted, as well as the data screening and cleaning methods that it employed to enhance the quality of collected data. Based on the specific objectives of the study, the autoregressive distributed lag model and the structural equation modelling were adopted as the statistical tools for data analyses. The chapter further provided the

139

required validation checks on the study's models as the basis for relying on the results of the study and generalising its findings. Finally, the chapter discussed all the ethical considerations that the researcher adopted in conducting the study. The considerations satisfied all the ethical requirements of the University of Pretoria and existed within the axiological perceptions of the researcher.

CHAPTER 6
DATA PRESENTATION

6.1 INTRODUCTION

The results of data collection, quality checks on collected datasets, presentation of data, and analysis of collected data are presented in this chapter. In other words, the methodological choices and considerations that were presented in the preceding chapter are employed in reviewing the collected data and assessing their suitability for the adopted analytical processes. The chapter also created relevant visualisations from the datasets with the aim of highlighting their underlying trends. Finally, Data analyses and discussion of findings from the various analyses are presented. In all the analyses, 0.05 is the study level of significance and, therefore, becomes the basis for comparing p-values and statistical decisions made in this study.

6.2 DATA PREPARATION

A review of collected data through the questionnaire showed that there were no outliers in the primary data. This outcome is based on the structured nature of the questionnaire used in collecting data, where fixed options were made available to the respondents. However, missing data were prevalent because of the cases of incomplete submission or abandonment of questionnaires (or both) during the survey process. In this data preparation stage, they are treated as missing data. The method adopted in treating the missing data depends on the adequacy of the remaining data. In this regard, a total of 504 responses were collected through the questionnaire. There were 23 incomplete responses and two responses that were considered respondents' misconduct due to non-variation of the respondents' choices across the question items. Thus, 479 responses were considered eligible for the study's data analysis.

Data preparation for secondary data showed that there were no outliers in the collected data, as the test of normality showed that the data for the three variables of the secondary data showed normally distributed data. However, there were differences in the data cycle among the datasets. While data for tourism income and GDP were annualised, data for the Dollar-Rand exchange rates were on a daily basis. As such, the data for daily

141

exchange rates were annualised in order to provide a uniform basis in the datasets before data analysis.

6.3   DATA ADEQUACY

Data adequacy only applied to the primary data because a sample is expected to be a good representation of the target population from which data are sourced and collected was sourced and collected for analysis. Based on the infinite nature of the population of the study, the minimum sample was determined using Hair, Hult, Ringle and Sarstedt's (2017) suggestion of using ten times the number of indicators for the study. With this study's total of 41 indicators, 410 was adopted as the minimum sample size that supports the study's analysis of data. Based on the foregoing, the study's sample of 479 was considered sufficient for data analysis. Since the incomplete data have no impact on the minimum sample size required for analysis, they were completely removed using the imputation method of handling missing data.

6.4   DATA PRESENTATION

The data presentation section consists of both tabular and visual presentations of collected data using bar charts (both simple and stacked bar charts) and geo-spatial visualisation. The two dimensions of data that were collected through questionnaire administration are respondents' demographic information (the control variables) and data from the question items (measurement data for the study constructs). The R statistical computing application was used to produce the bar charts and geospatial visualisation.

6.4.1   <u>Demographic information</u>

The study employed four dimensions of demographic information and collected data across the four dimensions, namely age, gender, education, and income distributions of the sampled population of the study. Additionally, the countries of residence of the respondents were also collected to show the geographical spread of the respondents. The results and distributions of the demographic data of the respondents are presented in the following subsection.

6.4.1.1 Age Distribution

The distribution of respondents' ages is presented in Figure 6.1 below. It shows a diverse distribution of respondents' demographic information and suggests that the age distribution of the respondents is normally distributed as most of the respondents, representing 27.35%, were within the age bracket of 31 to 40 years. 25.26% of respondents were within the age bracket of 41 to 50 years, while those in the range of 51 to 60 years represented 20.67%. 6.05% of the respondents represent those who were above 60 years of age. Respondents who were below 20 years of age (between 16 and 19 years) and between 21 and 30 years of age represent 5.43% and 15.24%, respectively.

Figure 6.1: Distribution of respondents' ages

6.4.1.2 Gender distribution

Figure 6.2 below shows the result of the gender distribution of the sampled tourists. The result shows that their gender varied across the four categories of gender identification, with 164 (34.2%) of the respondents identifying themselves as a male gender group. In contrast, 28.4% identified themselves as females. 21.3% identified as non-binary gender, while 77 respondents, representing 16.1%, did not want to identify themselves with any of the gender groups.

Figure 6.2: Respondents' gender distribution

6.4.1.3 Educational qualifications

The distribution of respondents' educational qualifications is presented in Figure 6.3 below. It ranged from primary education (the least educational qualification) to doctoral degree (the highest education qualification). From the figure, the majority (28.81%) of the respondents to the survey have bachelor's degrees as their highest education qualification. This is followed by a master's degree, which accounted for 22.96% of the respondents. Those with doctoral degrees as their highest educational qualifications accounted for 14.61% of the respondents. With just 3.55%, respondents with primary education as their highest educational qualification were the least, while those with secondary education were 11.27%.

Figure 6.3: Distribution of respondents' educational qualifications

6.4.1.4 Income distribution

Figure 6.4 below shows the income distribution of the sampled respondents. Respondents within the annual income bracket of $35,000 and $45,000 were the most numerous, thus representing 23 per cent of the sampled respondents. In the same order, 21.3 per cent of respondents indicated that their annual incomes were between $25,000 and $35,000, followed by those that earn between $45,000 and $55,00, representing 16.9 per cent. Income earners between $5,000 and $15,000 were only 11.1 per cent, while those who earn above $55,000 per annum accounted for 8.1 per cent. The lowest income earners who earn less than $5,000 per annum were the least in proportion, accounting for only 3.8 per cent of the sampled respondents.

Figure 6.4: Income distribution of respondents

6.4.1.5 *Geographical spread of respondents*

Figure 6.5 shows the geographical spread of respondents in terms of their countries of residence. It shows a global spread of respondents who had either visited and toured South Africa in the past, were in South Africa for tourism at the time of this survey or had the intention of undertaking tourism in the country. Data collection showed a coverage of 73 countries of residence of the respondents. By implication, South Africa as a tourism destination has global appeal even though the size of the appeal varies across the regions of the world. Accordingly, North America, Europe and Southern Africa are the prime tourism customers in South Africa. At the level of the country, tourists to South Africa come mainly from the United States of America, Canada, the United Kingdom, France, Germany, the Netherlands, and Nigeria.

Figure 6.5: Geographical spread of respondents

147

6.4.2 Measurement indicators

The survey results from the 41 indicators of the ten adapted scales for measuring the constructs of the study are presented using the following tables and stacked bar charts. The options for responses are SD, D, NA, A, and South Africa, which represent *Strongly disagree, Somewhat agree, Neither agree nor disagree, Somewhat agree,* and *Strongly agree,* respectively. They represent the five options for the 5-point Likert Scale measurement the study used. For analytical convenience, the first column of Table 5.2 (on p. 114) represents the codes used to represent the question items.

6.4.2.1 Destination attractiveness

The survey results of South Africa's destination attractiveness as a tourism destination are presented in Table 6.1. The measurement scale was adapted from Wu, Hsieh, Yang, Huang and Ku (2022). The descriptive statistics show that, among the five determinants, South Africa's rich biodiversity of wildlife, with a mean of 3.61, is the country's strongest source of destination attractiveness. This is followed by the country's well-established cultural heritage. Environment management mechanisms, which connote to the management and governance of tourism spaces and infrastructure, were found to be the least source of destination attractiveness in South Africa, with a weighted mean score of 3.27. The poor performance of this indicator, however, did not invalidate its marginal contributions to the overall destination attractiveness of South Africa's tourism space.

Table 6.1:   **Determinants of South Africa's destination attractiveness**

Wu *et al.* (2022)		SD	D	NA	A	SA	Total	Mean
DA1	Unique ecological environment	5	109	145	116	104	479	3.43
	Percentage	**1.0**	**22.8**	**30.3**	**24.2**	**21.7**	**100**	
DA2	Beautiful forest scenery	1	92	166	150	70	479	3.41
	Percentage	**0.2**	**19.2**	**34.7**	**31.3**	**14.6**	**100**	

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		SD	D	NA	A	SA	Total	Mean
DA3	Rich biodiversity of wildlife	1	86	135	133	124	479	3.61
	Percentage	**0.2**	**18.0**	**28.2**	**27.8**	**25.9**	**100**	
DA4	Established cultural heritages	2	89	141	147	100	479	3.53
	Percentage	**0.4**	**18.6**	**29.4**	**30.7**	**20.9**	**100**	
DA5	Good environment management mechanisms	19	117	145	114	84	479	3.27
	Percentage	**4.0**	**24.4**	**30.3**	**23.8**	**17.5**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree

Error! Reference source not found. below shows the distribution of tourists' responses to the determinants of South Africa destination attractiveness, namely unique ecological environment, beautiful forest scenery, rich biodiversity of wildlife, established cultural heritages, and good environment management mechanisms. The distribution of the responses shows that the majority of the tourists agreed that South Africa is an attractive tourist destination across the five distinctive determinants of destination attractiveness.

Figure 6.6: Determinants of South Africa's destination attractiveness

6.4.2.2 COVID-19-induced perceived risks

The study adopted the six prevalent dimensions of COVID-19-induced perceived risks in tourism space as validated by De Rooij, Van Liempt and Van Bendegom (2022). The measurement indicators for the six dimensions of perceived risks as well as the data collected through the questionnaire, are presented in the following subsections with tables and figures.

(i)   Perceived risks 1: Severity of COVID-19 Virus

The perceived severity of the COVID-19 virus, as the study's first dimension of COVID-19-induced risk perception, refers to the people's fear of contracting the virus and the health complications that such infections could cause and cost them. Data from this measure of perceived risk are presented in Table 6.2. This dimension of perceived risk was measured by three question items. The distribution of the responses shows that tourists are still but slightly concerned about the severity of the virus, which affects their disposition to engage in tourism.

Table 6.2:   Perceived severity of COVID-19 virus

		SD	D	NA	A	SA	Total	Mean
RSEV1	COVID-19 is harmful to human health	84	93	95	147	60	479	3.01
	Percentage	**17.5**	**19.4**	**19.8**	**30.7**	**12.5**	**100**	
RSEV2	COVID-19 ruins mood in daily life	83	112	78	107	99	479	3.06
	Percentage	**17.3**	**23.4**	**16.3**	**22.3**	**20.7**	**100**	
RSEV3	COVID-19 reduces humans' quality of life	84	96	121	74	104	479	3.04
	Percentage	**17.5**	**20.0**	**25.3**	**15.4**	**21.7**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree

150

Figure 6.7 depicts a visual distribution of the responses to the perceived severity of the COVID-19 virus. It shows that the majority of the respondents' perceptions of the severity of the virus are in the direction of agreement with the question items. This is further explained by the mean scores of the question items as seen in Table 6.2 (on p. 150) with two deductions: the mean scores are slightly above 3, and they are almost equal.

Figure 6.7: Perceived severity of COVID-19 virus

(ii)   Perceived risks 2: General Vulnerability

The generality of COVID-19 vulnerability stems from the globalised nature of the COVID-19 pandemic, which caused tourists to perceive travel and tourism risks both in their home countries and intended tourism destinations. In other words, it is a combination of tourists' perceptions of the vulnerability of the virus from their home countries, in transit to tourist destinations, and the destination-specific risks. Data from this measure of perceived risk are presented in Table 6.3.

Table 6.3:   General Vulnerability of COVID-19 virus

		SD	D	NA	A	SA	Total	Mean
RGEN1	I feel I can be infected with COVID-19 in the near future	56	126	105	123	69	479	3.05
	Percentage	**11.7**	**26.3**	**21.9**	**25.7**	**14.4**	**100**	
RGEN2	I feel that my friends and family members can be infected with COVID-19 in the near future	59	134	120	103	63	479	2.95
	Percentage	**12.3**	**28.0**	**25.1**	**21.5**	**13.2**	**100**	
RGEN3	I feel that people will continue to be infected with COVID-19 in the near future	41	167	96	116	59	479	2.97
	Percentage	**8.6**	**34.9**	**20.0**	**24.2**	**12.3**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree

The study used three question items to measure the generality of COVID-19 vulnerability. The basic statistics are shown in Table 6.3, while the distribution of the responses is presented in Figure 6.8. The data distribution shows that tourists are progressively becoming indifferent to the perceived general vulnerability of the virus. This is further confirmed by the descriptive statistics of this risk perception, which showed mean figures of 3.05, 2.95, and 2.97 across the three indicators that were used to measure the risk.

Figure 6.8: General Vulnerability of COVID-19 virus

(iii)   Perceived risks 3: South Africa-specific vulnerability

South Africa's specific vulnerability to the COVID-19 virus was measured by the country-specific risk perception of the COVID-19 virus that stems from South Africa's profile and experience of the viral pandemic. The global knowledge of South Africa as one of the epicentres of the COVID-19 pandemic, as well as the discovery of one of the variants of the virus, caused a form of country-specific risk perception among tourists. The result of respondents' impression of South Africa's COVID-19-specific vulnerability is tabulated in Table 6.4 below.

Table 6.4: **South Africa-specific vulnerability**

		SD	D	NA	A	SA	Total	Mean
RSAF1	I am confident that South Africa has taken the right control measures to decrease the chance of infection with COVID-19*	10	106	150	124	89	479	3.37
	Percentage	**2.1**	**22.1**	**31.3**	**25.9**	**18.6**	**100**	
RSAF2	I am confident that South Africa complies with the COVID-19 safety regulations*	4	93	144	136	102	479	3.50
	Percentage	**0.8**	**19.4**	**30.1**	**28.4**	**21.3**	**100**	
RSAF3	I am confident that South Africa has taken the right hygiene measures*	1	70	155	131	122	479	3.63
	Percentage	**0.2**	**14.6**	**32.4**	**27.3**	**25.5**	**100**	

*SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.
Reverse coded.

The descriptive statistics of responses from tourists' perceptions of South Africa-specific vulnerability to the COVID-19 virus (Table 6.4) show that tourists visiting or intending to visit the country were still concerned about the virus in visiting and touring the country. With the means across the three indicators used in measuring this construct above three, the country-specific vulnerability of the COVID-19 pandemic was still perceived to be high. The associated stacked bar chart, which shows the distribution of the responses, is presented in Figure 6.9 (on p. 155). The bar chart shows unanimity among the respondents that South Africa-specific vulnerability to the pandemic is still of high concern.

154

Figure 6.9: South Africa-specific vulnerability

(iv)   Perceived risks 4: Satisfaction risk

Perceived satisfaction risk is one of the dimensions of perceived risk in tourism space, which is the perception of a tourism destination not being able to meet the expectation levels that motivate tourists to undertake tourism. The study adapted four question items in measuring this risk dimension. Table 6.5 (on p. 156) is the descriptive statistics of the responses to perceived satisfaction risk, showing the percentage of the responses across the four question items as well as their mean values.

155

Table 6.5:   Perceived satisfaction risk

		SD	D	NA	A	SA	Total	Mean
RSAT1	I expect that a visit to South Africa at this moment would not meet my expectations	73	115	94	92	105	479	3.09
	Percentage	**15.2**	**24.0**	**19.6**	**19.2**	**21.9**	**100**	
RSAT2	If I visit South Africa in the near future, I'm afraid that the visit will be disappointing due to the COVID-19 regulations	87	111	93	79	109	479	3.03
	Percentage	**18.2**	**23.2**	**19.4**	**16.5**	**22.8**	**100**	
RSAT3	If I visit South Africa in the near future, I expect that the experience will be worse than I am used to due to the COVID-19 regulations	84	74	103	83	135	479	3.23
	Percentage	**17.5**	**15.4**	**21.5**	**17.3**	**28.2**	**100**	
RSAT4	I expect that a visit to South Africa right now will be just as valuable as in the past	116	120	90	83	70	479	2.73
	Percentage	**24.2**	**25.1**	**18.8**	**17.3**	**14.6**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

From Table 6.5, there is, however, a low-risk perception that there would be no significant change is tourism experience in South Africa between past and present (mean of 2.73).

156

Similarly, Figure 6.10 shows the distribution of responses on tourists' satisfaction risk varied across the four question items used to measure the construct, implying that there were varied tourists' impressions across the question items. This variation was further highlighted by the varied means associated with each of the question items. For instance, there is a high-risk perception that visiting South Africa in the near future would be worse due to the country's COVID-19 regulations (mean of 3.23).

Figure 6.10:   Perceived satisfaction risk

(v)   Perceived risks 5: Social risk

Perceived social risk encompasses a wide range of social, cultural, and institutional factors that interact with known hazards and, as such, influence behavioural responses to the source of risk. Social risk is one of the dimensions of the perceived risk that was heightened during the COVID-19 pandemic as a result of the high contagious nature of

157

the virus. The social dimension of perceived risk in the South Africa tourism space was measured by this study using four question items. Table 6 6 and Figure 6.11 are used to present the results of responses on social risk.

Table 6 6: **Perceived social risk**

		SD	D	NA	A	SA	Total	Mean
RSOC1	Friends and family members will not appreciate it if I travel to, for example, South Africa at this moment	4	85	136	128	126	479	3.60
	Percentage	**0.8**	**17.7**	**28.4**	**26.7**	**26.3**	**100**	
RSOC2	Friends and family members will not think it is unusual if I plan to visit South Africa at this moment	1	116	155	122	85	479	3.36
	Percentage	**0.2**	**24.2**	**32.4**	**25.5**	**17.7**	**100**	
RSOC3	Friends and family members will discourage a plan to visit South Africa at this moment	0	131	141	118	89	479	3.34
	Percentage	**0.0**	**27.3**	**29.4**	**24.6**	**18.6**	**100**	

		SD	D	NA	A	SA	Total	Mean
RSOC4	Friends and family members are not inclined to visit places such as South Africa	0	45	146	135	153	479	3.83
	Percentage	**0.0**	**9.4**	**30.5**	**28.2**	**31.9**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

The descriptive statistics (Table 6 6) show that the fourth question item, which assessed the inclination of friends and family in visiting South Africa for tourism, dominated the perceived social risk dimension. In terms of the distribution of responses (Figure 6.11) across the four question items for measuring this risk dimension, sampled perception levels skewed to agreement with the questions. On average, respondents agreed that they perceive social risks as a dominant aspect of tourism risk even after the pandemic. The perceived influence of family and friends in discouraging or not supporting tourists in engaging in tourism due to the COVID-19 experience dominated this dimension of risk.

Figure 6.11: Perceived social risk

159

(vi) Perceived risks 6: Psychological risk

Psychological risk refers to events, conditions, and factors that cause impaired cognitive functions, negative emotions, stress, anxiety, depression, and other forms of psychological distress on people. Psychological discomfort has been one of the widely reported consequences of the COVID-19 pandemic for many reasons. As one of the dimensions of perceived risk under study, it was measured by six question items. The descriptive statistics of the responses obtained from measuring this risk dimension are presented in Table 6.7 below.

From the descriptive statistics, respondents considered safety as the most important consideration when choosing South Africa for tourism activities due to the COVID-19 experience, while safety concerns on leisure activities were the least consideration. Implicatively, while tourists may feel unsafe in engaging in tourism activities in South Africa, they may feel less unsafe in engaging in other forms of leisure activities that they do not need to be in South Africa.

Table 6.7: Perceived psychological risk

		SD	D	NA	A	SA	Total	Mean
RPSY1	Going on tourism is risky at the moment	7	132	121	119	100	479	3.36
	Percentage	**1.5**	**27.6**	**25.3**	**24.8**	**20.9**	**100**	
RPSY2	I would feel very uncomfortable travelling anywhere in South Africa right now	2	102	161	129	85	479	3.40
	Percentage	**0.4**	**21.3**	**33.6**	**26.9**	**17.7**	**100**	

		SD	D	NA	A	SA	Total	Mean
RPSY3	I would feel nervous about travelling to South Africa	1	82	153	142	101	479	3.54
	Percentage	**0.2**	**17.1**	**31.9**	**29.6**	**21.1**	**100**	
RPSY4	Visiting tourist sites is an unsafe activity	0	64	166	124	125	479	3.65
	Percentage	**0.0**	**13.4**	**34.7**	**25.9**	**26.1**	**100**	
RPSY5	I feel that safety is the most important aspect a leisure activity can offer	17	132	110	128	92	479	3.30
	Percentage	**3.5**	**27.6**	**23.0**	**26.7**	**19.2**	**100**	
RPSY6	Safety is an important consideration when I choose a tourism activity	0	39	158	149	133	479	3.78
	Percentage	**0.0**	**8.1**	**33.0**	**31.1**	**27.8**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

Figure 6.12 (on p. 162) presents the distribution of responses for measuring the psychological risks dimension in South Africa's tourism space. It shows a unanimous agreement that the perceived psychological risk of engaging in tourism in South Africa as a destination was of high concern to them.

Figure 6.12: Perceived psychological risk

6.4.2.3 Adoption and utilisation of innovative technologies in tourism space

One of the emerging research agendas in tourism from the COVID-19 era is the accelerated adoption and reliance on innovative technologies across the tourism value chain. As such, this study examines the effects of adopting and utilising innovative technologies in the South African tourism space. The study adopted the two constructions for measuring technological adoption as validated by Davis, Bagozzi and Warshaw (1989), namely, the perceived usefulness of technology and perceived ease of use of technology. The measurement indicators and the results of their questionnaire responses are presented below.

162

(i) Perceived Usefulness of Innovative Technologies in Tourism Space

The perceived usefulness of innovative technologies in South Africa's tourism space, as used in this study, is a measure of tourists' impression and perception of the usefulness of adopting and utilising technological innovations in South Africa's tourism value chain. In other words, it assesses the level to which tourists feel that technology could enhance their tourism experience in South Africa. The study adapted five question items from Davis, Bagozzi and Warshaw (1989) in measuring the perceived usefulness of innovative technologies in South Africa's tourism space. The results from the survey are presented in Table 6.8.

Table 6.8: Perceived usefulness of innovative technologies in tourism space

		SD	D	NA	A	SA	Total	Mean
PUT1	Using tourism technologies would increase my ability to make better tourism decisions	33	91	141	108	106	479	3.34
	Percentage	**6.9**	**19.0**	**29.4**	**22.5**	**22.1**	**100**	
PUT2	I think that using tourism technologies should be part of every tourism experience	25	115	140	94	105	479	3.29
	Percentage	**5.2**	**24.0**	**29.2**	**19.6**	**21.9**	**100**	
PUT3	Using tourism technologies course would enhance my tourism experience	21	98	112	122	126	479	3.49
	Percentage	**4.4**	**20.5**	**23.4**	**25.5**	**26.3**	**100**	

163

		SD	D	NA	A	SA	Total	Mean
PUT4	Using tourism technologies would make it easier for me to identify the best tourism destinations that suit my expectations	18	137	106	128	90	479	3.28
	Percentage	**3.8**	**28.6**	**22.1**	**26.7**	**18.8**	**100**	
PUT5	Using tourism technologies would make it easier for me to express my level of tourism experience	24	143	121	99	92	479	3.19
	Percentage	**5.0**	**29.9**	**25.3**	**20.7**	**19.2**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

Data from the survey of tourists' perceptions of the usefulness of adopting technologies in the South Africa tourism space shows a considerable agreement that tourism experience is improved by technology. The descriptive statistics of the responses show a minimum mean value of 3.19 (use of technology to express tourism experience) to a maximum mean value of 3.49 (Use tourism technologies enhances tourism experience). The distribution of respondents' perceptions of this construct is presented in Figure 6.13. It shows that, between the extremes of disagreement and agreement to the question items, more responses tilted to the agreement of the perception that adoption and utilisation of innovative technologies in tourism would increase tourism experience. This insight is further confirmed by the individual performance of each of the question items (Table 6.8).

Figure 6.13: Perceived usefulness of innovative technologies in tourism space

(ii)   Perceived ease of use of innovative technologies in tourism space

The second construct to measure technological adoption is the perceived ease of use of technology, which measures users' perceptions of the user-friendliness of technologies. User-friendliness is a crucial consideration when adopting technologies. As such, the level of utilisation depends on user-friendliness. In line with Davis, Bagozzi and Warshaw's (1989) validation, the study adopted five question items to measure the perceived ease of use of innovative technologies in South Africa's tourism space. Data from the responses to this question item are presented in Table 6.9 (on p. 166) and Figure 6.14 (on p. 167).

165

Table 6.9:   Perceived ease of use of innovative technologies in tourism space

		SD	D	NA	A	SA	Total	Mean
PET1	Learning to use tourism technologies is hard for me	11	136	136	151	45	479	3.17
	Percentage	**2.3**	**28.4**	**28.4**	**31.5**	**9.4**	**100**	
PET2	I find the process of using tourism technologies clear, understandable and straightforward	27	130	154	158	10	479	2.99
	Percentage	**5.6**	**27.1**	**32.2**	**33.0**	**2.1**	**100**	
PET3	Navigating through tourism technologies is easy for me	30	100	146	106	97	479	3.29
	Percentage	**6.3**	**20.9**	**30.5**	**22.1**	**20.3**	**100**	
PET4	It would be easy to become skilful at using tourism technologies	29	92	153	154	51	479	3.22
	Percentage	**6.1**	**19.2**	**31.9**	**32.2**	**10.6**	**100**	
PET5	I find tourism technologies easy to use	31	124	162	106	56	479	3.07
	Percentage	**6.5**	**25.9**	**33.8**	**22.1**	**11.7**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

While the distribution of tourists' perceptions of the ease-of-use technology (Figure 6.14) is similar to that of their perceptions of the usefulness of technology in tourism spaces, a slight difference was seen in the skewness of their distribution. Thus, the perception of

the usefulness is marginally higher than that of ease of use. In other words, while both constructs show tourists' agreement on the effectiveness of using technology in tourism, the perceived usefulness of technology was believed to be more effective.

Figure 6.14: Perceived ease of use of innovative technologies in tourism space

6.4.2.4 Tourists' behavioural intentions

Tourists' behavioural intentions are measured through their intentions to visit or revisit a tourist destination. This construct was measured by adapting the scale used by recent studies such as Torabi, Shalbafian, Allam, Ghaderi, Murgante and Khavarian-Garmsir (2022) and Jeong and Shin (2019). Unlike the other constructs that were measured using the *strongly agree* to *strongly disagree* scale, intention to visit and/or revisit was measured using a different measuring alternative. These are *Very likely, Likely, Indifferent, Unlikely*, and *Very unlikely*, accordingly coded 5, 4, 3, 2, and 1, respectively. Their options are abbreviated as VU, U, I, L, and VL.

167

Table 6.10: Measurement indicators for tourists' behavioural intentions

		VU	U	I	L	VL	Total	Mean
TBI1	If you have visited South Africa before, what is the likelihood of visiting again?	39	106	135	97	102	479	3.24
	Percentage	**8.1**	**22.1**	**28.2**	**20.3**	**21.3**	**100**	
TBI2	If you have not visited South Africa before, what is the likelihood of visiting?	20	91	121	117	130	479	3.51
	Percentage	**4.2**	**19.0**	**25.3**	**24.4**	**27.1**	**100**	
TBI3	Will you invite friends and family to visit South Africa?	16	137	124	121	81	479	3.24
	Percentage	**3.3**	**28.6**	**25.9**	**25.3**	**16.9**	**100**	

SD = Strongly disagree, D = Disagree, NA = Neither agree nor disagree, A = Agree, SA = Strong agree.

Data collected on tourists' behavioural intentions towards South Africa as a tourist destination are presented in both Table 6.10 and Figure 6.15 (on p. 169). The distribution of the tourist respondents across the three question items significantly skewed to the right, indicating a considerably unanimous agreement among tourists that South Africa remains an attractive tourism destination. Descriptive statistics of the collected data showed that the three measurement indicators have clustered mean scores of 3.24, 3.51, and 3.24, suggesting that the question items relatively contributed to measuring the construct of tourists' behavioural intentions evenly. On the basis of the performance of each of the question items, an important insight is that South Africa is most attractive to intending tourists (with a mean score of 3.51) who have not visited the country before. Such insight is valuable to destination marketing managers in further projecting the image of the country to potential tourists.

Figure 6.15: Measurement indicators for tourists' behavioural intentions

6.4.3 <u>Level of awareness of innovative technologies in tourism</u>

Extant literature documents the progressive adoption and utilisation of innovative technologies in tourism spaces both from the demand side and the supply side of the tourism value chain (Buhalis, 2019; Chuchu, 2021; Gretzel, Sigala, Xiang & Koo, 2015; Jeong & Shin, 2019). This study, therefore, assessed the level of awareness and knowledge of innovative technologies in tourism among the surveyed tourists. The results presented in Figure 6.16 (on p. 165) show that social media is the most widely known technological innovation in tourism, indicating that 86% of the surveyed tourists know about social media adoption in the tourism space. This is followed by mobile apps, with 73% of the respondents confirming that they have an awareness and knowledge of how mobile applications are integrated with the tourism value chain.

The knowledge and awareness of the applications of Immersive technology (virtual and augmented realities) and artificial intelligence (AI) technologies in tourism space are

169

considerably high at 58% and 54%, respectively. At 44%, the application of biometric technology in tourism is barely known. Knowledge and awareness of the applications of blockchain and the Internet of Things (IoT) applications in tourism are considerably low at 32% and 31% of the responses, respectively. The low knowledge of machine learning applications in tourism could be attributed to the fact that Machine Learning is a specialised segment of AI.

Figure 6.16: Level of awareness of innovative technologies in tourism

6.4.4 Descriptive statistics of secondary data

The aggregative averages (the mean), the positional averages (the median), and a measure of spread (the standard deviation) are presented for all the variables of the secondary data in Table 6.11 (on p. 171). Specific attention was paid to the Relative Standard Deviation (RSD), which is the quotient of the standard deviation over the mean

170

of the observations. It can be inferred that the most volatile of all the series is the dummy for the COVID-19 period with a value that is greater than unity (1).

Table 6.11:   Descriptive statistics of secondary data

	DUMC19	INBOUND	INCOME_$M_	REEXR
Mean	0.148148	9225.578	7074.259	91.91254
Median	0.000000	8509.000	8684.000	92.01431
Standard Deviation	0.362014	4052.924	3237.141	14.79167
RSD	2.443599	0.43931	0.457585	0.160932

<u>Source</u>: United Nations World Tourism Organisation.

6.5   CHAPTER SUMMARY

The chapter presented the two broad categories of data that were collected for the purpose of this study - primary data and secondary data. The collected data were first prepared by identifying missing data and outliers, and they were treated in accordance with the prescribed methods outlined in the preceding chapter. A data adequacy test was further conducted on the primary data, and the result confirmed that the sample size was adequate to support the study's statistical analyses. With the aid of tables, bar charts and geospatial visualisation, the collected data were summarised and presented.

CHAPTER 7
ANALYSIS OF DATA AND DISCUSSION OF FINDINGS

7.1   INTRODUCTION

The two broad sections of this chapter are quality assessments and test of hypotheses. Quality assessments statistically evaluated the fitness of collected data in supporting the empirical evaluation of the hypothesised models. On the other hand, the test of hypothesis statistically evaluated the models, produced empirical results, and discussed the findings. The data presented in the preceding chapter were used to conduct both the quality assessments and tests of the ten hypotheses in this chapter.

7.2   QUALITY ASSESSMENTS

Quality assessment refers to the evaluation of the fitness of collected data for the purpose of data analysis. In other words, the quality assessment quantitatively compares the fit statistics of the collected data with established benchmarks, which rationalises the acceptance of the fitness of the study's data in supporting data analysis, discussion, and communication of results. For the purposes of this study, the quality assessment of data consists of construct reliability, construct validity, model fit statistics, serial autocorrelation, and homoscedasticity. Construct reliability, construct validity, and model fit statistics apply to the study's primary data, while serial autocorrelation and homoscedasticity apply to the secondary data. With the aid of the Statistical Package for Social Sciences (SPSS®) v.29 and the Analysis of Moment Structures (AMOS®) v.28, a confirmatory factor analysis (CFA) was conducted, and the results of the analysis were used to report the fit statistics. Figure 7.1 (on p. 173) is the covariance matrix of the confirmatory factor analysis, while the factor loadings of each of the question items across the study constructs are presented in Table 7.1 (on p. 174).

172

Figure 7.1: Covariance matrix

Source: AMOS output

Table 7.1: Factor loading, Cronbach alpha, composite reliability, average variance extracted

Indicator	Factor loading	α	CR	AVE
Perceived psychological risk		0.911	0.914	0.642
RPSY3	0.886			
RPSY6	0.868			
RPSY2	0.858			
RPSY4	0.857			
RPSY1	0.794			
RPSY5	0.731			
South Africa's Destination Attractiveness		0.923	0.924	0.710
DA2	0.893			
DA4	0.868			
DA3	0.862			
DA1	0.855			
DA5	0.832			
Perceived ease of use of technology		0.921	0.922	0.704
PET5	0.908			
PET4	0.889			
PET3	0.883			
PET2	0.874			
PET1	0.792			

Perceived usefulness of technology		0.904	0.908	0.665
PUT2	0.878			
PUT5	0.876			
PUT1	0.870			
PUT4	0.863			
PUT3	0.777			
Perceived satisfaction risk		0.910	0.910	0.716
RSAT3	0.900			
RSAT1	0.887			
RSAT2	0.883			
RSAT4	0.875			
Perceived social risk		0.903	0.904	0.701
RSOC2	0.899			
RSOC1	0.878			
RSOC4	0.873			
RSOC3	0.862			
Perceived severity of COVID-19 pandemic		0.889	0.891	0.732
RSEV1	0.918			
RSEV3	0.903			
RSEV2	0.888			

		α	CR	AVE
Perceived South Africa-specific vulnerability		0.873	0.876	0.702
RSAF3	0.913			
RSAF2	0.890			
RSAF1	0.870			
Perceived general vulnerability to the pandemic		0.839	0.842	0.642
RGEN1	0.898			
RGEN3	0.878			
RGEN2	0.822			
Intention to visit and/or revisit		0.845	0.851	0.658
IV3	0.851			
IV2	0.851			
IV1	0.709			

Source: SPSS output. α = Cronbach Alpha, *CR = Composite reliability, AVE = Average Variance Extracted.*

7.2.1 Construct reliability

Construct reliability assesses the internal consistencies of the scales adapted to measuring the various constructs through the questionnaire. With the use of the SPSS® and AMOS® software applications, Cronbach's alpha and composite reliability were used to conduct the reliability analysis of the measurement scales. Generally, the higher the reliability statistics of measurement instruments, the greater the degree of consistency and internal stability of the instruments (Kumar, 2019:1752). Based on a commonly acceptable reliability threshold of at least 0.70 (Hair, Hult, Ringle & Sarstedt, 2017; Nunnally & Bernstein, 1994; Ramu, Osman, Abdul Mutalib, Aljaberi, Lee, Lin & Hamat, 2023), the constructs showed both Cronbach's alpha and composite reliability above the minimum thresholds (Table 5.4 on p.126), and therefore, are internally consistent and reliable, and, hence, fit to support data analysis.

7.2.2 Construct validity

Construct validity measures the extent to which the measurement instrument – the questionnaire – correctly measures the construct it aimed to measure. Two construct validity measures were used to assess the fitness of the collected data for the purpose of the required statistical analyses of the study. The study conducted two construct validity checks: convergent validity and discriminant validity.

7.2.2.1 Convergent validity

Convergent validity, which assessed the convergence of each indicator of the constructs in measuring their respective constructs (Carlson & Herdman, 2010), was assessed by the Average Variance Extracted (AVE). From Table 7.1(on p. 174), the constructs AVEs range from 0.642 to 0.732, which are above the minimum threshold for an SEM statistical analysis (Bagozzi & Yi, 1988; Bagozzi, Yi & Phillips, 1991; Hu & Bentler, 1999).

7.2.2.2 Discriminant validity

On the other hand, the discriminant validity, which assesses the degree to which the indicators of a construct differ from those of other constructs (Anderson & Gerbing, 1988), was assessed by the Heterotrait-Monotrait (HTMT) ratio. The result of the discriminant validity test is presented in Table 7.2 (on p. 178). From the result, none of the constructs violated the discriminant validity statistic based on the established maximum thresholds of 0.90 (Fornell & Larcker, 1981; Henseler, Ringle & Sarstedt, 2015; Hu & Bentler, 1999). The bold statistics, which represent the HTMT ratios, are not less than the corresponding statistics either across the same row or columns, which suggests that the HTMT ratios are greater than each of the inter-construct correlations of the rest of the constructs. In summary, there were no validity concerns across the ten constructs of the study.

Table 7.2:   Heterotrait-Monotrait (HTMT) analysis

	PSY	DA	PET	PUT	RSAT	RSOC	RSEV	RSAF	RGEN	TBI
PSY	**0.801**									
DA	0.009	**0.843**								
PUT	-0.05	0.036	**0.839**							
PET	0.026	0.009	0.009	**0.816**						
RSAT	0.025	0.031	0.026	0.044	**0.846**					
RSOC	0.011	0.028	-0.125*	-0.02	0.028	**0.837**				
RSEV	-0.02	0.029	0.029	0.026	0.061	-0.04	**0.855**			
RSAF	-0.03	0.069	0.069	-0.07	0.02	0.013	-0.05	**0.838**		
RGEN	-0.06	-0.01	-0.01	-0.090†	0.065	-0.04	0.015	-0.03	**0.801**	
TBI	-0.07	0.566***	-0.06	0.057	-0.02	0.021	0.029	0.023	0.01	**0.811**

Source: AMOS output. *Significance of Correlations: † p < 0.100, * p < 0.050, ** p < 0.010, *** p < 0.001, PSY = Psychological risk, DA = Destination attractiveness, PUT = Perceived usefulness of technology, PET = Perceived ease of use of technology, RSAT = satisfaction risk, RSOC = Social risk, RSEV = Perceived severity of COVID-19, RSAF = Perceived South Africa-specific COVID-19 vulnerability, RGEN = General vulnerability of COVID-19, TBI = Tourists' behavioural intentions.*

7.2.3 Model fit statistics

The model fit statistics assessed the fit of the indicators in satisfying the basic assumptions of the Structural Equation Modelling based on recommended thresholds. The results of the model fit statistics showed some inconsistencies against recommended thresholds. For example, while the Standardised root mean square residual (SRMR) at 0.050 was within the threshold of <0.08, the Root mean square error of approximation (RMSEA) was above 0.06 at 0.09. As expected, the X^2 goodness of fit was affected by the study's sample size, which was above the minimum expected size.

The study relied on the recommendations of Peugh and Feldon (2020) to trade off the Chi-square goodness that is biased due to the sample size for the statistical power of tests. Other fit indices, such as the Comparative fit index (CFI) and Tucker-Lewis's index (TLI), were within the recommended threshold (0 and 1) according to (Hair, Black, Babin & Anderson, 2019). For a large respondent (sample size), the fit statistics, in addition to the high composite reliability scores, average variance extracted (AVE), and factor loadings above 0.5, show an adequate reliability and validity model fit (Bagozzi & Yi, 1988:82).

7.2.4 Result of the ARDL Regression and Bound Test

The preceding quality criteria presented so far apply to the primary data of the study. The validity and reliability checks conducted on the secondary data are presented in this subsection. The results of the jointly conducted tests are presented in Table 7.3.

Table 7.3: Summary of ARDL regression and bound test results

Variables	Coefficient	Std Error	t-stat	p-value
Tourism income	0.581360	0.117361	4.953609	0.0001
DummyC19	-0.144218	0.119782	-1.204010	0.2420
Inbound Tourist	0.572136	0.132170	4.328778	0.0003
Real Exchange Rate	0.007343	0.003362	2.184151	0.0404
Intercept	-2.157526	0.996013	-2.166162	0.0420

179

Joint/Diagnostic Statistics

R^2		0.91
F-stat		54.05(0.000)
BG	LM	-F-stat
1.55(0.2417)		
BPG(Het)		F-Stat
2.58(0.0670)		
Ramsey	(RESET)	F-Stat
1.62(0.2175)		
Bound Test and Error Correction		
F-Stat		8.747
I(0) at 5%		2.79
I(1) at 5%		3.67
ECM_{t-1}		-0.42
(0.0000)		

Source: Eview output.

From Table 7.3 above, the Joint statistics and the diagnostic tests confirm the validity of the estimates. The insignificant BG- LM test shows the absence of higher-order autocorrelation, while the BPG-Het test shows that there are no heteroscedastic residuals. The Regression Equation Specification Error Test (RESET) shows that the model has no specification error and is valid for inferences. This is also supported by the Cumulative Sum (CUSUM) graph shown in Appendix C.

Also, the bound test shows that a long-run relationship jointly exists between tourism income and the investigated impacting variables. The I(1) and I(0) at 5% are both less than the F-stat of 8.747. This is evidence in favour of cointegration. The error correction term, which is the first lag of the residual, enters with the correct sign (negatively significant). This result shows that departure from short-run equilibrium is restored over the long run with a speed of adjustment of 42%. This means that it takes a little over two years for any deviation from tourism income because of a shift in any of the independent variables to be fully restored.

7.3 DATA ANALYSIS AND DISCUSSION OF FINDINGS

This section used the validated data to test the ten hypotheses of the study and present the meanings and implications of the findings, otherwise known as the discussion of findings.

7.3.1 Test of hypothesis 1

Hypothesis 1 was formulated from Model 1 (Figure 1.2, p. 15), which investigates the relationship between tourism and the economy in the COVID-19 era. Based on that, the formulated hypothesis is:

H_1: The *COVID-19 pandemic significantly impacted the economic contributions of tourism to South Africa's economy.*

Having confirmed the validity and reliability of the estimates of the proposed hypothesis tests using the two diagnostic tests, the hypothesis tests were conducted. The result of the directionless bivariate correlational analyses of the investigated variables is presented in Table 7.4 below. The COVID-19 dummy correlates negatively with all the other variables but at the highest correlation coefficient of 43% with the exchange rate. This implies that the pandemic shared a negative linear association with tourist movement, tourism income and real exchange rate. Conversely, it can be observed that a high and significant correlation exists between tourism income and inbound tourist population. It is, therefore, safe to say that they both moved in the same direction during the period, while COVID-19 moved in the opposite direction.

Table 7.4:   **Directionless bivariate correlation analysis**

Correlation t-Statistic Probability	DUMC19	INBOUND	INCOME_$M_	REEXR
DUMC19	1.0000			

INBOUND	-0.0144	1.0000		
	-0.0722	-----		
	0.9430	-----		
INCOME_$M_	-0.1515	0.8551	1.0000	
	-0.7662	8.2456	-----	
	0.4507	0.0000	-----	
REEXR	-0.4299	-0.5035	-0.3322	1.0000
	-2.3805	-2.9140	-1.7608	-----
	0.0252	0.0074	0.0905	-----

Source: Eview output. *DUMC19 = dummy for COVID-19, INBOUND = number of inbound tourists, INCOME_$M_ = tourism income in millions of US Dollars, REEXR = US Dollar – ZA Rand exchange rates.*

Furthermore, consistent with the study's *a priori* expectation, the observation of inbound tourist movement had a positive and significant influence on tourism income. A unit change in inbound tourist movement contributed to a 57% significant increase in tourism income. There was also some exchange rate consideration in tourist choices, which influenced the impact of the exchange rate on tourism income, though the impact is not of a significant proportion. For every unit change in the exchange rate, tourism income responded by a 0.07% significant increase within the studied period.

One of the indicators of interest, which is the dummy of COVID-19, was found to affect tourism income negatively but insignificantly. It is possible that the shortness of the time did not allow for a significantly measurable degree of influence to be shown. However,

182

the Chow breakpoint test was used to check whether COVID-19 brought about a structural break in tourism income within the period under study. The results of the test for the two significant years of the pandemic, 2019 and 2020, are presented in Table 7.5.

Table 7.5:   Result of structural break test in tourism income due to COVID-19 pandemic

Chow Breakpoint Test: 2019

F-statistic	2.869162	Prob. F(2,19)	0.0815
Log likelihood ratio	6.861781	Prob. Chi-Square (2)	0.0324
Wald Statistic	5.738325	Prob. Chi-Square (2)	0.0567

Chow Breakpoint Test: 2020

F-statistic	7.288407	Prob. F(2,19)	0.0045
Log likelihood ratio	14.80432	Prob. Chi-Square(2)	0.0006
Wald Statistic	14.57681	Prob. Chi-Square(2)	0.0007

Source: Eview output.

The null hypothesis, which stated that the COVID-19 pandemic did not significantly impact the economic contributions of tourism to South Africa's economy, was represented in this test as no break existed in tourism income for the period under study. From the result, the null hypothesis is not rejected at the 0.05 level of significance for 2019. It can be inferred that the effect of COVID was just slightly setting in that year. However, in 2020, the break impact of COVID was found to be more profound as all three tests rejected the null of no break at a 0.01 level of significance (much lower than the study's 0.05 level of significance. Therefore, there is statistical proof to conclude that the COVID-19 pandemic caused significant structural breaks and interruptions in the flow of tourism income into the South African economy.

In South Africa, various indicators and variables for assessing the economic implications of the COVID-19 pandemic on the tourism industry showed negative impacts. Chipumuro and Chikobvu (2022) modelled the arrival of international tourists in South Africa in order to assess the economic impact of COVID-19 on the country's tourism sector using the Autoregressive integrated moving average (ARIMA) model. The study found that the South African tourism sector lost more than 90 per cent of its monthly international tourist arrival as a result of the pandemic, with an attendant devastating impact on the contributions of tourism to the national economy in 2020.

Economic impact assessment of the COVID-19 pandemic on the guesthouses in South Africa by Sucheran (2022) shows that despite the various responses, measures, and strategies to safeguard South Africa's hospitality industry, the revenue of the guesthouses showed a significant decline due to the pandemic. Beyond the South African economy, lockdown, which was one of the effective means of slowing down the rate of COVID-19 infection, was found to have significant negative effects on the economies of selected African Sub-Saharan countries, including South Africa (Cheteni & Mazenda, 2022; Haider, Osman, Gadzekpo, Akipede, Asogun, Ansumana, Lessells, Khan *et al.*, 2020). On the global scale, there was almost a consensus on the negative effects of the COVID-19 pandemic on the global economy (Hossain, 2021; Naseer, Khalid, Parveen, Abbass, Song & Achim, 2023; Scarlett, 2021).

The remaining hypotheses, which were formulated from Model 2, were used to investigate the moderating effects of perceived risks and adoption of innovative technologies on the relationship between destination attractiveness and tourists' intentions to visit. Since Model 2 represents the hypothesised relationships of the variables in Hypotheses 2 to 10, the model is converted to a path diagram, which diagrammatically depicts the hypothesised relationships in a model with their measurement model. In other words, the hypothesised model is converted to the study's measurement model. The measurement model is presented in Figure 7.2 (on p. 185).

Figure 7.2: The path diagram

Based on the path diagram above, Hypotheses 2 to 10 were tested. Since the primary data were used to test the hypotheses, a correlation matrix was conducted and presented in Table 7.6. It shows the inter-construct correlations. It shows that the demographic variables, age, gender, highest educational qualification, and income of the respondents covary, and as such, provide good control for both the main and interacting effects that the remaining hypotheses tested.

Table 7.6: Inter-construct correlation matrix

	AGE	GEN	EDU	INC	DA	RSEV	RGEN	RSAF	RSAT	RSOC	RPSY	PUT	PET	TBI
Age	1													
Gender	.072	1												
Education	.388**	.157**	1											
Income	.131**	.298**	.463**	1										
DA	-.006	.078	.115*	.201**	1									
RSEV	.000	.052	-.043	-.031	.020	1								
RGEN	.028	-.056	.071	-.009	-.010	.009	1							
RSAF	-.016	.040	-.050	-.021	.073	-.025	-.030	1						
RSAT	.011	.032	.010	.067	.023	.050	.064	.014	1					
RSOC	-.031	-.007	.003	-.007	.028	-.047	-.023	.025	.025	1				
RPSY	-.013	-.045	-.064	-.074	.006	-.022	-.043	-.017	.017	.015	1			
PUT	.044	-.020	.080	.088	.005	.032	-.076	-.061	.032	-.022	.011	1		
PET	-.034	-.039	-.007	.003	.029	.040	-.004	.051	.025	-.114*	-.044	.005	1	
TBI	-.044	.146**	.104*	.423**	.514**	.023	.009	.036	-.007	.016	-.066	.069	-.060	1

Source: SPSS Output. **Correlation is significant at the 0.01 level (2-tailed), *. Correlation is significant at the 0.05 level (2-tailed), PSY = Psychological risk, DA = Destination attractiveness, PUT = Perceived usefulness of technology, PET = Perceived ease of use of technology, RSAT = satisfaction risk, RSOC = Social risk, RSEV = Perceived severity of COVID-19, RSAF = Perceived South Africa-specific COVID-19 vulnerability, RGEN = General vulnerability of COVID-19, TBI = Tourists' behavioural intentions.

186

7.3.2 Test of hypothesis 2

Hypothesis 2 was formulated to test the main effects of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa. Thus, the formulated hypothesis is stated below:

H_2: *South Africa's destination attractiveness positively influences tourists' intentions to visit and revisit South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2, on p. 185) is as follows:

$$TBI = \alpha + \beta_1 DA + \beta_2 AGE + \beta_3 GEN + \beta_4 EDU + \beta_5 INC$$

The results of the hypothesis test are presented in Table 7.7 (on p. 188), Table 7.8 (on p. 188), and Table 7.9 (on p. 189), representing the model summary of the hypothesis test, the analysis of variance (ANOVA) for the test, and the coefficients of the variables, respectively. The outcome variable – tourists' intention to visit and revisit South Africa as a tourist destination was regressed on the predictor variable – South Africa's destination attractiveness within the controlled variables of tourists' ages, gender, educational qualifications, and annual income. Table 7.7, $F(5, 473) = 59.358$, $p < .001$ shows that the destination attractiveness of South Africa as a tourist destination significantly influences tourists' intentions to visit and/or revisit South Africa for tourism.

The R^2 (Table 7.7 on p. 188) of .386 means that about 39% of the variances in tourists' intention to visit South Africa is explained by South Africa's destination attractiveness within the controlled influence of tourists' demographic attributes on one hand, and the moderating effects of other variables that either support or hinder tourists' behavioural intentions towards South Africa.

187

Table 7.7:   Model summary - Test of Hypothesis 2

Model	R	R²	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.621ᵃ	.386	.379	2.46357	.386	59.358	5	473	<.001

Source: SPSS Output. ᵃ· *Predictors: (Constant), DA=South Africa's destination attractiveness, Age, Gender, Income, Educational qualification, Std. = Standard, df = degrees of freedom.*

Table 7.8:   ANOVA table – Test of Hypothesis 2

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	1801.273	5	360.255	59.358	<.001ᵇ
1	Residual	2870.718	473	6.069		
	Total	4671.992	478			

Source: SPSS Output. ᵃ·*Dependent Variable: IV,* ᵇ·*Predictors: (Constant), DA=South Africa's destination attractiveness, Age, Gender, Income, Educational qualification, df = degrees of freedom.*

The coefficients of both the predicting variable (destination attractiveness) and the controlling variables highlight the respective contributions of the variables in influencing tourists' behavioural intentions. As seen in Table 7.9 below, destination attractiveness ($B = 0.302, t = 12.135, p < .001$), income ($B = .762, t = 8.997, p < .001$), and educational qualification ($B = .253, t = -2.457, p = 0.14$) have a significant influence on tourists' intention to visit South Africa. On the other hand, age and gender do not significantly influence tourists' intentions.

Table 7.9:   Coefficients[a] – Test of Hypothesis 2

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.813	.612		4.598	<.001
	Age	-.125	.095	-.051	-1.308	.191
	Gender	.048	.110	.017	.440	.660
	Education	-.253	.103	-.108	-2.457	.014
	Income	.762	.085	.384	8.997	<.001
	DA	.302	.025	.447	12.136	<.001

Source: SPSS Output. [a] Dependent Variable: IV. DA = South Africa destination attractiveness, IV = Intention to visit/revisit, Std. Error = Standard Error.

The finding that the destination attractiveness of South Africa as a tourist destination significantly influences tourists' intentions to visit and/or revisit South Africa for tourism is in line with those of similar findings, both before and after the COVID-19 pandemic. Before the pandemic, Chuchu, Chiliya and Chinomona (2019) found that the destination attractiveness of South Africa through the various measures of destination image (cognitive, affective, and conative destination images) has a significant and positive influence on tourists' behavioural intentions to revisit South Africa. Tourists' loyalty and brand perception have also been found to be an influential factor for tourists' intentions to

visit KwaZulu-Natal (Ezeuduji & Mhlongo, 2019) and Cape Town (Ezeuduji, November & Haupt, 2016) respectively, both in South Africa.

Studies that assessed South Africa's destination image, destination attractiveness, and competitiveness after the COVID-19 pandemic also show that South Africa, as a tourism destination, still influences tourists' behavioural intentions towards the country (Fourie, van Heerden & du Plessis, 2021; Mandina & Du Preez, 2022). González-Rodríguez, Díaz-Fernández and Pulido-Pavón (2023) assessment of tourist destination competitiveness of several countries ranked South Africa high after the COVID-19 pandemic. Implicatively, the COVID-19 pandemic affected the demand for South African tourism. However, not all sources of its destination attractiveness, such as rich biodiversity, established culture and heritage tourism, beautiful scenery and tourist facilities and infrastructure.

7.3.3 Test of hypothesis 3

Hypothesis 3 tested the moderating influence of the perceived severity of the COVID-19 pandemic on the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa, and therefore, stated as follows:

H_3: *The perceived severity of COVID-19 risks negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$TBI = \alpha + \beta_1 DA + \beta_2 RSEV + \beta_{3i}(DA \times RSEV) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

The results of the moderation analysis, using Andrew Hayes' Process Macro (Hayes, 2022) on SPSS v.29, are presented in Table 7.10 (on p. 191) and Table 7.11 (on p. 192). Model summary (Table 7.10) shows the *main effect,* which represents the effect of South Africa's destination attractiveness on tourists' behavioural intentions towards South

190

Africa. Table 7.11, on the other hand, shows the *interaction effect*, which presents the moderating influence of tourists' perceived severity of the COVID-19 pandemic on the effects of destination attractiveness on behavioural intentions towards South Africa. Notably, the *direct* effect remains constant across the various moderating variables in Model 2 (Figure 1.3 on p. 18), while the *interacting effects* change from one moderator to another. As a result, the proceeding presentation of results shows only the *interacting effects* of other moderators in the path diagram (Figure 7.2 on p. 185).

The model summary shows that about 39% of the variations in tourists' behavioural intentions towards South Africa are explained by South Africa's destination attractiveness *(R2 = 0.3951, F = 43.9539, P < 0.0001).* This result is the same as that of Hypothesis 2, as they both measured the *direct* effect.

Table 7.10:   Model Summary – Test of Hypothesis 3

Model	R	R²	MSE	F	df1	df2	p
	.6286	.3951	5.9999	43.9539	7	471	.0000

Source: SPSS PROCESS Output. *Outcome variable = Tourists' behavioural intentions, MSE = Mean squared error, df = degrees of freedom*

Table 7.11 (on p. 192) is the moderating statistics of the perceived severity of the COVID-19 pandemic as one of the dimensions of COVID-19-induced risk perception on travel and tourism intentions. The interacting effect of –0.0171 *(t = –2.6702, p = 0.0078)* shows that the perceived severity of the COVID-19 pandemic exerts a negative moderating influence on tourists' intention to travel and tour in South Africa since the p-value is less than 0.05 level of significance. Therefore, Hypothesis 3, which states that the perceived severity of COVID-19 risks negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa, is supported.

Table 7.11: Model summary of moderating effects of perceived severity of COVID-19

	coeff	se	t	p	95% CI	
					LLCI	ULCI
constant	-0.0287	1.2062	-0.0238	0.9811	-2.3989	2.3415
DA	0.4591	0.0638	7.1912	0.0000	0.3336	0.5845
RSEV	0.3137	0.115	2.7273	0.0066	0.0877	0.5398
DA x RSEV (*Interaction effect*)	-0.0171	0.0064	-2.6702	0.0078	-0.0297	-0.0045
Age	-0.1171	0.0949	-1.2336	0.218	-0.3036	0.0694
Gender	0.0529	0.1092	0.4845	0.6283	-0.1616	0.2674
Education	-0.2782	0.1029	-2.7048	0.0071	-0.4804	-0.0761
Income	0.7701	0.0843	9.1342	0.0000	0.6044	0.9358

Source: SPSS PROCESS Output. *Moderator = RSEV, DA = Destination attractiveness, RSEV = Perceived severity of COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

7.3.3.1 Conditional effects of perceived severity of COVID-19 pandemic

In moderation analysis, the conditional effects of a moderating variable depict the effects of changes in the size of a moderator (effect size) on the subsisting relationship between the predictor variable and outcome variable based on a chosen parameter. This study chose one standard deviation below the mean, the mean, and one standard deviation above the moderating variable as the parameter. Therefore, conditional effects tables show the effects of one standard deviation below the mean of the moderator, the standard deviation of the moderator, and one standard deviation above the mean of the moderator. In other words, conditional effect tables show the effects of one standard deviation change in the moderating variables on the relationship between predictor and outcome variables. The tables further show the corresponding standard errors, *t-scores, p-values*, and the 95% confidence intervals of the conditional effects. These output values validate the statistical significance of the changes in the effect size. In the same vein, the graphs

192

of the conditional effects of the moderating variables were plotted based on the figures in the conditional effect tables.

Table 7.12: Conditional effect of perceived severity of COVID-19 pandemic

					95% CI	
RSEV	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
5.3953	0.3668	0.0347	10.5714	0.0000	0.2986	0.4350
9.1065	0.3034	0.0248	12.2403	0.0000	0.2547	0.3521
12.8177	0.2399	0.0340	7.0649	0.0000	0.1732	0.3067

Source: SPSS Process output. *RSEV = Perceived severity of the COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Figure 7.3: Conditional effects of perceived severity of COVID-19 pandemic

Source: SPSS PROCESS Output.

193

Table 7.12 (on p. 193) and Figure 7.3 (on p. 173) are tabular and graphical representations of the Conditional effects of the perceived severity of the COVID-19 pandemic, respectively. Based on the foregoing, the negatively moderating effects of the perceived severity of the COVID-19 pandemic are further buttressed using the conditional effects of this dimension of perceived risk (Table 7.12 and Figure 7.3) on the relationship between South Africa's destination attractiveness and tourists' behavioural intentions. The table and the figure show that as the perceived severity of the COVID-19 pandemic increases, the strength of the relationship between South Africa's destination attractiveness and tourists' behavioural intentions towards South Africa weakens. In other words, as the perceived severity of COVID-19 increases, the impact of South Africa's destination attractiveness on behavioural intentions towards the country's tourism declines. On the other hand, as this dimension of perceived risks decreases, the conditional effects of destination attractiveness on tourists' behavioural intentions increase. The conditional effects of perceived risk of the severity of the COVID-19 pandemic are statistically significant ($p < 0.0001$).

The significance of the moderating effects of the perceived severity of the COVID-19 virus stems from the devastating impacts it had on human life through the high rate of hospitalisation and mortality rate of the virus. Seemann (2021) found that the fatal nature of COVID-19 has a negative impact on the quality of Slovakians and has created a perception of the severe consequences of the virus on humans. The conclusion by Farzanegan, Gholipour, Feizi, Nunkoo and Andargoli (2021), after a cross-country analysis of the outbreak of COVID-19 on international tourism, that the virus was more contagious and had a higher mortality rate than earlier SARS-COV outbreaks created severe panic and fear on people.

7.3.4 Test of Hypothesis 4

Hypothesis 4 investigated the moderating effects of perceived general vulnerabilities associated with COVID-19 on the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa. It was, therefore, formulated as follows:

194

H₄: The perceived general vulnerability associated with COVID-19 negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa.

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$$TBI = \alpha + \beta_1 DA + \beta_2 RGEN + \beta_{3ii}(DA \times RGEN) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$$

The results of the moderating analysis are presented in Table 7.13. They show that the perceived general vulnerabilities of the COVID-19 pandemic do not have moderating effects on the influence of destination attractiveness on tourists' intentions to engage in tourism in South Africa. The interaction effects of –0.0104 *(t = − 1.3263, p = 0.1854)* means that the perceived general vulnerabilities of the COVID-19 pandemic do not have any moderating effect on the causative relationship between South Africa's destination attractiveness and tourists' behavioural intentions at 0.05 level of significance. Based on this result, the null hypothesis is not rejected in favour of the alternate hypothesis. In other words, the alternate hypothesis is not supported.

Table 7.13: **Model summary of the moderating effects of perceived general vulnerabilities of the COVID-19**

	coeff	*se*	*t*	*P*	*95% CI*	
					LLCI	*ULCI*
constant	1.0021	1.3723	0.7302	0.4656	-1.6946	3.6987
DA	0.3947	0.0738	5.3469	0.0000	0.2496	0.5397
RGEN	0.2052	0.1393	1.4726	0.1415	-0.0686	0.4790
DA x RGEN (*Interacting effect*)	-0.0104	0.0078	-1.3263	0.1854	-0.0258	0.0050

Age	-0.1291	0.0954	-1.3536	0.1765	-0.3166	0.0583
Gender	0.0479	0.1097	0.4367	0.6625	-0.1677	0.2636
Education	-0.2563	0.1032	-2.4845	0.0133	-0.4591	-0.0536
Income	0.7662	0.0847	9.0417	0.0000	0.5997	0.9327

Source: SPSS PROCESS Output. *Moderator = RGEN, DA = Destination attractiveness, RSEV = Perceived general vulnerabilities of COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Findings from the various investigations on the perception of the general vulnerability of the COVID-19 pandemic vary with the progression of the pandemic. At the peak of the virus, when most countries were under various restrictions, findings showed a positive influence on perceived vulnerability on tourists' behavioural intentions (Bae & Chang, 2020; Golets, Farias, Pilati & Costa, 2023; Luo & Lam, 2020). However, with the lifting of travel bans and the opening of the global economy, the effects of the general vulnerability have been declining. Seddig, Maskileyson and Davidov (2022) found that COVID-19 vaccination reduced the virus-related fear in people.

7.3.5 Test of Hypothesis 5

Hypothesis 5 was formulated to test the moderating effects of perceived risks of South Africa's specific vulnerabilities to the COVID-19 pandemic on the influence of South Africa's destination attractiveness on tourists' intentions to visit and revisit the country. The formulated hypothesis to test this relation is presented below:

H_5: *The perceived risks of South Africa's specific vulnerabilities to the COVID-19 pandemic negatively moderate the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

TBI = α + β1DA + β2RSAF + β3iii(DA X RSAF) + β4AGE + β5GEN + β6EDU + β7INC

196

The results of the moderation analysis are presented in Table 7.14 showing that the perceived South Africa's specific vulnerabilities to the COVID-19 pandemic have negatively moderating effects on the influence of the country's destination attractiveness on tourists' behavioural intentions. The confirmation of this result is shown by the negative coefficient of the interacting effect: -0.0209 (t = -2.292, p = 0.0223) at a 0.05 level of significance. This result implies that Hypothesis 5, which states that the perceived South Africa's specific vulnerabilities to the COVID-19 pandemic have negatively moderating effects on the influence of the country's destination attractiveness on tourists' intentions to visit, is supported. In other words, the null hypothesis is rejected.

Table 7.14: **Model summary of the moderating effects of perceived South Africa's specific vulnerabilities of the COVID-19 pandemic**

	coeff	se	t	p	95% CI	
					LLCI	ULCI
constant	-1.0442	1.8121	-0.5762	0.5647	-4.6051	2.5167
DA	0.5247	0.1003	5.2330	0.0000	0.3277	0.7217
RSAF	0.3627	0.1609	2.2535	0.0247	0.0464	0.6789
DA x RSAF (*Interaction effect*)	-0.0209	0.0091	-2.2920	0.0223	-0.0388	-0.003
Age	-0.1225	0.0951	-1.2886	0.1982	-0.3093	0.0643
Gender	0.032	0.1095	0.2922	0.7702	-0.1832	0.2471
Education	-0.2387	0.1028	-2.3226	0.0206	-0.4407	-0.0368
Income	0.761	0.0845	9.0110	0.0000	0.5951	0.9270

Source: SPSS PROCESS Output. *Moderator = RSAF, DA = Destination attractiveness, RSAF = perceived South Africa's specific vulnerabilities of the COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

7.3.5.1 Conditional effects of perceived risks of South Africa's specific vulnerabilities of COVID-19 pandemic

The negatively moderating effects of the perceived South Africa's specific vulnerabilities to the COVID-19 pandemic on the influence of the country's destination attractiveness on tourists' post-pandemic behavioural intention are illustrated in Table 7.15 and Figure 7.4 (on p. 199). They show that as the value of perceived South Africa's specific vulnerabilities to the COVID-19 pandemic increases, the effects of the country's destination attractiveness on tourists' behavioural intentions decline. On the other hand, as this dimension of perceived risks decreases, the impact of destination attractiveness on tourists' behavioural intentions increases, confirming the negatively moderating effects of the perceived risk of South Africa's specific vulnerabilities of the COVID-19 pandemic on the causative relationship between destination attractiveness and tourists' behavioural intentions towards South Africa. The conditional effects are statistically significant *(p < 0.001)*.

Table 7.15: Conditional effect of perceived South Africa's specific vulnerabilities of the COVID-19 pandemic

					95% CI	
RSAF	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
7.6714	0.3646	0.0369	9.8708	0.0000	0.292	0.4372
10.499	0.3056	0.0250	12.2467	0.0000	0.2566	0.3546
13.3266	0.2466	0.0347	7.0990	0.0000	0.1783	0.3148

Source: SPSS Process output. *RSAF = perceived South Africa's specific vulnerabilities of the COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Figure 7.4: Conditional effects of perceived South Africa's specific vulnerabilities to COVID-19

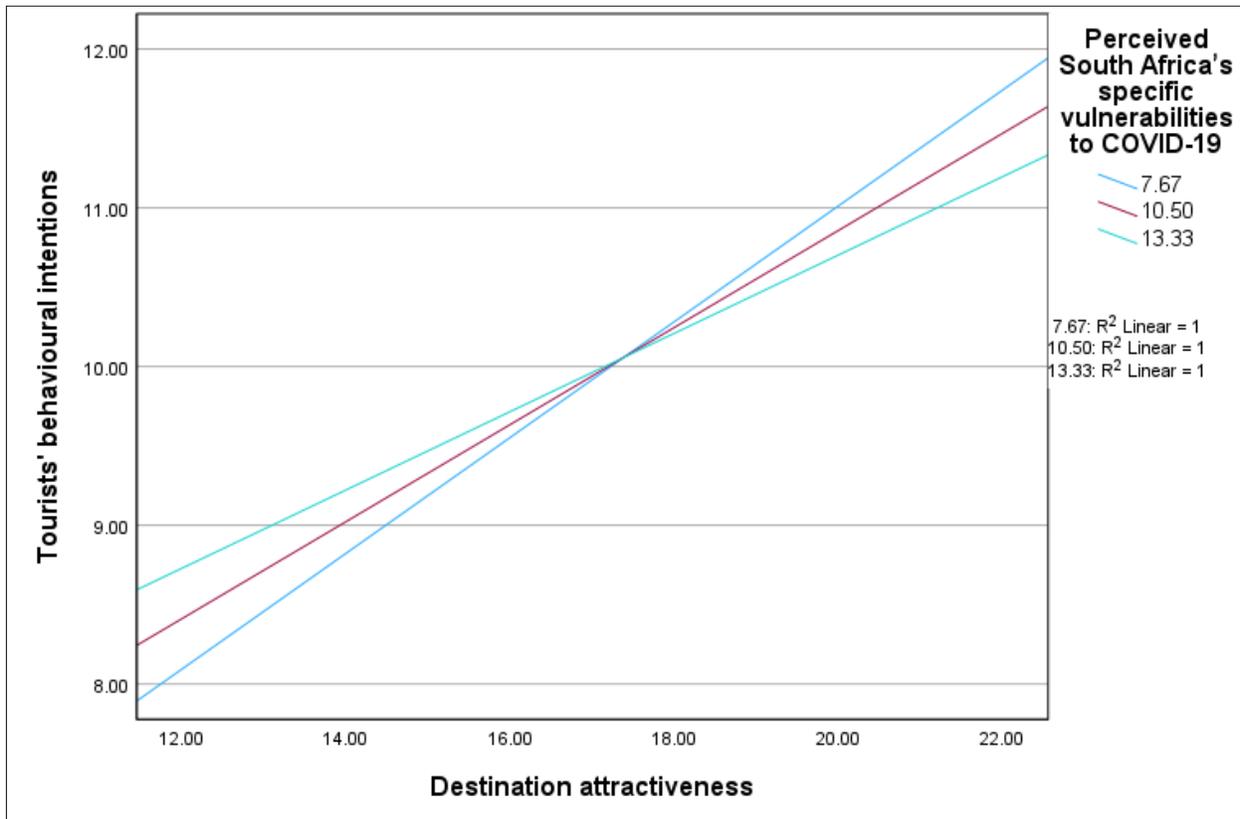Source: SPSS PROCESS Output.

Literature on the effects of South Africa-specific risks on tourists' intentions to visit the country shows the existence of a negative influence of a number of perceived risks prior to the outbreak of the COVID-19 pandemic. For example, while examining the nexus between international tourists' perceptions of crime risk and tourism in South Africa, Ferreira and Harmse (2000) found that international tourists' poor perception of personal safety was a deterrent for tourists and a negative image for South African tourism. Chili (2018:2) asserts that the relatively high level of crimes and car hijackings in some South African cities threaten the growth and prospects of the country's tourism. With these subsisting risk perceptions in South Africa's tourism space, the country's peculiar COVID-19 experience from being one of the regional epicentres (Adegboye, Adekunle, Pak, Gayawan, Leung, Rojas, Elfaki, McBryde *et al.*, 2021) and the discovery of a variant of the virus (Tong, Shi, Zhang & Shi, 2022), the significant influence on South Africa-specific vulnerability on tourists' behavioural intentions towards South Africa is explained. This is

corroborated by the findings of Mandina and Du Preez (2022) and Kim, Burgess, Chiwandire, Kwinda, Tsai, Norris and Mendenhall (2021).

7.3.6 <u>Test of Hypothesis 6</u>

Hypothesis 4 tested whether the COVID-19 pandemic caused a perceived change in tourists' expected satisfaction in undertaking tourism in South Africa. In other words, the hypothesis was formulated to test the moderating effects of perceived satisfaction risk on the influence of destination attractiveness on tourists' behavioural intentions during the COVID-19 era. The formulated hypothesis is presented as follows:

H_6: *The perceived risk of tourism satisfaction in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$$TBI = α + β1DA + β2RSAT + β3iv(DA \; X \; RSAT) + β4AGE + β5GEN + β6EDU + β7INC$$

The interacting effects of −0.0033 (t = −1.6691, p = 0.5038), as seen in Table 7 16 (on p. 174), show that the perceived risk of tourism satisfaction does not moderate the effects of South Africa's destination attractiveness on tourists' behavioural intentions towards the country. At 0.05 level of significance, this study fails to reject the null hypothesis that stated that the perceived satisfaction risk in the COVID-19 era does not have any moderating effects on the influence of South Africa's destination attractiveness on tourists' behavioural intentions. In essence, the alternative hypothesis is not supported.

200

Table 7 16: **Model summary of the moderating effects of perceived satisfaction risk**

	coeff	se	t	P	95% CI	
					LLCI	ULCI
constant	2.4094	1.2311	1.957	0.0509	-0.0098	4.8286
DA	0.3418	0.0636	5.3751	0.0000	0.2169	0.4668
RSAT	0.031	0.089	0.3488	0.7274	-0.1438	0.2059
DA x RSAT (*Interaction effect*)	-0.0033	0.005	-0.6691	0.5038	-0.0131	0.0064
Age	-0.1234	0.0954	-1.2933	0.1965	-0.3109	0.0641
Gender	0.0544	0.1098	0.4954	0.6205	-0.1613	0.2701
Education	-0.2548	0.1029	-2.4757	0.0136	-0.457	-0.0526
Income	0.7684	0.0849	9.0501	0.0000	0.6015	0.9352

Source: SPSS PROCESS Output. *Moderator = RSAT, DA = Destination attractiveness, RSAT = perceived satisfaction risk in the COVID-19 era, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Satisfaction risk in tourism service space relates to the difference between tourists' expected levels of tourism satisfaction and actual tourism satisfaction. The implications of the insignificant moderating effects of satisfaction risk on tourists' behavioural intentions are that while the COVID-19 pandemic exerted varying degrees of travel and tourism fear and anxiety, it did not change the level of tourism service quality. Bader, Al Rousan, Khasawneh and Niyas (2023) found changes in tourism service satisfaction levels due to the COVID-19 pandemic; however, they did not establish any satisfaction risk. Yin, Cheng, Bi and Ni (2020) also noted that crowding of destinations negatively affects tourism satisfaction, which implies that such negating effects would not prevail during the COVID-19 pandemic due to low tourism patronage.

7.3.7 <u>Test of Hypothesis 7</u>

Hypothesis 7 was formulated to test the moderating effects of social risk on the positive influence of South Africa's destination attractiveness on tourists' behavioural intentions towards the country. In other words, the hypothesis set out to validate whether or not the perceived social risk as a result of the COVID-19 pandemic interacts with the causative relationship between destination attractiveness and tourists' intentions to visit South Africa for tourism purposes. The hypothesis was formulated thus:

H_7: *The perceived social risk in the COVID-19-19 era negatively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$TBI = \alpha + \beta_1 DA + \beta_2 RSOC + \beta_{3v}(DA \ X \ RSOC) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$

From Table 7.17 (on p. 203), which presents the result of the moderation analysis of Hypothesis 7, the coefficient of the interacting effect at –0.0135 *(t = –2.0542, p = 0.0405)* shows that the negatively moderating effects of perceived social risks on the influence of South Africa's destination attractiveness on tourists' behavioural intentions towards the country are statistically significant. In other words, perceived social risk in the COVID-19 era negatively moderates the positive impact of South Africa's destination attractiveness on tourists' intentions to visit the country. Based on this, the alternate hypothesis is supported, while the null hypothesis is rejected.

Table 7.17:   Model summary of the moderating effects of perceived social risk

	coeff	se	t	p	LLCI	ULCI
					95% CI	
constant	-0.4436	1.7263	-0.2569	0.7973	-3.8359	2.9487
DA	0.4962	0.0976	5.0822	0.0000	0.3043	0.6881
RSOC	0.2327	0.1154	2.0175	0.0442	0.006	0.4594
DA x RSOC (*Interaction effect*)	-0.0135	0.0066	-2.0542	0.0405	-0.0265	-0.0006
Age	-0.1126	0.0954	-1.1804	0.2384	-0.3000	0.0748
Gender	0.0273	0.1097	0.2490	0.8034	-0.1883	0.2430
Education	-0.2732	0.1031	-2.6498	0.0083	-0.4758	-0.0706
Income	0.7687	0.0846	9.0879	0.0000	0.6025	0.9349

Source: SPSS PROCESS Output. *Moderator = RSOC, COVID-19 = Destination attractiveness, RSOC = perceived social risk in the COVID-19 era, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

7.3.7.1   Conditional effect of perceived social risk in the COVID-19 era

Figure 7.5 (on p. 204) diagrammatically presents the negatively moderating effects of perceived social risk on the influence of South Africa's destination attractiveness on tourists' intention to visit and tour the country. The graph of the figure was drawn from the information that is contained in Table 7.18 (on p. 204). The figure shows that as the perceived social risk increases, the negatively interacting effects it has on the positively causative relationship between destination attractiveness and tourists' behavioural intentions decreases and vice versa. This, therefore, aligns with the rejection of the null hypothesis in favour of the alternate hypothesis.

Table 7.18: Conditional effect of perceived social risk

					95% CI	
RSOC	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
10.4519	0.3547	0.0356	9.9535	0.0000	0.2847	0.4247
14.1336	0.3048	0.0249	12.2438	0.0000	0.2559	0.3538
17.8154	0.2550	0.0339	7.5265	0.0000	0.1884	0.3216

Source: SPSS Process output. *RSEV = Perceived social risk in the COVID-19 era, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Figure 7.5: Conditional effects of perceived social risk in the COVID-19 era
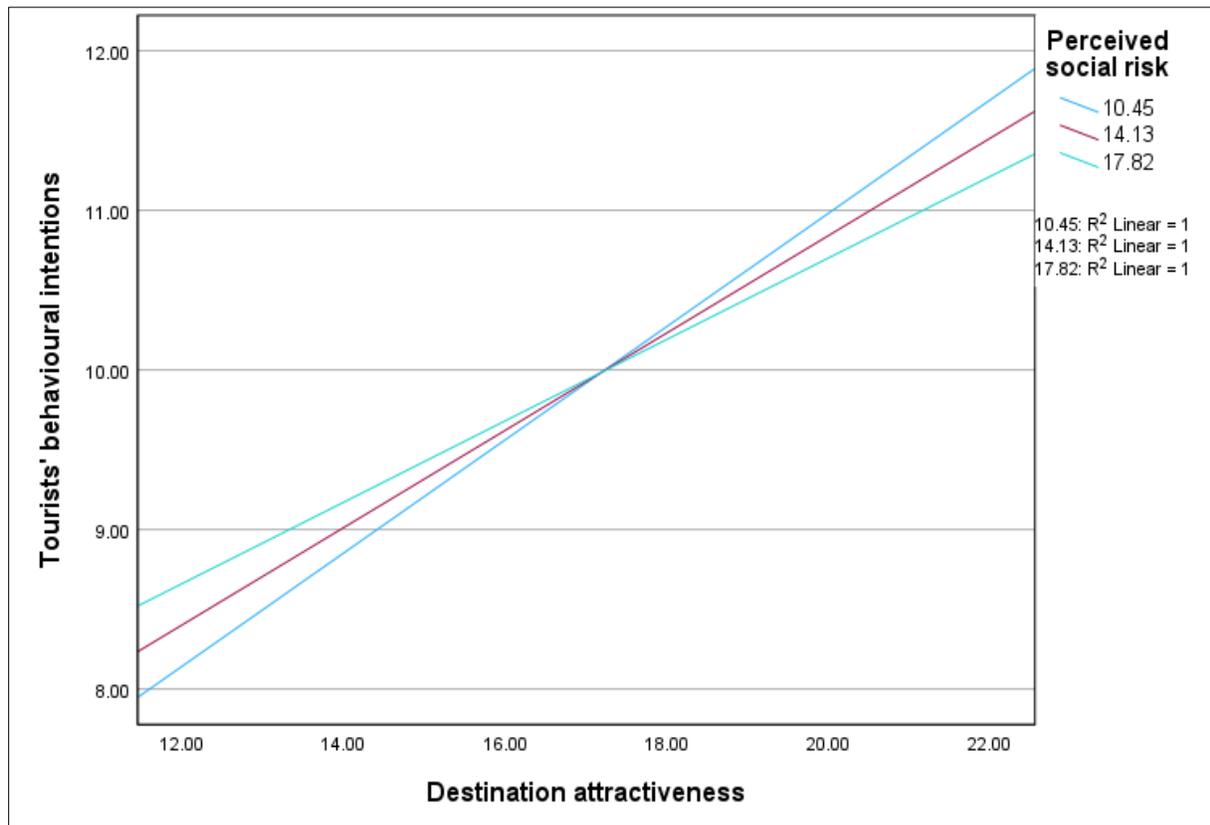

Source: SPSS PROCESS Output.

Perceived social risk in tourism is linked to over-tourism and crowding issues in tourism (Peterson, 2023; Zmyślony, Kowalczyk-Anioł & Dembińska, 2020). As a social activity,

tourism during and after the COVID-19 pandemic was constrained by perceived social risk that emanates from the fear of contracting the virus and its associated health complications. In assessing the influence of various dimensions of risk perception on tourists' revisit intentions to cultural heritage sites during the pandemic, De Rooij, Van Liempt and Van Bendegom (2022) identify social risk as one of the influential risk dimensions that negatively affected tourists' revisit intentions. Dube-Xaba (2021) also reveals that fear of COVID-19 negatively affected people from visiting friends and families during the pandemic.

7.3.8 Test of Hypothesis 8

Hypothesis 8 investigated the moderating influence of another known dimension of perceived in tourism space that is quite related to the perceived social risk – the perceived psychological risk. In line with the hypothesised relationships among perceived social risk, destination attractiveness, and tourists' behavioural intentions, Hypothesis 8 set out to examine the moderating effects of perceived psychological risk on the positive effects of South Africa's destination attractiveness on tourists' intentions to visit and revisit the country. As such, the hypothesis was formulated as follows:

H$_8$: The perceived psychological risk in the COVID-19 era negatively moderates the influence of South Africa's destination attractiveness on tourists' behavioural intentions towards the country.

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

TBI = α + β$_1$DA + β$_2$RPSY + β$_{3vi}$(DA X RPSY) + β$_4$AGE + β$_5$GEN + β$_6$EDU + β$_7$INC

The moderation analysis of the perceived psychological risk is presented in Table 7.19 (on p. 206). The analysis shows a negative coefficient of the interactive effects of perceived social risk at –0.0096 *(t = –2.0918, p = 0.0370),* statistically confirming that perceived psychological risk in the COVID-19 era has negatively moderating effects on

the influence of South Africa's destination attractiveness on tourists' behavioural intentions towards the country. Based on this result, the study rejects the null hypothesis in favour of the alternate hypothesis. In other words, the alternate hypothesis is supported.

Table 7.19: Model summary of the moderating effects of perceived psychological risk

	coeff	se	t	p	95% CI	
					LLCI	ULCI
constant	-0.0472	1.8373	-0.0257	0.9795	-3.6575	3.5632
DA	0.5049	0.0996	5.0687	0.0000	0.3092	0.7007
RPSY	0.1375	0.0821	1.6749	0.0946	-0.0238	0.2987
DA x RPSY (*Interacting effect*)	-0.0096	0.0046	-2.0918	0.0370	-0.0186	-0.0006
Age	-0.1280	0.0950	-1.3475	0.1785	-0.3147	0.0587
Gender	0.0426	0.1091	0.3903	0.6965	-0.1718	0.2569
Education	-0.2619	0.1025	-2.5553	0.0109	-0.4633	-0.0605
Income	0.7678	0.0846	9.0766	0.0000	0.6016	0.9340

Source: SPSS PROCESS Output. *Moderator = RPSY, DA = Destination attractiveness, RPSY = perceived psychological risk in the COVID-19 era, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

7.3.8.1 *Conditional effect of perceived psychological risk in the COVID-19 era*

The moderating effects of perceived psychological risk on the influence of South Africa's destination attractiveness on tourists' intention to visit and tour the country are further illustrated using Table 7.20 (on p. 207) and Figure 7.6 (on p. 207). As perceived psychological risk increases, the positively direct relationship between South Africa's destination attractiveness and tourists' intention to visit the country is proportionately weakened. Conversely, as perceived risk decreases, the positively direct relationship between South Africa's destination attractiveness and tourists' intention to visit the country increases, thereby buttressing the statistically validated hypothesis that

psychological risk negatively moderates the positive impact of destination attractiveness on tourists' behavioural intentions towards South Africa. The table shows that the conditional effects are significant at 0.05 level of significant as their p-values are less than 0.001.

Table 7.20:   Conditional effect of perceived psychological risk

					95% CI	
RPSY	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
15.7988	0.3533	0.0345	10.2397	0.0000	0.2855	0.4210
21.0438	0.3029	0.0248	12.207	0.0000	0.2541	0.3517
26.2889	0.2525	0.0346	7.2895	0.0000	0.1845	0.3206

Source: SPSS Process output. *RSEV = Perceived psychological risk in the COVID-19 pandemic, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Figure 7.6: Conditional effects of perceived psychological risk in the COVID-19-19 era

Source: SPSS PROCESS Output.

Studies that established the psychological discomforts that accompanied the outbreak and the spread of COVID-19, as well as its fatality, are numerous (Erbiçer, Metin, Çetinkaya & Şen, 2021; Rodas, Jara-Rizzo, Greene, Moreta-Herrera & Oleas, 2022). Others documented the negative influence of the extensive coverage of both information and misinformation about COVID-19 on people's psychological well-being (Radwan, Radwan & Radwan, 2020; Su, Mcdonnell, Wen, Kozak, Abbas, Šegalo, Li, Ahmad *et al.*, 2021). In line with the results of this hypothesis test, Saidmamatov, Khodjaniyazov, Matyakubov, Ibadullaev, Bekjanov, Day, Marty and Zhao (2021) and De Rooij *et al.* (2022) found that psychological risk negatively effects tourists' behavioural intentions to engage in travel and tourism.

7.3.9 Test of Hypothesis 9

Technology adoption in any sphere of human life is predicted by users' perception that the technology would either be useful or easy to use, or both. Thus, Hypothesis 9 was formulated to test tourists' impressions and perceptions of the usefulness of innovative technologies in the tourism space. Accordingly, the hypothesis was formulated as follows:

H_9: *Perceived usefulness of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa.*

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$$TBI = \alpha + \beta_1 DA + \beta_2 PUT + \beta_{3vii}(DA \times PUT) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$$

The results of the moderation analysis on the usefulness of innovative technologies in tourism are presented in

Table *7.21* (on p. 209). The coefficient of the interacting effects of the perceived usefulness of technology in tourism at 0.0125 *(t = 2.3333, p = 0.0201)* shows a statistically significant moderating effect. In other words, the perceived usefulness of innovative technologies in

208

the tourism space positively moderates the direct effects of South Africa's destination attractiveness on tourists' behavioural intentions towards the country. Based on this result, the alternate hypothesis, which stated that the perceived usefulness of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa, is supported at a 0.05 level of significance.

Table 7.21: **Model summary of the moderating effects of the perceived usefulness of technology in tourism**

	coeff	*se*	*t*	*p*	*LLCI*	*ULCI*
					95% CI	
constant	5.6979	1.5979	3.5659	0.0004	2.558	8.8378
DA	0.1097	0.0864	1.2693	0.2049	-0.0601	0.2794
PUT	-0.1842	0.0955	-1.9286	0.0544	-0.372	0.0035
DA x PUT (*Interaction effect*)	0.0125	0.0053	2.3333	0.0201	0.0020	0.0230
Age	-0.1165	0.095	-1.2266	0.2206	-0.3032	0.0701
Gender	0.0570	0.1091	0.5226	0.6015	-0.1574	0.2714
Education	-0.2638	0.1024	-2.5756	0.0103	-0.465	-0.0625
Income	0.7493	0.0845	8.8656	0.0000	0.5833	0.9154

Source: SPSS PROCESS Output. *Moderator = PUT, DA = Destination attractiveness, PUT = Perceived usefulness of technology in tourism, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

7.3.9.1   *Conditional effect of Perceived usefulness of technology in tourism*

Table 7.22 (on p. 210) shows the conditional effects of the perceived usefulness of technology in tourism. It is used to graphically illustrate the interacting effects of the perceived uselessness of innovative technologies on the subsisting direct relationship between destination attractiveness and tourists' behavioural intentions, as presented in
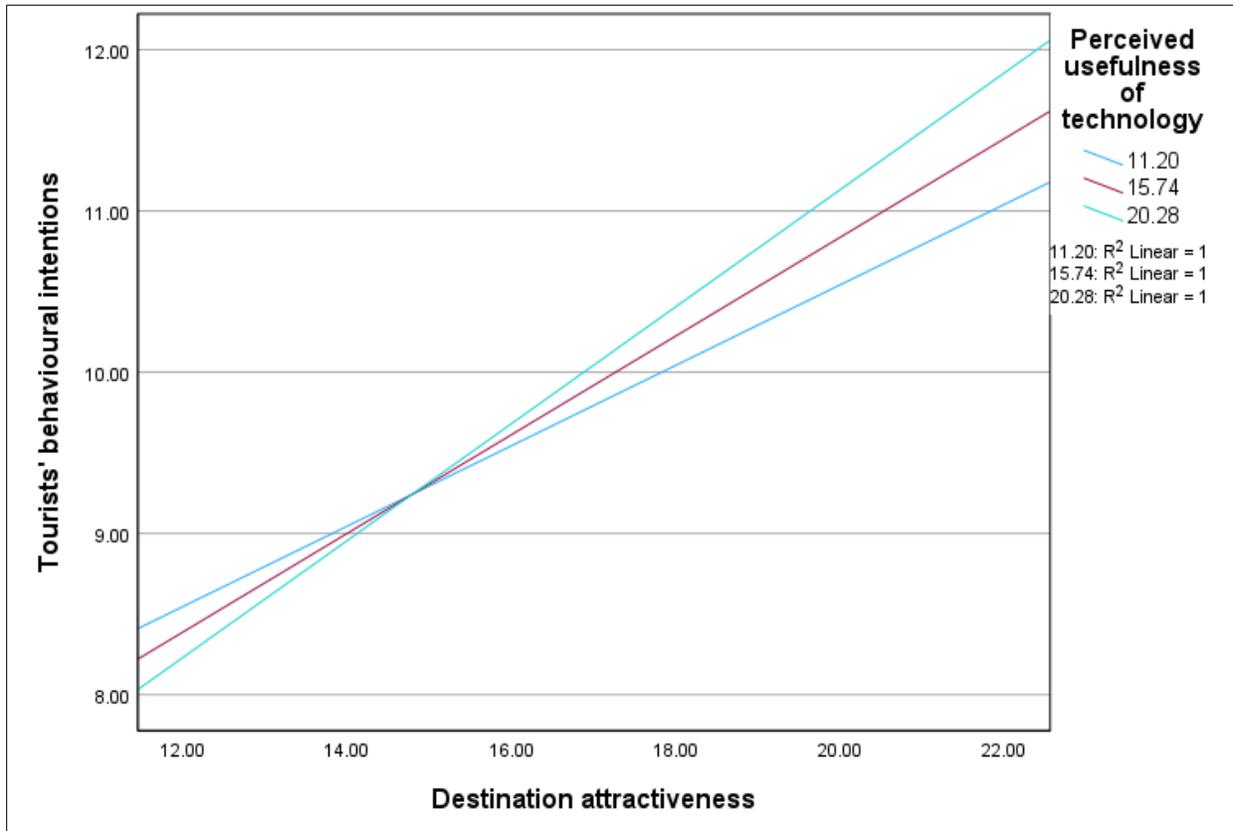
Figure 7.2 (on p. 185). As the perceived usefulness of innovative techniques increases, the main effects of South Africa's destination attractiveness on tourists' behavioural intentions increase as a result of the positive conditional effects of the perceived usefulness of innovative technologies in tourism. In contrast, a decrease in perceived usefulness decreases the effects of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa. Implicatively, the usefulness of technological innovation increases the positive influence of South Africa's destination attractiveness on tourists' intentions to visit and tourism South Africa as a tourist destination. Graphically, Figure 7.7 (on p. 211) shows the conditional effect of every change in the perceived usefulness of technology in tourism on the subsisting relationship between destination attractiveness and tourists' behavioural intentions towards the South Africa tourism space.

Table 7.22:   Conditional effect of perceived usefulness of technology in tourism

					95% CI	
PUT	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
11.2022	0.2493	0.0338	7.3829	0.0000	0.1829	0.3156
15.7411	0.3058	0.0248	12.3216	0.0000	0.2571	0.3546
20.2801	0.3624	0.0356	10.1781	0.0000	0.2924	0.4324

Source: SPSS Process output. *PUT = Perceived usefulness of technology in tourism, se = standard error, CI = Confidence interval, LLCI = lower limit of confidence interval, ULCI = upper limit of the confidence interval.*

Figure 7.7: Conditional effects of perceived usefulness of innovative technologies

7.3.10   Test of Hypothesis 10

Perceived ease of use of technology complements the perceived usefulness of technology in assessing the level of technological acceptance, adoption, and utilisation. With the statistical significance of the perceived usefulness of innovative technologies in tourism established, this subsection similarly tests the statistical significance of the perceived ease of use of innovative technologies in South African tourism. Based on the foregoing, the following hypothesis was formulated for this test:

H_{2i}: *Perceived ease of use of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' behavioural intentions towards South Africa.*

211

The explicit model that represents this hypothesis based on the path model (Figure 7.2 on p. 185) is as follows:

$$TBI = \alpha + \beta_1 DA + \beta_2 PUT + \beta_{3viii}(DA \; X \; PUT) + \beta_4 AGE + \beta_5 GEN + \beta_6 EDU + \beta_7 INC$$

Table 7.23 presents the model summary of the moderating effects of perceived ease of use of innovative technologies in tourism with reference to the influence of South Africa's destination attractiveness on tourists' behavioural intentions towards the country. The results show an effect size of 0.0093 ($t = 0.0046$, $p = 0.0439$). At 0.05 level of significance, the result provides proof that perceived ease of use of innovative technologies in tourism positively moderates the direct positive effects of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa. Based on this, the alternate hypothesis of the test is supported, while the null hypothesis is rejected.

Table 7.23: **Model summary of the moderating effects of perceived ease of use of technology in tourism**

	coeff	se	t	p	95% CI	
					LLCI	ULCI
constant	6.2657	1.5072	4.157	0.0000	3.3039	9.2274
DA	0.1505	0.0798	1.8861	0.0599	-0.0063	0.3073
PET	-0.2091	0.0839	-2.4927	0.013	-0.3739	-0.0443
DA x PET (*Interaction effect*)	0.0093	0.0046	2.0209	0.0439	0.0003	0.0184
Age	-0.1364	0.0948	-1.4382	0.1510	-0.3227	0.0499
Gender	0.0374	0.1089	0.3436	0.7313	-0.1765	0.2514

Education	-0.2482	0.1022	-2.4295	0.0155	-0.4490	-0.0475
Income	0.7659	0.0842	9.1011	0.0000	0.6005	0.9312

7.3.10.1   Conditional effect of perceived ease of use technology in tourism

The conditional effect shows the impacts of changes in the magnitude of perceived ease of use of technology as a moderating variable on the relationship between South Africa's destination attractiveness and tourists' behavioural intentions towards the country. From Table 7.24 and Figure 7.8 (on p. 214), it is evident that as the perceived ease of use of innovative technologies increases, the main effects of South Africa's destination attractiveness on tourists' behavioural intentions increase as a result of the positive conditional effects of perceived ease of use of innovative technologies in tourism. In contrast, a decrease in perceived ease of use decreases the effects of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa.

Table 7.24:   **Conditional effect of perceived ease of use technology in tourism**

					95% CI	
PET	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
11.3683	0.2564	0.0341	7.5218	0.0000	0.1895	0.3234
16.5929	0.3051	0.0248	12.3226	0.0000	0.2565	0.3538
21.8175	0.3538	0.035	10.1104	0.0000	0.2851	0.4226

Figure 7.8: **Conditional effects of perceived usefulness of technologies**

The perceived usefulness of technology and the perceived ease of use of technology are the two constructs for measuring and assessing the effects of adopting technology in any human service space. The positive moderating influence of the two constructs on the impact of South Africa's destination attractiveness on tourists' behavioural intention towards the country implies that the adoption of technological innovations in South Africa's tourism space tends to improve both the tourism service quality and tourism satisfaction in the post-COVID-19 pandemic era. This finding has been corroborated by two perspectives. Findings show that the COVID-19 pandemic spurred an upsurge in the adoption, utilisation, and reliance on technologies (Iskender, Sirakaya-Turk, Cardenas & Harrill, 2022; Matikiti-Manyevere & Rambe, 2022; Rahman & Amin, 2022). Innovative technologies were found to facilitate the delivery and consumption of tourism (Iskender *et al.*, 2022). Nyathela-Sunday, Septoe, Menze, Banoobai-Anwar, Seager, Davids, and

214

Buser (2022) identify technology as an enabling innovation to rebuild the South African tourism industry in the post-COVID-19 pandemic era.

7.3.11 **The path diagram of the explained model**

Based on the study's 0.05 level of significance, the explained model of the study is presented in Figure 7.9 (on p. 216). It presents the coefficient (β_2 in Figure 7.2, p. 185) of the main effects of South Africa's destination attractiveness on tourism behavioural intentions. It also shows the coefficients of the moderating effects (interaction effects) of all the dimensions of perceived risk ($\beta_{3i} - \beta_{3vi}$ in Figure 7.9), perceived usefulness of technology (β_{3vii} in Figure 7.9) and perceived ease of use of technology (β_{3viii} in Figure 7.9) on the impact of South Africa's destination attractiveness on tourism behavioural intentions towards the country. The p-values show the significance of each effect size. The direct effect, which represents the effect of South Africa's destination attractiveness on tourists' behavioural intentions, has a positive coefficient of 0.386 with a p-value less than 0.01.

Out of the six dimensions of perceived risks, four were found to have negative moderating effects on tourists' behavioural intentions towards South Africa. Their p-values (marked with asterisks) are significant at 0.05 level of significance. Technological adoption in South Africa's tourism was found to have positive moderating effects on tourists' behavioural intentions towards South Africa, with p-values significant at 0.05 level of significance.

Figure 7.9: The explained model

Source: Author's summarisation. **Effect size significant at p-value less than 0.01, *effect size significant at p-value less than 0.05,*

7.3.12   Summary of hypothesis tests

Based on the 0.05 level of significance of the study, Table 7.1 (on p. 174) presents the summary of the conclusions of all hypothesis tests. Out of the ten hypotheses, eight were found to be statistically significant, while two failed. Therefore, the conclusions are used in the proceeding chapter to summarise and conclude the findings of the study. Based on that, recommendations will be articulated and presented in the proceeding chapter.

Table 7.25:   Summary of hypothesis tests

	Hypothesis test	Result
1	The COVID-19 pandemic significantly impacted the economic contributions of tourism to South Africa's economy	Supported
2	South Africa's destination attractiveness positively influences tourists' intentions to visit and revisit South Africa	Supported
3	The perceived severity of COVID-19 risks negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported
4	The perceived general vulnerability associated with COVID-19 negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Not supported
5	The perceived risk of the COVID-19 pandemic in South Africa negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported
6	The perceived risk of tourism satisfaction in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Not supported
7	The perceived social risk in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported
8	The perceived psychological risk in the COVID-19 era negatively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported
9	Perceived usefulness of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported
10	Perceived ease of use of innovative technologies in tourism positively moderates the influence of destination attractiveness on tourists' intentions to visit and revisit South Africa	Supported

Source: Author's compilation

217

7.4 CHAPTER SUMMARY

The analysis and presentation of the results from the analyses of collected data were extensively documented in this chapter. The two data types employed in carrying out the various hypothesis tests of the study were first presented, showing their underlying trends and structure. They were then subjected to reliability and validity tests, with their successful results necessitating the analyses of data through the testing of all the formulated hypotheses. The results of each of the hypotheses were presented and adequately discussed. The proceeding chapter will, therefore, rely on the results of the analyses and discussion of findings of this chapter in documenting the study's summary of findings and drawing up the study's conclusions.

CHAPTER 8

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

8.1 INTRODUCTION

The overarching purpose of this study is to examine the economic implications of the COVID-19 pandemic on the South African tourism industry in order to propose a framework for post-pandemic strategic actions and responses towards post-COVID-19 industrial competitiveness, stability, and growth. The rationalisation of the study is premised on the existing research gaps emanating from the methodological approaches of earlier studies, which were predominantly qualitative (Ilo, Das & Bello, 2023). Consequently, conclusions drawn on the impacts of the pandemic on South Africa's tourism industry were majorly based on a qualitative methodological approach, thereby necessitating an alternative albeit more objective approach to assessing the ravaging impacts of the pandemic on the industry.

This study, therefore, adopted a quantitative methodology in assessing the economic implications of COVID-19 on the South African tourism industry as well as the emanating post-pandemic forces that predict the behavioural intentions of tourists in the COVID-19 pandemic era. Specifically, the study used econometric methods to assess the economic impacts of the COVID-19 pandemic on the South African tourism industry. On the other hand, it used the Structural Equation Modelling method to assess the moderating effects of perceived risks and technological adoption in tourism on tourists' behavioural intentions. While the results of the hypothesised relationships among the models were presented and discussed in the preceding chapter, this chapter presents the summary of such findings, conclusions, and recommendations of the study.

8.2 SUMMARY OF FINDINGS

The study presents the summary of findings in line with the study's specific objectives.

8.2.1 The impacts of COVID-19 pandemic on the contributions of tourism to South Africa's economy

The first hypothesised model of this study aimed to determine whether the impact of the COVID-19 pandemic on South Africa's tourism industry was quantitatively significant or not. Findings of prior studies on the impact of the pandemic on the country's tourism industry either focused on a particular tourism niche (Van Der Merwe, Saayman & Jacobs, 2021; Vermeulen-Miltz, Clifford-Holmes, Snow & Lombard, 2022), adopted qualitative research methods (Bartis, Hufkie & Moraladi, 2021; Ndhlovu & Dube, 2023), or both (Nkwanyana, Apleni & Mabaleka, 2022; Rogerson & Rogerson, 2022). Consequently, the aggregate economic loss of the pandemic was unknown. In order to fill this gap, which this study considers imperative in devising some sustainable and competitive post-pandemic responses in the industry, this study used econometric methods to assess the economic implications of the pandemic.

Findings showed that while the economic losses in the industry were not significant in 2019, the losses were quite significant in 2020, demanding strategic responses and measures from tourism stakeholders, particularly the government, destination marketing organisations, and tourism entrepreneurs in supporting the tourism industry for post-pandemic recovery, stability, and competitiveness. This finding is in line with those of similar studies, especially among tourism-ranking countries with notably high prevalence of COVID-19 virus such as China (Lee, Wang, Zhang, Ping, Zuo & Zhang, 2024) and United States of America (Zargar & Kumar, 2021) as well as other known tourism destinations (Henseler, Maisonnave & Maskaeva, 2022; Koçak, Dogru, Shehzad & Bulut, 2023).

8.2.2 Effects of South Africa's destination attractiveness on tourists' behavioural intentions

Based on this study's post-pandemic perspective of South Africa's tourism industry, the significant economic impacts of the pandemic on the industry underscores the imperative of devising a recovery and competitive framework that would support industrial performance after the pandemic. As a baseline assessment, the study revisited the

220

competitiveness of South Africa as a tourism destination by investigating the attractiveness of South Africa to tourists in the COVID-19 era. Results show that, notwithstanding the devastations of the pandemic on both the global and the country's tourism industry, South Africa, as a tourism destination, is profoundly attractive to both domestic and international tourists. Implicatively, the COVID-19 pandemic did not destroy the underlying fabric of South Africa's destination attractiveness. This finding is corroborated by Cronjé and du Plessis's (2020:262) review of tourism destination competitiveness, which found that South Africa remains one of the most competitive destinations in Africa. In other words, the devastations of COVID-19 in the tourism industry were epidemiological, behavioural, and financial, and not environmental, structural, and infrastructural, which were seen in previous tourism industry crises that destroyed some physical environment such as wars, earthquakes, and tsunamis.

The study further made some important findings from the demographic information of the respondents to the questionnaire, which could be incorporated into South Africa's destination marketing strategies in the post-pandemic era. In terms of the age of South Africa's prospective tourists, the majority of the respondents were in the age bracket of 31 and 60 years. The male gender dominated the gender distribution of both actual and potential tourists to South Africa. From the educational qualifications of the sampled tourists, those with bachelor's degrees accounted for most of the country's tourist customers. This is followed by those with master's degrees, diplomas, and doctoral degrees. Implicatively, South African tourists are educated and, as such, would be able to understand marketing communications and promotions of South African tourism. They would also find technological adoption in South Africa's tourism space relatively easy to use. The income distribution of the surveyed tourists showed an indication that the majority of South Africa's tourism consumers earn between US$25,000 and US$45,000 annually. These findings are imperative in developing and deploying marketing and promotional strategies for improved South African tourism demand and performance.

8.2.3   The moderating effects of COVID-19-induced risk perceptions

With the validation of South Africa's attractiveness as a tourism destination, even in a pandemic era, the study assessed the influence of the two predominant factors that were occasioned by the COVID-19 pandemic on the post-pandemic performance of South Africa's tourism industry: one factor from the demand side of the tourism market, and the other from the supply side of the market. From the demand side, the influence of perceived risks, which are a dominant predictor of behavioural intentions towards tourism (Artuğer, 2015; Çetinsöz & Ege, 2013), was investigated. In tourism crisis periods, the conditioning influences of perceived risks on tourists' behavioural intention increase in severity (Akhrani, Cheng, Herani, Riani, Pratiwi, Fahmi, Ammaritza & Barlamana, 2022; Neuburger & Egger, 2021) and dimensions (Mosazadeh, Faezi Razi, Lajevardi, Mousazadeh, Ghorbani, Akbarzadeh Almani & Shiran, 2022:3; Perić, Dramićanin & Conić, 2021:4-5).

Based on the six dominant dimensions of perceived risks in the COVID-19 pandemic era with reference to tourism intentions according to De Rooij, Van Liempt and Van Bendegom (2022), the study investigated the moderating influences of these dimensions of perceived risk on the positive impact of South Africa's destination attractiveness on tourists' behavioural intentions. The six dimensions of perceived risk under study are (1) perceived severity of COVID-19, (2) perceived general vulnerability of COVID-19, (3) perceived South Africa-specific vulnerability to COVID-19, (4) perceived satisfaction risk as a result of the pandemic, (5) perceived social risk of the COVID-19 pandemic, and (6) perceived psychological risk occasioned by the COVID-19 pandemic.

The study found that the perceived severity of the COVID-19 pandemic negatively moderates the positive influence of South Africa's destination attractiveness on tourists' behavioural intentions. In other words, while South Africa as a tourism destination remains attractive to tourists, the retained fear of the health complications that people experienced during the peak of the pandemic still acts as inertia against them embarking on tourism. Studies on the perceived severity of COVID-19 on tourists' behavioural intentions documented similar findings (Seong & Hong, 2021; Zhang, Sun & Lu, 2023). The negative moderating effects of the perceived general vulnerability of COVID-19 were

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found not to be significant and, as such, do not affect the positive impacts of South Africa's destination attractiveness on tourists' behavioural intentions towards South Africa. With the perceived general vulnerability of COVID-19 being tourists' originating country-specific (De Rooij *et al.,* 2022), this finding implies that the negating influence of perceived risk among tourists in departing their countries of origin is insignificant. Suggestively, tourists are willing to embark on international tourism due to the global lifting of travel bans and restrictions on movements due to the pandemic.

Contrary to the result of the insignificant influence of the perceived general vulnerability to COVID-19, the influence of the perceived risk of South Africa-specific vulnerability to COVID-19 was found to be significant on tourist behavioural intentions. The implication of this finding is that the knowledge of South Africa as one of the epicentres of the COVID-19 virus (Broadbent, Combrink & Smart, 2020; Smith-Sreen, Miller, Kabaghe, Kim, Wadonda-Kabondo, Frawley, Labuda, Manuel *et al.*, 2022; Vaughan, 2021) still exerts negative influence on tourists' intentions to visit and tour South Africa notwithstanding the positive attractiveness of South Africa as a tourism destination. Through the 2023 Tourism Sector Masterplan, the Department of Tourism (2023:14) acknowledges the subsisting presence of this risk when it declared that "the South African [tourism] brand continued to be under pressure due to the country's association with the 501Y.v2 variant of the COVID-19 virus." This finding is further corroborated by the result of the exploratory factor analysis of travellers' risk perceptions and intention to visit South Africa amidst the COVID-19 pandemic by Mandina and Du Preez (2022), which showed that risk perceptions weakened the relationship between South Africa's destination brand image tourists' intentions to visit South Africa.

The study found that the influence of perceived satisfaction risk on tourists' behavioural intentions towards South Africa is insignificant and, therefore, does not moderate South Africa's destination attractiveness negatively. Perceived satisfaction risks refer to the perceived likelihood of not receiving the expected level of tourism experience or satisfaction from tourism engagement (Chew & Jahari, 2014). The sustained attractiveness of South Africa as a tourism destination during the COVID-19 pandemic period, as this study found, arguably underscores the validity of this finding. Thus, the

223

South African tourism space, irrespective of the devastations of the pandemic, still offers good value for tourists' time and money when visiting and touring the country.

One of the dominant dimensions of perceived risk occasioned by the COVID-19 pandemic, even beyond the tourism industry, was social risk due to the highly contagious nature of the virus (Akhrani *et al.*, 2022; Li, 2024). As found by this study, the influence of perceived social risk on tourists' intention to visit or revisit South Africa is negatively significant. In other words, while South Africa's destination attractiveness has had positive impacts on tourists' behavioural intentions during the COVID-19 pandemic period, the perceived social risk among tourists weakens these positive impacts. This finding is in line with the study's *a priori* disposition that, while travel bans and restrictions of movements in the foremost response to the COVID-19 pandemic had been lifted globally, the perceived social risk would still be inhibiting people's willingness to travel and engage in tourism, particularly mass travel, and mass tourism. Similar studies documented the negative influence of COVID-19-induced perceived social risk on tourists' behavioural intentions (Hassan & Meyer, 2022; Rahmafitria, Suryadi, Oktadiana, Putro & Rosyidie, 2021).

Similarly, this study found that perceived psychological risk negatively moderates the favourable influence of South Africa's destination attractiveness on tourists' behavioural intentions towards South African tourism during the pandemic. The implication of this result is that tourists' willingness to engage in tourism, particularly in South Africa, is negated by the negative emotions, stress, and anxieties of the COVID-19 experience. The psychological discomfort from the extensive media coverage and the attendant distortion of information, particularly through social media (Su, Mcdonnell, Wen, Kozak, Abbas, Šegalo, Li, Ahmad *et al.*, 2021) contributes to the negative influence of perceived psychological risk on tourists' behavioural intentions. Previous studies such as Magano, Vidal, Sousa, Dinis and Leite (2021) and Kusumawati, Dewantara, Azizah and Supriono (2023) also showed that COVID-19-precipitated fear, stress, and anxiety resulted in perceived psychological risks that negatively moderated travel intentions. In urban South Africa, Kim, Burgess, Chiwandire, Kwinda, Tsai, Norris, and Mendenhall (2021) found that

224

depressive symptoms, concerns about COVID-19, and perceived infection risk were significant among adults in South Africa.

8.2.4   The moderating effects of technological adoption

From the supply side of the tourism market, this study investigated factors that have the potential to improve South Africa's tourism performance, attractiveness, and competitiveness. With strong emphasis by many studies that post-COVID-19 tourism spaces are expected to be more competitive as tourism-sensitive economies would be more aggressive in promoting and attracting tourists to their countries (Duro, Osório & Perez-Laborda, 2022; Fernández, Martínez & Martín, 2022; Zadeh Bazargani & Kiliç, 2021), this study investigated the potentials of adapting innovative technologies in tourism value chain. The unprecedented adoption, utilisation, and reliance on technology as one of the coping strategies at the peak of the pandemic, which extended to the tourism space (Iskender, Sirakaya-Turk, Cardenas & Harrill, 2022; Podzharaya & Sochenkova, 2021) motivated this investigation. Specifically, this study assessed the level of knowledge and awareness of innovative technologies that are applicable to the tourism space and investigated the moderating effects of adopting and utilising the capabilities of innovative technologies in South Africa's tourism space.

8.2.5   The level of awareness of prevailing technological innovations in the tourism value chain among South Africa tourists

The study found a considerably high level of knowledge and awareness of the application of social media and mobile apps (cloud computing), moderate knowledge of metaverse (real and augmented realities), artificial intelligence (AI), and biometric technology, and low level of Internet of Things (IoT), blockchain technology and machine learning. Arguably, this level of knowledge justifies any strategic investment in adopting and utilising innovative technologies to improve tourists' experience and drive sectorial performance. For instance, social media, which is very potent in borderless marketing and visibility, in addition to being relatively free, is at the forefront of the technologies that

drive destination marketing during the COVID-19 pandemic period (Chloridiany, 2021; Chuchu, 2021).

Similarly, COVID-19 spurred an increased demand for and utilisation of immersive technology (virtual reality and augmented reality) in tourism (Pratisto, Thompson & Potdar, 2022). The analysis of the scientific production on technological innovation in tourism by Rafael and Pires (2021) is indicative of the considerable knowledge and usage of innovative technologies in the tourism value chain. Implicatively, the study's investigation of the moderating effects of technological adoption and utilisation on the relationship between South Africa's destination attractiveness and tourists' behavioural intentions produced significantly positive results.

Firstly, the study found that the perceived usefulness of technological innovations in tourism positively moderates the effects of destination attractiveness of South Africa on tourists' intentions to visit and revisit South Africa as a tourism destination. Secondly, the perceived ease of use of innovative technologies in tourism was also found to positively moderate the direct influence of South Africa's destination attractiveness on tourists' behavioural intentions. The two findings, derived from the Theory of Technology Acceptance Model (TAM), confirm that innovative technologies have the potential to improve South Africa's tourism performance, which, on the other hand, drives the country's destination attractiveness and competitiveness.

Several studies have documented the potency of technological adoption as a strategy for enhancing tourism sector performance, destination attractiveness and competitiveness, as well as tourists' satisfaction and experience for a post-COVID-19 pandemic period. Li, Wang, Abbas, Hassan and Mubeen (2022) highlighted the role of technological innovations in addressing the tourists' health risks in COVID-19 as a pretext for achieving sustainable tourism. Unarguably, these highlights are imperative for addressing the negative influence of some of the various dimensions of perceived risk that this study identified. While investigating the nature of innovations that would enable South Africa's tourism and hospitality industry to rebuild after COVID-19, Nyathela-Sunday, Septoe, Menze, Banoobai-Anwar, Seager, Davids, and Buser (2022) identified the reliance on smart technologies such as mobile app, AI, robotics, and others.

These results are similar to those of Bama, Nyathela-Sunday and Makuzva (2022). Although Tshidzumba and Oladunjoye (2022) found that technology did not reduce risks in South Africa's tourism space from their investigation of the role of technology in the nexus between tourism and urban risk in South Africa, their operationalisation of urban risk was the monetary value of carbon dioxide (CO_2) emission (damage) due to urbanisation. Notably, this operationalisation of urban risk in tourism is unrelated to this study's perceived risks, which are conspicuously COVID-19-induced.

8.3   CONCLUSIONS

The findings of this study are insightful for a number of conclusions. While the disruptive nature of the COVID-19 pandemic impacted the global tourism industry adversely, the economies of various countries, especially tourism-sensitive ones, were worse. As an emerging economy with significant tourism contributions, South Africa ranked among African countries that suffered a significant impact of the pandemic in its tourism sector. The statistical significance of the breakpoint test on South Africa's tourism income implies that the economic losses caused by the pandemic were enormous to the country. Suggestively, post-pandemic recovery and return to pre-pandemic level of economic activities in the tourism industry is expected to take a while. Therefore, adopting a post-pandemic approach in assessing the economic implications of COVID-19 is considered imperative by this study in examining factors, conditions, and influences that are relevant to repositioning South Africa's tourism industry for improved sectoral performance, attractiveness, and competitiveness. This study argues that this approach is indispensable in sustaining the sector's recovery towards the pre-pandemic performance level and even beyond.

Notwithstanding the economic devastation of South Africa's tourism sector, South Africa retains its attractiveness to both domestic and international tourists. This, arguably, stems from the fact that COVID-19 destructions did not destroy or negatively impact any of South Africa's sources of tourism attractiveness, which are honed on her rich biodiversity, unique ecological environment, widely known and preserved heritage, beautiful forest scenery, and environment and infrastructural management mechanisms. The COVID-19

pandemic, however, impacted travel and intentions to travel to South Africa, which invariably was occasioned by two forces: the travel bans, restrictions of movement, and imposed lockdowns at the peak of the pandemic on the one hand. Unarguably, these impositions were responsible for the documented economic losses in the industry. On the other are the perceived risks that accompany the COVID-19 pandemic.

While the tourism industry, even prior to the COVID-19 pandemic, is known to contend with an identifiable number of perceived risks which mostly negate tourists' behavioural intentions, the COVID-19 pandemic precipitated several dimensions of perceived risks with varying degrees of severity on tourists' intentions to travel and engage in tourism. Due to the differences in COVID-19 experiences and profiles across countries, many tourism destinations exert different levels of risk perceptions on their intending tourists. South Africa is one of those countries whose tourism space has been found to exert various dimensions of perceived risks.

Based on Plank, Gomes, Caldas, Varela and Ferreira's (2023) conclusion that the risks perceived by South Africa's tourists were multifaceted, this study investigated six dimensions of the multifaceted risk and found four to be significant. The study's conclusion, therefore, is that COVID-19-induced risks in the South African tourism space are still prevalent and, therefore, demand actions, policies, and interventions to mitigate the risks. Mitigating and reducing the negative influences of the perceived risks is a pretext for improving and sustaining South Africa's tourism sector performance in the post-pandemic period. In recognition of the adverse influence of this, the Department of Tourism (2023:15) proposed strategic implementation of safety standards and norms across the country's tourism value chain that would support safe travels that rebuild tourists' confidence.

Finally, one of the major findings in tourism technology research as a result of the outbreak of the COVID-19 pandemic is the surge in technological adoption in tourism service scape (Iskender *et al.*, 2022; Podzharaya & Sochenkova, 2021). With the positive effects of technological adoption in the tourism space, this study concludes that deployment and utilisation of innovative technologies have the potential to reverse the negative impacts of perceived risks in tourism, improve the quality-of-service delivery

across the tourism value chain, and increase tourists' satisfaction and experience. With the considerably high knowledge and awareness of the various innovative technologies in tourism service creation and delivery, technological innovations have the potential to enhance the attractiveness and competitiveness of South Africa as a tourism destination.

8.4   RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations are posed to the South African tourism authorities, destination marketing organisations, South Africa's tourism business organisations and entrepreneurs, and tourism scholars.

The sustained destination attractiveness of South Africa's tourism space serves as a competitive advantage to South Africa tourism stakeholders in the post-COVID-19 pandemic period. Notwithstanding the suggested competitiveness in global tourism after the pandemic, South Africa has the potential to compete favourably after addressing the issues around risk perceptions and taking strategic steps to improve service quality and delivery across tourism niches and value chains.

First, alleviating the perception of risks in any tourism space after the COVID-19 pandemic is critical in rebuilding travellers' and tourists' confidence. Risk and risk perception relate directly; however, they differ in meanings and implications. Risk perception falls within the meaning of personal impressions; therefore, strategically managing tourists' impressions of risks in South African tourism space is imperative. Strategic communications, publicity, and public relations can effectively reverse the negative impressions about a subject. Information is indispensable in alleviating and dowsing perceptions of risks; therefore, it is recommended that South African destination marketing officers deploy effective channels for improving the destination image of South African tourism as a safe and welcoming destination.

Social media, which this study found to be the most popular innovative technology in tourism, offers South Africa's destination marketing organisations the most effective and efficient channels of advertising, promoting, showcasing, and rebranding South Africa's tourism space in the aftermath of the COVID-19 pandemic. This recommendation is

based on the globalised capabilities of social media platforms as channels of informing, engaging, and interacting with the world in real-time. Destination image and emotional attachment, which are effective in reversing the influence of perceived risks, can be deployed strategically across social media platforms as well as other marketing and promotion channels to project South Africa as a prime tourism destination. For instance, at the onset of the COVID-19 pandemic, governments of all levels and structures devised various strategies, approaches, and measures to curtail the spread of the virus and the spillover effects of devised measures on the tourism industry.

South Africa ranked among the Southern Africa that provided substantive responses across the UNWTO's recommended recovery framework (*See* Subsection 3.3.3). Information of this nature improves destination images when they are made available to the public through authoritative media channels such as government-verified social media handles. This study, therefore, relies on Yang's (2023) conclusion that in crisis periods, tourists' intentions to travel to destinations largely depend on the availability and quality of publicly available destination information to recommend that South Africa's tourism governance improve the dissemination of information and developments in the country's tourism space.

Technological innovation has been the bedrock of the 21st Century performance landscape. The proliferation of the service industry by innovative technologies offers competitive advantages to South Africa's tourism industry. The unprecedented rise in the adoption and utilisation of innovative technologies in the wake of the COVID-19 pandemic in tourism and the considerably high level of awareness and knowledge of these technological applications in the tourism space are goldmines for South Africa's tourism managers. Innovative technologies such as social media, immersive technologies, machine learning algorithms, and artificial intelligence could be deployed to market, project, and advance the image of South Africa globally.

This recommendation decisively speaks to the Department of Tourism's strategic plan of executing a global marketing programme that would reignite South Africa's international tourism demand Department of Tourism (2023:15). It is, therefore, recommended that the government, by way of policy enablement, implements frameworks that encourage

technological incubation, adoption, and utilisation in the tourism industry. One of these frameworks is granting tax holidays and incentives for technology-adopting tourism businesses. On the other hand, tourism business organisations and entrepreneurs are encouraged to optimise the potential and capabilities of technological evolutions and the attendant prevalence in their service delivery.

Lastly, South African tourism, in the wake of the COVID-19 pandemic, attracted considerable scholarly attention; however, the attention dowsed as the industry returned to normalcy and started its recovery journey. This study recommends more empirical engagements, undertakings, and projects on studies of South Africa's tourism industry. The recovery process is a journey that requires evidence-based assessments, investigations, and contributions towards pre-pandemic performance levels and growth. In the post-COVID-19 pandemic, South Africa's tourism is as attractive as its pre-pandemic level, which implies that the pandemic did not affect the sources and fabrics of its destination attractiveness. Therefore, the post-pandemic perspective taken by this study was to provide an empirical approach to rebuilding a more attractive and competitive South Africa, a prime tourism destination, through improved sectorial performance.

8.5   LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE STUDIES

This study covered the duration of the COVID-19 pandemic and the early recovery stages of South Africa's tourism industry. It is, therefore, a period of considerably rapid changes in events, conditions, and circumstances. While the economic impact analysis was conducted using time series data from previous years, the moderating influence of perceived risks in the tourism industry was investigated using cross-sectional data, which represent data points at a given point in time. Consequently, the values and directions of the data points are likely to change over time. The conclusions and recommendations offered in this study are based on the meanings derived from the collected data during the study. However, the conclusions and recommendations are of general interest to tourism destinations, which are collectively recovering from the devastations of the COVID-19 pandemic and rebuilding their tourism industries for post-pandemic stability

and growth. While they are empirically valid and offer both theoretical and practical insights, it is recommended, by way of future research, that the conclusions and recommendations of this study be subjected to empirical validations using new data.

9. REFERENCES

Ab Rashid, M.F. & Aziz, M.A.A. 2022. A comprehensive overview of world mapping analysis research trends on the impact of Artificial Intelligence in tourism from 2000 to 2022: A literature review and bibliometric analysis. *International Centre for Research and Resources Development (ICRRD) Journal,* 3(3):136-160.

Abba Ahmed, B. 2020. Impact of COVID-19 pandemic on global economy. *SSRN Electronic Journal*. DOI: 10.2139/ssrn.3719949.

Abd El Kafy, J. 2021. Challenges facing tour guide profession and their impacts on the Egyptian guides performance. *Journal of Association of Arab Universities for Tourism and Hospitality,* 19(3):113-130.

Abodunrin, O., Oloye, G. & Adesola, B. 2020. Coronavirus pandemic and its implication on global economy. *International Journal of Arts, Languages and Business Studies,* 4: 13-23.

Abraham, V., Bremser, K., Carreno, M., Crowley-Cyr, L. & Moreno, M. 2020. Exploring the consequences of COVID-19 on tourist behaviours: perceived travel risk, animosity and intentions to travel. *Tourism Review,* ahead-of-print(ahead-of-print).

Abrahams, D. 2019. Transformation of the tourism sector in South Africa: A possible growth stimulant? *GeoJournal of Tourism and Geosites,* 26(3):821-830.

Adam, I. 2015. Backpackers' risk perceptions and risk reduction strategies in Ghana. *Tourism Management,* 49:99-108.

Adam, M., Wessel, M. & Benlian, A. 2021. AI-based chatbots in customer service and their effects on user compliance. *Electronic Markets,* 31(2):427-445.

Adegboye, O.A., Adekunle, A.I., Pak, A., Gayawan, E., Leung, D.H., Rojas, D.P., Elfaki, F., McBryde, E.S. & Eisen, D.P. 2021. Change in outbreak epicentre and its impact on the importation risks of COVID-19 progression: A modelling study. *Travel Medicine and Infectious Disease,* 40:101988-101994.

Adeleke, B.O., Omitola, A.A. & Olukole, O.T. 2008. Impacts of xenophobia attacks on tourism. *IFE PsychologIA : An International Journal,* 16(2):136-147.

Adeola, O. & Evans, O. 2019. ICT, infrastructure, and tourism development in Africa. *Tourism Economics,* 26(1):97-114.

Adeola, O., Boso, N., Osabutey, E.L.C. & Evans, O. 2020. Foreign direct investment and tourism development in Africa. *Tourism Analysis,* 25(4):395-408.

Adesi, M., Ewuga, D., Owusu-Manu, D.-G., Boateng, F. & Kissi, E. 2023. COVID-19 pandemic disruptions and environmental turbulence in architectural, engineering and construction project delivery space. *International Journal of Building Pathology and Adaptation*.

Adinolfi, M.C., Harilal, V. & Giddy, J.K. 2020. Travel stokvels, leisure on lay-by, and pay at your pace options: The post-COVID-19 domestic tourism landscape in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(1):302-317.

Ahiawodzi, A.K. 2015. Macroeconomic determinants of tourism earnings in Ghana. *International Journal of Economics and Empirical Research (IJEER),* 3(10):479-488.

Ahmad, T., Haroon, H., Baig, M. & Hui, J. 2020. Coronavirus disease 2019 (COVID-19) pandemic and economic impact. *Pakistan Journal of Medical Sciences,* 36(COVID19-S4): S73-S78.

Aina, A. & Alabi, O. 2022. Impact of the COVID-19 Pandemic on Kwazulu-Natal Generation Z attitude towards domestic tourism. *African Journal of Inter/Multidisciplinary Studies,* 4(1):363-373.

Ajagunna, I., Anthony Clayton, D.I.A. & Dr Fritz Pinnock, P. 2014. New world, new tourism, new destinations. *Worldwide Hospitality and Tourism Themes,* 6(2):103-117.

Aji, H.M., Muslichah, I. & Seftyono, C. 2020. The determinants of Muslim travellers' intention to visit non-Islamic countries: a halal tourism implication. *Journal of Islamic Marketing,* 12(8):1553-1576.

Ajzen, I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes,* 50(2):179-211.

Akhrani, L.A., Cheng, W., Herani, I., Riani, Y.A., Pratiwi, R.D., Fahmi, A.A., Ammaritza, A. & Barlamana, M.H.A. 2022. You only live once! Understanding Indonesian and Taiwan travel intention during COVID-19 pandemic. *Front Psychol,* 13:1-17.

Akhtar, N., Khan, N., Mahroof Khan, M., Ashraf, S., Hashmi, M.S., Khan, M.M. & Hishan, S.S. 2021. Post-COVID 19 tourism: Will digital tourism replace mass tourism? *Sustainability,* 13(10):1-18.

Akinboade, O.A. & Braimoh, L.A. 2010. International tourism and economic development in South Africa: A granger causality test. *International Journal of Tourism Research,* 12(2):149-163.

Alam, M.S. & Paramati, S.R. 2016. The impact of tourism on income inequality in developing economies: Does the Kuznets curve hypothesis exist? *Annals of Tourism Research,* 61:111-126.

Al-Dweik, M.R. 2020. Influence of event image and destination image on visitor satisfaction and intentions to revisit. *African Journal of Hospitality, Tourism and Leisure,* 9(4):418-433.

Al-Omari, A., Rabaan, A.A., Salih, S., Al-Tawfiq, J.A. & Memish, Z.A. 2019. MERS coronavirus outbreak: Implications for emerging viral infections. *Diagnostic Microbiology and Infectious Disease,* 93(3):265-285.

Alhalawi, Z. & Sutantri, S. 2022. Chronic management during COVID-19 pandemic from the perspective primary health care practitioners. *JOSING: Journal of Nursing and Health,* 3(1):90-103.

Alhowaish, A. 2016. Is tourism development a sustainable economic growth strategy in the long run? Evidence from GCC countries. *Sustainability,* 8(7):1-10.

Ali-Knight, J. 2010. *The role of niche tourism products in destination development.* Doctoral Thesis. Edinburgh Napier University. [Online] Available from: http://researchrepository.napier.ac.uk/id/eprint/5376. Access: [Accessed: 2021-11-12].

Aljazeera. 2022. *New Zealand welcomes tourists back as COVID rules eased.* [Online] Available from: https://www.aljazeera.com/news/2022/5/2/new-zealand-welcomes-tourists-back-as-covid-rules-eased [Accessed: 2022-09-10].

Alkan, T., Dokuz, Y., Ecemiş, A., Bozdağ, A. & Durduran, S.S. 2023. Using machine learning algorithms for predicting real estate values in tourism centres. *Soft Computing,* 27(5):2601-2613.

Almarzooq, Z.I., Lopes, M. & Kochar, A. 2020. Virtual Learning During the COVID-19 Pandemic. *Journal of the American College of Cardiology,* 75(20):2635-2638.

Alon, T., Kim, M., Lagakos, D. & VanVuren, M. 2020. *How should policy responses to the covid-19 pandemic differ in the developing world?* National Bureau of Economic Research. [Online] Available from: https://www.nber.org/papers/w27273 [Accessed: 2023-09-11].

Alonso, A.D. 2011. Opportunities and challenges in the development of micro-brewing and beer tourism: A preliminary study from Alabama. *Tourism Planning & Development,* 8(4):415-431.

Alradhawi, M., Shubber, N., Sheppard, J. & Ali, Y. 2020. Effects of the COVID-19 pandemic on mental well-being amongst individuals in society- A letter to the editor on "The socio-economic implications of the coronavirus and COVID-19 pandemic: A review". *International Journal of Surgery,* 78:147-148.

Altinay, L. & Kozak, M. 2021. Revisiting destination competitiveness through chaos theory: The butterfly competitiveness model. *Journal of Hospitality and Tourism Management,* 49:331-340.

Alugubelli, R. 2016. Exploratory study of artificial intelligence in healthcare. *International Journal of Innovations in Engineering Research and Technology,* 3(1):1-10.

236

Aluko, O.A. 2021. An empirical insight into the international tourism - foreign direct investment nexus in Africa. *African Review of Economics and Finance,* 13(1):264-278.

An, M., Lee, C. & Noh, Y. 2010. Risk factors at the travel destination: Their impact on air travel satisfaction and repurchase intention. *Service Business,* 4:155-166.

Anderson, J.C. & Gerbing, D.W. 1988. Structural Equation Modeling in practice: A review and recommended two-step approach. *Psychological Bulletin,* 103(3):411-423.

Apleni, L., Vallabh, D. & Henama, U.S. 2017. Motivation for tourists' participation in religious tourism in Eastern Cape: A case study of Buffalo City, South Africa. *African Journal of Hospitality, Tourism and Leisure,* 6(2):1-14.

Arashi, M., Bekker, A., Salehi, M., Millard, S., Botha, T. & Golpaygani, M. 2022. Evaluating prediction of COVID-19 at provincial level of South Africa: a statistical perspective. *Environmental Science and Pollution Research,* 29(15):21289-21302.

Arefieva, V., Egger, R. & Yu, J. 2021. A machine learning approach to cluster destination image on Instagram. *Tourism Management,* 85:1-11.

Areola, E.M.Q. & Trinidad, F. 2022. Push and pull factors influencing destination satisfaction for sustainable cultural heritage tourism business model: The case of Intramuros. *Journal of Sustainable Community Development (JSCD),* 4(1):49-69.

Arlt, W.G. & Thraenhart, J. 2011. Social Media tourism marketing in China. In: Conrady, R. & Buck, M. (eds.). *Trends and Issues in Global Tourism 2011*. Berlin, Heidelberg: Springer Berlin Heidelberg.

Armstrong, E.K. & Ritchie, B.W. 2008. The heart recovery marketing campaign. *Journal of Travel & Tourism Marketing,* 23(2-4):175-189.

Arndt, C., Davies, R., Gabriel, S., Harris, L., Makrelov, K., Modise, B., Robinson, S., Simbanegavi, W., Seventer, v.D. & Anderson, L. 2020. *Impact of COVID-19 on the South African economy: An initial analysis.* Pretoria: Government of South Africa.

Arndt, C. & Roberts, S.J. 2018. Key issues in regional growth and integration in Southern Africa. *Development Southern Africa,* 35(3):297-314.

Artuğer, S. 2015. The effect of risk perceptions on tourists' revisit intentions. *European Journal of Business and Management,* 7(2):36-43.

Asca, A.J., PS, T.E.A. & Dara, N. 2023. Destination Image tourism attractiveness and testimonial with tourist-satisfaction as moderating. *International Social Sciences and Humanities,* 2(3):648-657.

Asgharifard, P. 2022. *Digital technology adoption as a factor to build supply chain resilience: The case of an animal-food supply chain during the COVID-19 pandemic crisis.* Master's thesis. Polytechnique Montréal. [Online] Available from: https://publications.polymtl.ca/10546/. [Accessed: 2023-01-11].

Aslan, A. 2014. Tourism development and economic growth in the Mediterranean countries: evidence from panel Granger causality tests. *Current Issues in Tourism,* 17(4):363-372.

Atar, S. & Atar, I. 2020. An invited commentary on "The socio-economic implications of the coronavirus and COVID-19 pandemic: A review". *International Journal of Surgery,* 78:122.

Azzopardi, E. & Nash, R. 2016. A framework for island destination competitiveness – perspectives from the island of Malta. *Current Issues in Tourism,* 19(3):253-281.

Back, R.M., Tasci, A.D. & Milman, A. 2020. Experiential consumption of a South African wine farm destination as an agritourism attraction. *Journal of Vacation Marketing,* 26(1):57-72.

Bader, M., Al Rousan, R., Khasawneh, N. & Niyas, K.K. 2023. Post-COVID tourist satisfaction in the hospitality industry: Reflections from Jordan. *Technium Social Science Journal,* 42:155.

Bae, S.Y. & Chang, P.-J. 2020. The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards 'untact' tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism,* 24(7):1017-1035.

Bagozzi, R.P. & Yi, Y. 1988. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science,* 16(1):74-94.

Bagozzi, R.P., Yi, Y. & Phillips, L.W. 1991. Assessing construct validity in organizational research. *Administrative Science Quarterly,* 36(3):421-458.

Baİonoo-Anu, D. & Owusu Ansah, L. 2023. Education in the era of generative Artificial Intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI,* 7(1):52-62.

Bailkeri, S., Karadiguddi, S., Koshavar, S., Tigadi, V. & Bhatkande, S. 2023. Tourism recommendation system using machine learning. *International Journal of Research Publication and Reviews,* 4:4344-4353.

Balaguer, J. & Cantavella-Jordá, M. 2002. Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics,* 34(7):877-884.

Balasubramanian, S., Sethi, J.S., Ajayan, S. & Paris, C.M. 2022. An enabling framework for Blockchain in tourism. *Information Technology & Tourism,* 24(2):165-179.

Bama, H.K.N. & Nyikana, S. 2021. The effects of COVID-19 on future domestic travel intentions in South Africa: A stakeholder perspective. *African Journal of Hospitality, Tourism and Leisure,* 10(1):179-193.

Bama, H.K.N., Nyathela-Sunday, T. & Makuzva, W. 2022. What innovations would enable the tourism and hospitality industry in Africa to re-build? *Worldwide Hospitality and Tourism Themes,* 14(6):557-564.

Banday, U.J. & Kocoglu, M. 2015. Tourism as a long-run economic growth factor: An empirical investigation for India using causality analysis. *World Journal of Islamic History and Civilization,* 5(2):48-53.

239

Bao, Y., Hilary, G. & Ke, B. 2022. Artificial Intelligence and fraud detection. In: Babich, V., Birge, J.R. & Hilary, G. (eds.). *Innovative Technology at the Interface of Finance and Operations: Volume I.* Cham: Springer International Publishing.

Barkas, P., Honeck, D., Colomer, E.R. & World Trade Organisation. 2020. *International trade in travel and tourism services: Economic impact and policy responses during the Covid-19 crisis.* WTO staff working paper. [Online] Available from: https://www.econstor.eu/handle/10419/225258 [Accessed: 2021-12-04].

Baroroh, D.K. & Agarwal, A. 2022. Immersive technologies in Indonesia faces "New Normal" COVID-19. *International Journal of Technology,* 13(3).

Barros, A., Prasad, A. & Śliwa, M. 2023. Generative Artificial Intelligence and academia: Implication for research, teaching and service. *Management Learning,* 54(5):597-604.

Bartis, H., Hufkie, B. & Moraladi, M. 2021. The economic impact of the covid-19 pandemic on the business events sub-sector in South Africa: Mitigation strategies and innovations. *African Journal of Hospitality, Tourism and Leisure,* 10(1):102-114.

Basurto-Cedeño, E.M., Gretzel, L.Z., Chulmo Koo, U. & Pennington-Gray, L. 2016. Tourism disaster resilience scorecard for destinations (TDRSD): the case of Manta, Ecuador. *International Journal of Tourism Cities,* 2(2):149-163.

Beard, E., Marsden, J., Brown, J., Tombor, I., Stapleton, J., Michie, S. & West, R. 2019. Understanding and using time series analyses in addiction research. *Addiction,* 114(10):1866-1884.

Beck, J., Rainoldi, M. & Egger, R. 2019. Virtual reality in tourism: a state-of-the-art review. *Tourism Review,* 74(3):586-612.

Beer, F.D. 2011. Reflections on pro-poor tourism in South Africa: challenges of poverty and policy in the search for a way forward. *Journal of Contemporary Management,* 8(1):591-606.

Behboodi, O., Arabshahi, M. & Danishwar, S. 2022. Investigating the impact of tourism destination brand equity on trust, satisfaction and loyalty to destination brand (Case study: Bamyan-Afghanistan). *Journal of Quality Assurance in Hospitality & Tourism*:1-31.

Bhoola, S. 2020. Halal food tourism: Perceptions of relevance and viability for South African destinations. *African Journal of Hospitality, Tourism and Leisure,* 9(3):288-301.

Bignami-Van Assche, S. & Ghio, D. 2022. Comparing COVID-19 fatality across countries: a synthetic demographic indicator. *J Popul Res (Canberra),* 39(4):513-525.

bin Bakri, M.N., Neo, H.-F. & Teo, C.-C. 2023. Blockchain technology for tourism post-COVID-19. *Journal of Telecommunications and the Digital Economy,* 11(3):42-67.

Boekstein, M. & Tevera, D. 2012. Prospects for niche tourism development in South Africa. *Department of geography and environmental studies. University of the Western Cape, Cape Town.*

Bogojevic Arsic, V. 2021. Challenges of financial risk management: AI applications. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies.*

Boguszewicz-Kreft, M., Kuczamer-Klopotowska, S. & Kozlowski, A. 2022. The role and importance of perceived risk in medical tourism. Applying the theory of planned behaviour. *PLoS One,* 17(1):e0262137.

Booyens, I. 2020. Tourism innovation in the Western Cape, South Africa: evidence from wine tourism. *New Directions in South African Tourism Geographies*: Springer.

Booyens, I., Rogerson, C.M., Rogerson, J.M. & Baum, T. 2022. COVID-19 crisis management responses of small tourism firms in South Africa. *Tourism Review International,* 26(1):121-137.

Bosnjak, M., Ajzen, I. & Schmidt, P. 2020. The theory of planned behavior: Selected recent advances and applications. *Eur J Psychol,* 16(3):352-356.

241

Botha, F. & de New, J. 2020. COVID-19 infections, labour market shocks, and subjective well-being. *Melbourne Institute Working Paper,* 14(20).

Boursier, V., Gioia, F., Musetti, A. & Schimmenti, A. 2020. Facing loneliness and anxiety during the COVID-19 isolation: The role of excessive social media use in a sample of Italian adults. *Front Psychiatry,* 11:586222.

Brauer, R., Dymitrow, M. & Tribe, J. 2019. The impact of tourism research. *Annals of Tourism Research,* 77:64-78.

Broadbent, A., Combrink, H. & Smart, B. 2020. COVID-19 in South Africa. *Global Epidemiology,* 2:100034.

Bryman, A. 2012. *Social research methods.* 4th edition ed. New York: Oxford University Press.

Bubeck, P., Botzen, W.J.W. & Aerts, J.C.J.H. 2012. A review of risk perceptions and other factors that influence flood mitigation behaviour. *Risk Analysis,* 32(9):1481-1495.

Buhalis, D. 2019. Technology in tourism-from information communication technologies to eTourism and smart tourism towards ambient intelligence tourism: a perspective article. *Tourism Review,* 75(1):267-272.

Bull, A. 1995. *Economics of travel and tourism.* Longman Australia Pty Ltd.

Butler, R.W. 2000. Tourism and the environment: A geographical perspective. *Tourism Geographies,* 2(3):337-358.

Butnaru, G.I., Maftei, M.M. & Ștefănică, M. 2021. *Reconfigurations of business environment in tourism industry under the impact of COVID-19.* Paper presented at BASIQ International Conference on New Trends in Sustainable Business and Consumption, Foggia, Italy:326-335.

Cantisani, V., Grani, G., Tovoli, F., Piscaglia, F. & Catalano, C. 2020. Artificial Intelligence: What is it and how can it expand the ultrasound potential in the future? *Ultraschall Med,* 41(4):356-360.

Carlisle, S., Kunc, M., Jones, E. & Tiffin, S. 2013. Supporting innovation for tourism development through multi-stakeholder approaches: Experiences from Africa. *Tourism Management,* 35:59-69.

Carlson, K.D. & Herdman, A.O. 2010. Understanding the impact of convergent validity on research results. *Organizational Research Methods,* 15(1):17-32.

Casidy, R. & Wymer, W. 2016. A risk worth taking: Perceived risk as moderator of satisfaction, loyalty, and willingness-to-pay premium price. *Journal of Retailing and Consumer Services,* 32:189-197.

Cavada, D., Elahi, M., Massimo, D., Maule, S., Not, E., Ricci, F. & Venturini, A. 2018. Tangible Tourism with the Internet of Things. *Information and Communication Technologies in Tourism 2018*

Çetinkaya, M.Y. & Öter, Z. 2016. Role of tour guides on tourist satisfaction level in guided tours and impact on re-visiting Intention: a research in Istanbul. *European Journal of Tourism, Hospitality and Recreation,* 7(1):40-54.

Çetinsöz, B.C. & Ege, Z. 2013. Impacts of perceived risks on tourists' revisit intentions. *Anatolia,* 24(2):173-187.

Chadee, D., Ren, S. & Tang, G. 2021. Is digital technology the magic bullet for performing work at home? Lessons learned for post-COVID-19 recovery in hospitality management. *Int J Hosp Manag,* 92:102718.

Cham, T.-H., Cheah, J.-H., Ting, H. & Memon, M.A. 2021. Will destination image drive the intention to revisit and recommend? Empirical evidence from golf tourism. *International Journal of Sports Marketing and Sponsorship,* 23(2):385-409.

Chaturuka, M., Duffett, R.G. & Haydam, N. 2020. Crime perceptions among international leisure tourists in Cape Town. *Safer Communities,* 19(4):161-181.

Chaudhary, M. & Islam, N.U. 2021. Impact of perceived risk on tourist satisfaction and future travel intentions: A mediation–moderation analysis. *Global Business Review*.

Chen, C., Ishfaq, M., Ashraf, F., Sarfaraz, A. & Wang, K. 2022. Mediating role of optimism bias and risk perception between emotional intelligence and decision-making: A serial mediation model. *Frontiers in Psychology,* 13.

Chen, Y.-C., Shang, R.-A. & Li, M.-J. 2014. The effects of perceived relevance of travel blogs' content on the behavioural intention to visit a tourist destination. *Computers in Human Behavior,* 30:787-799.

Cheteni, P. & Mazenda, A. 2022. Economic impact of government intervention in response to covid-19 in selected sub-Saharan African countries. *Development Southern Africa*:1-15.

Chew, E.Y.T. & Jahari, S.A. 2014. Destination image as a mediator between perceived risks and revisit intention: A case of post-disaster Japan. *Tourism Management,* 40:382-393.

Chick, R.C., Clifton, G.T., Peace, K.M., Propper, B.W., Hale, D.F., Alseidi, A.A. & Vreeland, T.J. 2020. Using technology to maintain the education of residents during the COVID-19 pandemic. *J Surg Educ,* 77(4):729-732.

Chidakel, A., Eb, C. & Child, B. 2020. The comparative financial and economic performance of protected areas in the Greater Kruger National Park, South Africa: functional diversity and resilience in the socio-economics of a landscape-scale reserve network. *Journal of Sustainable Tourism,* 28(8):1100-1119.

Chikodzi, D. & Dube, K. 2023. COVID-19 Tourism Impact, Recovery and Resilience: South African and Zimbabwean Experience. In: Dube, K., Kupika, O.L. & Chikodzi, D. (eds.). *COVID-19, Tourist Destinations and Prospects for Recovery: Volume Three: A South African and Zimbabwean Perspective*. Cham: Springer International Publishing.

Chili, N.S. 2018. The impact of safety and security on the behaviour of consumers and tourism demand in South African townships. *African Journal of Hospitality, Tourism and Leisure,* 7(4):1-14.

Chiong, P.S.S.C., Seeam, A. & Seeam, P. 2022. Development of a smart tourism information Chatbot for Mauritius. *International Conference on Intelligent and Innovative Computing Applications,* 2022:122-130.

Chipumuro, M. & Chikobvu, D. 2022. Modelling tourist arrivals in south africa to assess the impact of the covid-19 pandemic on the tourism sector. *African Journal of Hospitality, Tourism and Leisure,* 11(4):1381-1394.

Chivandi, A., Olorunjuwon Samuel, M. & Muchie, M. 2019. Expectancy models and work-related service innovation and service quality orientation as a business strategic tool in the tourism sector. *Tourism - Perspectives and Practices*: IntechOpen.

Chiwaridzo, O.T. & Masengu, R. 2023. The impact of social media branding and technology adoption on green tourism: the role of tourist behaviour as a mediator in developing countries post-COVID-19—context of Zimbabwe. *Future Business Journal,* 9(1).

Chloridiany, A. 2021. Social Media marketing strategy of Indonesian tourism in the time of pandemic. *E-Journal of Tourism*, 8(1):1-13.

Choi, Y., Oh, M., Choi, M. & Kim, S. 2021. Exploring the influence of culture on tourist experiences with robots in service delivery environment. *Current Issues in Tourism,* 24(5):717-733.

Choi, S., Yeon, J., Song, H.J. & Hu, J. 2023. Information technology as a buffer against COVID-19. *Annals of Tourism Research,* 98:103527.

Chouchene, A., Carvalho, A., Lima, T.M., Charrua-Santos, F., Osório, G.J. & Barhoumi, W. 2020. Artificial Intelligence for product quality inspection toward smart industries: quality control of vehicle non-conformities. 11-13 Feb. 2020:127-131.

Christopher Westland, J. 2010. Lower bounds on sample size in Structural Equation Modelling. *Electronic Commerce Research and Applications,* 9(6):476-487.

Chuchu, T. 2021. Assessing the effectiveness of technology in destination marketing during the COVID-19 pandemic. *E-Journal of Tourism*:149.

Chuchu, T., Chiliya, N. & Chinomona, R. 2019. Investigating the impact of destination image ontravellers' intention to revisit South Africa: a case of international tourists. *e-Review of Tourism Research,* 16(6):567-587.

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.

Claveria, O., Monte, E. & Torra, S. 2015. Combination forecasts of tourism demand with Machine Learning models. *Applied Economics Letters*:1-4.

Clipper, B. 2020. The influence of the COVID-19 pandemic on technology: Adoption in health care. *Nurse Lead,* 18(5):500-503.

Comer, J. 2018. 'Equality on the sea': interrogating LGBTQ privilege in the tourism discourse of Africa's' gay capital'. *Gender & Language,* 12(4).

Cooper, S., Van Rooyen, H. & Wiysonge, C.S. 2021. COVID-19 vaccine hesitancy in South Africa: how can we maximize uptake of COVID-19 vaccines? *Expert Review of Vaccines,* 20(8):921-933.

Corne, A. & Peypoch, N. 2020. On the determinants of tourism performance. *Annals of Tourism Research,* 85:103057.

Crompton, J.L. 1979. Motivations for pleasure vacation. *Annals of Tourism Research,* 6(4):408-424.

Cronjé, D.F. & du Plessis, E. 2020. A review on tourism destination competitiveness. *Journal of Hospitality and Tourism Management,* 45:256-265.

Crosby, M., Pattanayak, P., Verma, S. & Kalyanaraman, V. 2016. Blockchain technology: beyond Bitcoin. *Applied Innovation,* 2:6-10.

Crouch, G.I. & Ritchie, J.R.B. 1999. Tourism, competitiveness, and societal prosperity. *Journal of Business Research,* 44(3):137-152.

Crowley-Cyr, L., Gershwin, L.-a., Bremser, K., Abraham, V., Moreno Martin, M.J., Carreño, M. & Wüst, K. 2022. Jellyfish risk communications: The effect on risk perception, travel intentions and behaviour, and beach tourism destinations. *Journal of Hospitality and Tourism Management,* 51:196-206.

Crush, J. & Chikanda, A. 2015. South–South medical tourism and the quest for health in Southern Africa. *Social Science & Medicine,* 124:313-320.

Crush, J., Chikanda, A. & Maswikwa, B. 2012. *Patients without borders: Medical tourism and medical migration in Southern Africa.* Cape Town, SOUTH AFRICA: Idasa.

Crush, J., Chikanda, A., Maswikwa, B., Labonté, R., Runnels, V., Packer, C. & Deonandan, R. 2013. South-South and North-South medical tourism: the case of South Africa. In: Labonté, R., Runnels, V., Packer, C. & Deonandan, R. (eds.). *Travelling well: essays in medical tourism. Ottawa: Institute of Population Health, University of Ottawa.* Ottawa: Institute of Population Health, University of Ottawa. [Online] Available from: https://ruor.uottawa.ca/bitstream/10393/23788/1/Travelling%20Well-%20Essays%20in%20MedicalTourism.pdf [Accessed: 2023-03-26].

Crush, J., Chikanda, A., Sanders, D. & Maswikwa, B. 2015. The rise of medical tourism to South Africa. In: Lunt, N., Horsfall, D. & Hanefeld, J. (eds.). *Handbook on medical tourism and patient mobility*. Northampton: Edward Elgar Publishing.

Cui, F., Liu, Y., Chang, Y., Duan, J. & Li, J. 2016. An overview of tourism risk perception. *Natural Hazards,* 82(1):643-658.

Ćulić, M., Vujičić, M.D., Kalinić, Č., Dunjić, M., Stankov, U., Kovačić, S., Vasiljević, Đ.A. & Anđelković, Ž. 2021. Rookie tourism destinations: The effects of attractiveness factors on destination image and revisit intention with the satisfaction mediation effect. *Sustainability,* 13(11):1-16.

Dahles, H. & Susilowati, T.P. 2015. Business resilience in times of growth and crisis. *Annals of Tourism Research,* 51:34-50.

Daly, K., Isdell, E., Moynihan, L., O'Callaghan, K., O'Leary, S., Pepper, A. & Pennisi, Y. 2022. An exploration of service users' experience of telehealth occupational therapy interventions in adult mental health services, Ireland, during COVID-19. *Irish Journal of Occupational Therapy,* 50(2):66-72.

Daniels, T. & Spencer, J. 2019. *Developing Polo Tourism as a niche market in the Western Cape Province, South Africa.* Nr Reading: Acad Conferences Ltd.

Darbellay, F. & Stock, M. 2012. Tourism as complex interdisciplinary research object. *Annals of tourism research,* 39(1):441-458.

Davis, F.D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly,* 13(3):319-340.

Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. 1989. User acceptance of computer technology: A comparison of two theoretical models. *Management Science,* 35(8):982-1003.

De Rooij, P., Van Liempt, A. & Van Bendegom, C. 2022. Should we stay, or should we go? The influence of risk perceptions on revisit intentions to cultural heritage during the COVID-19 pandemic. *Journal of Heritage Tourism,* 17(4):431-447.

De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, R.C.S.L. 2005. *Research at grass roots: A primer for the social science and human professions.* Third edition ed. Hatfield, Pretoria: Van Schaik Publishers.

Del Rio, C., Collins, L.F. & Malani, P. 2020. Long-term health consequences of COVID-19. *Jama,* 324(17):1723-1724.

Deng, T., Ma, M. & Cao, J. 2014. Tourism resource development and long-term economic growth: A resource curse hypothesis approach. *Tourism Economics,* 20(5):923-938.

Deonarain, M. & Ramoersad, R. 2024. Encouraging intersectoral collaboration to promote medical tourism in South Africa. *International Conference on Tourism Research,* 7(1):434-442.

Department of Tourism, Republic of South Africa. 2020. *Tourism annual report 2019-20.* Sunnyside: Department of Tourism Republic of South Africa. [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/Tourism%20Annual%20Report%20 2019-20.pdf [Accessed: 2022-05-6].

Department of Tourism, Republic of South Africa. 2021. *Tourism annual report.* Pretoria: [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/Tourism%20Annual%20Report%20 20-21.pdf [Accessed: 2022-07-20].

Department of Tourism, Republic of South Africa. 2023. *Tourism sector masterplan.*1-63. [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/TOURISM%20SECTOR%20MAST ERPLAN%20FINAL-%2028%20september%202023.pdf. Access: 2024-03-07

Department of Tourism. 2010a. *2010 State of Tourism Report.* Department of Tourism, Republic of South Africa.

Department of Tourism. 2010b. *National Tourism Sector Strategy executive summary.* [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/National%20Tourism%20Sector%2 0Strategy%20Executive%20Summary.pdf [Accessed: 2022-05-21].

Department of Tourism. 2019. *Department of Tourism: Tourism annual report 2018-19.*

Department of Tourism. 2020. *Tourism annual report 2019-20.* Sunnyside: Department of Tourism Republic of South Africa. [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/Tourism%20Annual%20Report%20 2019-20.pdf [Accessed: 2022-05-6].

Department of Tourism. 2021. *Tourism annual report.* Pretoria: [Online] Available from: https://www.tourism.gov.za/AboutNDT/Publications/Tourism%20Annual%20Report%2020 20-21.pdf [Accessed: 2022-07-20].

Di Minin, E., Fraser, I., Slotow, R. & Macmillan, D.C. 2013. Understanding heterogeneous preference of tourists for big game species: implications for conservation and management. *Animal Conservation,* 16(3):249-258.

Dieke, P.U. 2003. Tourism in Africa's economic development: policy implications. *Management decision,* 41(3).

Dittmer, P.R. 2001. *Dimensions of the hospitality industry.* New York: John Wiley and Sons.

Du Plessis, E., Saayman, M. & Van der Merwe, A. 2015. What makes South African tourism competitive? African Journal of Hospitality, Tourism and Leisure, 4(2):1-14.

Du Plessis, E., Saayman, M. & Van der Merwe, A. 2017. Explore changes in the aspects fundamental to the competitiveness of South Africa as a preferred tourist destination. *South African Journal of Economic and Management Sciences,* 20(1):1-11.

Du, X., Zhao, X., Wu, C.-H. & Feng, K. 2021. Functionality, emotion, and acceptance of Artificial Intelligence Virtual Assistants. *Journal of Global Information Management,* 30(7):1-21.

Dube, K. 2020. Implications of COVID-19 induced lockdown on the South African tourism industry and prospects for recovery. *African Journal of Hospitality, Tourism and Leisure,* 10(1):270-287.

Dube-Xaba, Z. 2021. COVID-19 lockdown and visiting friends and relatives travellers: Impact and opportunities. *African Journal of Hospitality, Tourism and Leisure,* 10(3):856-862.

Dube-Xaba, Z. 2023. COVID-19 and rural tourism destinations in South Africa: Impact, transformation opportunities and potential. *COVID-19, Tourist Destinations and Prospects for Recovery: Volume Two: An African Perspective*: Springer.

Dube, K. 2020. Implications of COVID-19 induced lockdown on the South African tourism industry and prospects for recovery. *African Journal of Hospitality, Tourism and Leisure,* 10(1):270-287.

Dube, K. 2022. COVID-19 vaccine-induced recovery and the implications of vaccine apartheid on the global tourism industry. *Physics and Chemistry of the Earth,* 126:103140 - 103152.

Dube, K. 2022. Nature-based tourism resources and climate change in southern Africa: Implications for conservation and development sustainability. *Protected areas and tourism in Southern Africa*. 1st Edition. Oxfordshire: Routledge.

Dube, K. & Nhamo, G. 2024. Tourism resilience and challenges in Limpopo, South Africa: A post-COVID-19 analysis. *Development Southern Africa*:1-18.

Duro, J.A., Osório, A. & Perez-Laborda, A. 2022. Competition for domestic tourism in the COVID-19 pandemic: A characterization using a contest model. *Tourism Economics,* 29(2):378-391.

Dwivedi, Y.K., Hughes, D.L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J.S., Gupta, B., Lal, B., Misra, S., Prashant, P., Raman, R., Rana, N.P., Sharma, S.K. & Upadhyay, N. 2020. Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International Journal of Information Management,* 55:1-20.

Eastwood, S., Derish, P., Leash, E. & Ordway, S. 1996. Ethical issues in biomedical research: Perceptions and practices of postdoctoral research fellows responding to a survey. *Science and Engineering Ethics,* 2(1):89-114.

El-Said, O. & Aziz, H. 2021. Virtual tours a means to an end: an analysis of virtual tours' role in tourism recovery post COVID-19. *Journal of Travel Research,* 61(3):528-548.

El-Sofany, H.F. & Abou El-Seoud, S. 2023. The effectiveness of tourism in KSA using mobile app during COVID-19 pandemic. In: Auer, M.E., El-Seoud, S.A. & Karam, O.H. (eds.). Cham, 559-570.

Erbiçer, E.S., Metin, A., Çetinkaya, A. & Şen, S. 2021. The relationship between fear of COVID-19 and depression, anxiety, and stress. *European Psychologist,* 26(4):323-333.

Ezeuduji, I.O. & Mhlongo, P.S. 2019. Tourists' loyalty towards a tourism destination: The case of KwaZulu-Natal in South Africa. *EuroEconomica,* 38(2): 272-281.

Ezeuduji, I.O. 2013. Nigerian tourists to South Africa: Challenges, expectations and demands. *Acta Commercii,* 13(1): 1-9.

Ezeuduji, I.O., November, K.L. & Haupt, C. 2016. Tourist profile and destination brand perception: the case of Cape Town, South Africa. *Acta Universitatis Danubius. Œconomica,* 12(4).

Fabry, N. & Zeghni, S. 2019. Resilience, tourist destinations and governance: an analytical framework. In: Cholat, F., Gwiazdzinski, L., Tritz, C. & Tuppen, J. (eds.). *Tourismes et adaptations*. Elya Editions ed. Grenoble: Elya Editions.

Fajar, J.K., Sallam, M., Soegiarto, G., Sugiri, Y.J., Anshory, M., Wulandari, L., Kosasih, S.A.P., Ilmawan, M., Kusnaeni, K., Fikri, M., Putri, F., Hamdi, B., Pranatasari, I.D., Aina, L., Maghfiroh, L., Ikhriandanti, F.S., Endiaverni, W.O., Nugraha, K.W., Wiranudirja, O., Edinov, S., Hamdani, U., Rosyidah, L., Lubaba, H., Ariwibowo, R., Andistyani, R., Fitriani, R., Hasanah, M., Nafis, F.A.D., Tamara, F., Latamu, F.O., Kusuma, H.I., Rabaan, A.A., Alhumaid, S., Mutair, A.A., Garout, M., Halwani, M.A., Alfaresi, M., Al Azmi, R., Alasiri, N.A., Alshukairi, A.N., Dhama, K. & Harapan, H. 2022. Global prevalence and potential influencing factors of COVID-19 vaccination hesitancy: A meta-analysis. *Vaccines,* 10(8):1-20.

Fan, M., 2020, November. Medical Tourism's Leading Drivers, Motivators, and Promoters–The Healthcare Cost Disparity Between the Developed and the Developing Countries. In *2020 2nd International Conference on Economic Management and Cultural Industry (ICEMCI 2020) (46-50).* Chengdu, China Atlantis Press.

Fan, X., Jiang, X. & Deng, N. 2022. Immersive technology: A meta-analysis of augmented/virtual reality applications and their impact on tourism experience. *Tourism Management,* 91: 1-17.

Farzanegan, M.R., Gholipour, H.F., Feizi, M., Nunkoo, R. & Andargoli, A.E. 2021. International tourism and outbreak of coronavirus (COVID-19): A cross-country analysis. *Journal of Travel Research,* 60(3):687-692.

Fath, B.P., Fiedler, A., Li, Z. & Whittaker, D.H. 2017. Collective destination marketing in China: leveraging social media celebrity endorsement. *Tourism Analysis,* 22(3):377-387.

Fernandes, N. 2020. Economic Effects of Coronavirus Outbreak (COVID-19) on the World Economy. *SSRN Electronic Journal.*

Fernández, J.A.S., Martínez, J.M.G. & Martín, J.M.M. 2022. An analysis of the competitiveness of the tourism industry in a context of economic recovery following the COVID19 pandemic. *Technological Forecasting and Social Change,* 174:1-10.

Ferreira, D. & Perks, S. 2020. A dimensional framework of tourism indicators influencing destination competitiveness. *African Journal of Hospitality, Tourism and Leisure*:1-21.

Ferreira, S. 2020. Wine tourism development: Life Cycles of wine routes, wine resorts and lifestyles in the Cape Winelands. *New Directions in South African Tourism Geographies.* Switzerland: Springer International Publishing.

Ferreira, S.L.A. & Harmse, A.C. 2000. Crime and tourism in South Africa: International tourists perception and risk. *South African Geographical Journal,* 82(2):80-85.

Ferreira, S.L.A. & Hunter, C.A. 2017. Wine tourism development in South Africa: a geographical analysis. *Tourism Geographies,* 19(5):676-698.

253

Field, A., Miles, J. & Field, Z. 2012. *Discovering Statistics using R.* London: Sage Publications.

Filimonau, V., Ashton, M. & Stankov, U. 2022. Virtual spaces as the future of consumption in tourism, hospitality and events. *Journal of Tourism Futures.*

Fishbein, M. & Ajzen, I. 1975. *Belief, attitude, intention, and behaviour: An introduction to theory and research.* MA: Addison-Wesley.

Fitchett, J. & Hoogendoorn, G. 2018. Does sunny South Africa really have an ideal climate for tourism? *Quest,* 14(4):14-16.

Foltice, B. & Parker, M. 2022. Economic implications of state-wide COVID-19 response aggressiveness. *SSRN Electronic Journal.*

Fornell, C. & Larcker, D.F. 1981. Evaluating Structural Equation Models with unobservable variables and measurement error. *Journal of Marketing Research,* 18(1):39-50.

Fotiadis, A., Polyzos, S. & Huan, T.-C.T.C. 2021. The good, the bad and the ugly on COVID-19 tourism recovery. *Annals of Tourism Research,* 87:103117-103131.

Fourie, A., van Heerden, C. & du Plessis, E. 2021. Improving destination competitiveness in South Africa: A DEA approach. *Tourism Economics,* 28(4):1080-1100.

Fuchs, G. & Reichel, A. 2006. Tourist destination risk perception: The case of Israel. *Journal of Hospitality & Leisure Marketing,* 14(2):83-108.

Gagnon, J.E., Kamin, S.B. & Kearns, J. 2023. The impact of the COVID-19 pandemic on global GDP growth. *J Jpn Int Econ,* 68:101258.

Garau, C. 2015. Perspectives on cultural and sustainable rural tourism in a smart region: The case study of Marmilla in Sardinia (Italy). *Sustainability,* 7(6):6412-6434.

Garba, S.M., Lubuma, J.M. & Tsanou, B. 2020. Modeling the transmission dynamics of the COVID-19 Pandemic in South Africa. *Math Biosci,* 328:108441.

Garcia-Carretero, R., Vazquez-Gomez, O., Gil-Prieto, R. & Gil-de-Miguel, A. 2023. Hospitalization burden and epidemiology of the COVID-19 pandemic in Spain (2020-2021). *BMC Infectious Diseases,* 23(1):476.

Garidzirai, R. & Pasara, M.T. 2020. An analysis of the contribution of tourism on economic growth in South African Provinces: A panel analysis. *GeoJournal of Tourism and Geosites,* 29(2):554-564.

Gaskin, J., James, M., Lim, J. & Steed, J. 2023. *Master validity tool: AMOS plugin.* [Online] Available from: http://statwiki.gaskination.com/ [Accessed: 2024-02-16].

Gazzeh, K., Abubakar, I.R. & Hammad, E. 2022. Impacts of COVID-19 pandemic on the global flows of people and goods: Implications on the dynamics of urban systems. *Land,* 11(3):429-447.

Gefen, D., Straub, D. & Boudreau, M. 2000. Structural Equation Modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems,* 4.

Gern, K.-J. & Mösle, S. 2020. *The impact of the COVID-19 pandemic on the global economy: Survey-based evidence from free zones.*

Ghaleb, T.A., Bin-Thalab, R.A. & Alselwi, G.A.A. 2021. How Internet of Things responds to the COVID-19 pandemic. *PeerJ Computer Science,* 7:e776.

Giddy, J.K., Rogerson, C.M. & Rogerson, J.M. 2022. Rural Tourism Firms in the Covid-19 Environment: South African Challenges. *GeoJournal of Tourism and Geosites,* 41(2):343-353.

Giddy, J.K. & Rogerson, J.M. 2021. Nature-based tourism enterprise adaptive responses to covid-19 in South Africa. *GeoJournal of Tourism & Geosites,* 36(2):698-707.

Glass, D.H. 2020. European and US lockdowns and second waves during the COVID-19 pandemic. *Math Biosci,* 330:108472.

255

Glawe, L. & Wagner, H. 2020. The Middle-Income Trap 2.0: The increasing role of human capital in the age of automation and implications for developing Asia. *Asian Economic Papers,* 19(3):40-58.

Global Healthcare Resources & International Healthcare Resource Center. 2021. *2020-2021 medical tourism index overview.*Global Healthcare Resources & International Healthcare Resource Center. [Online] Available from: https://www.medicaltourism.com/mti/2020-2021/overview [Accessed: 14/09/2022].

Gnangnon, S.K. 2020. Impact of international tourism receipts on public revenue in developed and developing countries. *Tourism Review,* 75(5):809-826.

Godara, R.S. & Fetrat, D.J. 2022. Impact of tourism industry on the Indian economy: a multidimensional analysis. *International Journal of Economic Policy in Emerging Economies,* 15(2-4):351-367.

Golets, A., Farias, J., Pilati, R. & Costa, H. 2023. COVID-19 pandemic and tourism: The impact of health risk perception and intolerance of uncertainty on travel intentions. *Current Psychology,* 42(3):2500-2513.

González-Rodríguez, M.R., Díaz-Fernández, M.C. & Pulido-Pavón, N. 2023. Tourist destination competitiveness: An international approach through the travel and tourism competitiveness index. *Tourism Management Perspectives,* 47.

Gössling, S., Scott, D. & Hall, C.M. 2021. Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism,* 29(1):1-20.

Gövdeli, T., Özkan, T. & Karakuş, E. 2023. Covid-19 Affects The US Economy Uncertainty? *ODÜ Sosyal Bilimler Araştırmaları Dergisi (ODÜSOBİAD), 317-352*.

Grbich, C. 2013. *Qualitative data analysis.* London: Sage.

Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M. & Xiang, Z. 2020. e-Tourism beyond COVID-19: a call for transformative research. *Information Technology & Tourism,* 22(2):187-203.

Gretzel, U., Sigala, M., Xiang, Z. & Koo, C. 2015. Smart tourism: foundations and developments. *Electronic Markets,* 25(3):179-188.

Gujarati, D.N. 2003. *Basic Econometrics.* 4th edition ed. New York: McGraw-Hill.

Gultekin, Y.S., Gültekin, P., Uzun, O. & Gök, H. 2017. Use of Structural Equation Modeling in ecotourism: A model proposal. *Periodicals of Engineering and Natural Sciences (PEN),* 5(2).

Gumede, T.K. & Mdiniso, J.M. 2022. Sustaining tourist loyalty toward cultural heritage tourism sites amid COVID-19: A case of KwaZulu-Natal, South Africa. *African Journal of Hospitality, Tourism and Leisure,* 11(4):1362-1380.

Gumede, T.K. 2022. Building resilient tourism SMMEs amidst and post COVID-19 Pandemic: A case of South Coast, KwaZulu-Natal, South Africa. *International Journal of Business and Management,* 17(4):29-42.

Günaydin, Y. 2022. Service quality in hospitality businesses and its effect on revisit intention during the Covid-19. *Journal of Tourism Theory and Research,* 8(2):37-46.

Guo, Y., Liu, H. & Chai, Y. 2014. The embedding convergence of smart cities and tourism internet of things in China: An advance perspective. *Advances in Hospitality and Tourism Research (AHTR),* 2(1):54-69.

Haarhoff, R. 2018. Tourist perceptions of factors influencing destination image: A case study of selected Kimberley resorts. *African Journal of Hospitality, Tourism and Leisure,* 7(4):1-21.

Haider, N., Osman, A.Y., Gadzekpo, A., Akipede, G.O., Asogun, D., Ansumana, R., Lessells, R.J., Khan, P., Hamid, M.M.A., Yeboah-Manu, D., Mboera, L., Shayo, E.H., Mmbaga, B.T., Urassa, M., Musoke, D., Kapata, N., Ferrand, R.A., Kapata, P.-C., Stigler, F., Czypionka, T., Zumla, A., Kock, R. & Mccoy, D. 2020. Lockdown measures in response to COVID-19 in nine sub-Saharan African countries. *BMJ Global Health,* 5(10):e003319.

Haimes, Y.Y. 2009. On the complex definition of risk: a systems-based approach. *Risk Anal,* 29(12):1647-1654.

Hair, J., Black, W., Babin, B. & Anderson, R. 2010. *Multivariate data analysis: A global perspective.* Seventh edition ed. Upper Saddle River, New Jersey: Pearson.

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. 2019. *Multivariate data analysis.* 8th edition ed. Hampshire, United Kingdon: Cengage Learning.

Hair, J.F., Hult, G.T.M., Ringle, C.M. & Sarstedt, M. 2017. *A primer on partial least squares structural equation modelling (PLS-SEM).* California: Sage Publications.

Hamamoto, R., Suvarna, K., Yamada, M., Kobayashi, K., Shinkai, N., Miyake, M., Takahashi, M., Jinnai, S., Shimoyama, R., Sakai, A., Takasawa, K., Bolatkan, A., Shozu, K., Dozen, A., Machino, H., Takahashi, S., Asada, K., Komatsu, M., Sese, J. & Kaneko, S. 2020. Application of Artificial Intelligence technology in Oncology: Towards the establishment of precision medicine. *Cancers,* 12(12):3532.

Han, H., Al-Ansi, A., Chua, B.-L., Tariq, B., Radic, A. & Park, S.-H. 2020. The post-Coronavirus world in the international tourism industry: Application of the Theory of Planned Behavior to safer destination choices in the case of US outbound tourism. *International Journal of Environmental Research and Public Health,* 17(18):6485-6500.

Hanafiah, M.H., Md Zain, N.A., Azinuddin, M. & Mior Shariffuddin, N.S. 2021. I'm afraid to travel! Investigating the effect of perceived health risk on Malaysian travellers' post-pandemic perception and future travel intention. *Journal of Tourism Futures,* ahead-of-print(ahead-of-print).

Hanji, S.V., Navalgund, N., Ingalagi, S., Desai, S. & Hanji, S.S. 2024. Adoption of AI Chatbots in Travel and Tourism Services. In: Yang, X.-S., Sherratt, R.S., Dey, N. & Joshi, A. (eds.). Singapore, 713-727.

Hao, Y., Bai, H. & Sun, S. 2021. How does COVID-19 affect tourism in terms of people's willingness to travel? Empirical evidence from China. *Tourism Review,* 76(4):892-909.

Harun, A., Obong, A., Kassim, A.W.M. & Lily, J. 2018. The effects of destination image and perceived risk on revisit intention: A study in the South Eastern Coast of Sabah, Malaysia. *e-Review of Tourism Research,* 15(6):540-559.

Hasan, M.K., Ismail, A.R. & Islam, M.F. 2017. Tourist risk perceptions and revisit intention: A critical review of literature. *Cogent Business & Management,* 4(1):1412874.

Hassan, A.S. & Meyer, D.F. 2022. Does countries' environmental, social and governance (ESG) risk rating influence international tourism demand? A case of the Visegrád Four. *Journal of Tourism Futures,* (ahead-of-print).

Hattingh, C. & Bruwer, J.-P. 2020. Cape Town's gay village: from "gaytrified" tourism Mecca to "heterosexualised" urban space. *International Journal of Tourism Cities,* 6(4):907-928.

Hattingh, J. 2018. *Local economic tourism development: lessons from Southern Africa*. Paper presented at Proceedings of the 43rd International Academic Conference, Lisbon.

Hayes, A.F. 2022. *Introduction to mediation, moderation and conditional process analysis: A regression-based approach.* New York: The Guildford Press.

He, R., Adonov, A., Traykova-Adonova, M., Cao, J., Cutts, T., Grudesky, E., Deschambaul, Y., Berry, J., Drebot, M. & Li, X. 2004. Potent and selective inhibition of SARS coronavirus replication by aurintricarboxylic acid. *Biochemical and Biophysical Research Communications,* 320(4):1199-1203.

He, Z., Deng, N., Li, X. & Gu, H. 2021. How to "Read" a destination from images? Machine Learning and network methods for DMOs' image projection and photo evaluation. *Journal of Travel Research,* 61(3):597-619.

Heath, E. 2014. South Africa's tourism development journey. *Tourism as an Instrument for Development: A Theoretical and Practical Study*: Emerald Group Publishing Limited.

Hemmonsbey, J. & Tichaawa, T.M. 2020. Brand messages that influence the sport tourism experience: the case of South Africa. *Journal of Sport & Tourism,* 24(3):177-194.

Hemmonsbey, J., Tichaawa, T.M. & Knott, B. 2021. Strategic conceptualisation of the South African sport tourism sector's response to the COVID-19 pandemic. *African Journal of Hospitality, Tourism and Leisure,* 10(1):54-68.

Henama, U.S. 2014. Health tourism in South Africa: opportunities and possibilities. *African Journal of Hospitality, Tourism and Leisure,* 3(1):1-8.

Henseler, J., Ringle, C.M. & Sarstedt, M. 2015. A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science,* 43(1):115-135.

Henseler, M., Maisonnave, H. & Maskaeva, A. 2022. Economic impacts of COVID-19 on the tourism sector in Tanzania. *Annals of Tourism Research Empirical Insights,* 3(1).

Higgins, B.A. 2016. The Storms of Summer. *Cornell Hotel and Restaurant Administration Quarterly,* 46(1):40-46.

Hilšerová, M. 2022. Medical tourists' satisfaction and decision-making factors with a focus on the Czech Republic. *Czech Journal of Tourism,* 11(1-2):60-83.

Hitt, M.A., Holmes, R.M. & Arregle, J.-L. 2021. The (COVID-19) pandemic and the new world (dis)order. *Journal of World Business,* 56(4):1-7.

Hoogendoorn, G. & Fitchett, J.M. 2019. Fourteen years of tourism and climate change research in southern Africa: Lessons on sustainability under conditions of global change. *Natural resources, tourism and community livelihoods in Southern Africa*. Oxfordshire: Routledge.

Hossain, M.S. 2021. Economic Scar Tissue of COVID-19 Puzzle: An Analysis, Evidence and Suggestion on Global Perspective. *Global Business Review.*

Hu, L. & Bentler, P.M. 1998. Fit indices in covariance structure modelling: Sensitivity to under parameterized model misspecification. *Psychological Methods,* 3(4):424-453.

Hu, L.T. & Bentler, P.M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal,* 6(1):1-55.

Hua, N. 2016. E-commerce performance in hospitality and tourism. *International Journal of Contemporary Hospitality Management,* 28(9):2052-2079.

Huang, Y.C., Backman, K.F., Backman, S.J. & Chang, L.L. 2015. Exploring the implications of Virtual Reality technology in tourism marketing: An integrated research framework. *International Journal of Tourism Research,* 18(2):116-128.

Hunt, J.D. & Layne, D. 1991. Evolution of travel and tourism terminology and definitions. *Journal of travel research,* 29(4):7-11.

Huseynli, N. 2022. Econometric measurement of the relationship between tourism revenues and economic growth: Study case of Kazakhstan and Kyrgyzstan. *Journal of Environmental Management and Tourism,* 13(4):1136-1141.

Huy Tuu, H., Ottar Olsen, S. & Thi Thuy Linh, P. 2011. The moderator effects of perceived risk, objective knowledge and certainty in the satisfaction-loyalty relationship. *Journal of Consumer Marketing,* 28(5):363-375.

Hvass, K.A. & Munar, A.M. 2012. The takeoff of social media in tourism. *Journal of Vacation Marketing,* 18(2):93-103.

Hwang, J., Asif, M. & Lee, K.-W. 2020. Relationships among country image, tour motivations, tour quality, tour satisfaction, and attitudinal loyalty: the case of Chinese travelers to Korea. *Sustainability,* 12(8):3182-3200.

Ilmola, L. 2016. Approaches to measurement of urban resilience. *Urban Resilience*: Springer International Publishing, 207-237.

Ilo, S.O., Das, S. & Bello, F.G. 2023. Impact of COVID-19 pandemic on South African tourism industry: A systematic literature review. *African Journal of Hospitality, Tourism and Leisure*, 12(2):766-782.

Ilo, S.O., Das, S. & Bello, F.G. 2024. Southern Africa's post-COVID-19 tourism industry recovery plans: Reality or rhetoric? *Development Southern Africa,* 41(2):1-24.

Im, J., Kim, J. & Choeh, J.Y. 2021. COVID-19, social distancing, and risk-averse actions of hospitality and tourism consumers: A case of South Korea. *Journal of Destination Marketing & Management,* 20:1-10.

International Congress and Convention Association (ICCA). 2023. *2022 ICCA business analytics: Country & city rankings.* Amsterdam: Icca. [Online] Available from: https://assets.simpleviewinc.com/simpleview/image/upload/v1/clients/iccaweb/ICCA_Rankings_2023_230707_795d8dd3-147a-45e2-b97f-075234e8f0f6.pdf. Online, [Accessed: 2023-12-02].

International Labour Organisation (ILO). 2020. *COVID-19 and the World of Work: Impact and Policy Responses.* [Online] Available from: https://www.ilo.org/digitalguides/en-gb/story/globalcall#covid-impact/employment [Accessed: 18 October 2022].

Iskender, A., Sirakaya-Turk, E., Cardenas, D. & Harrill, R. 2022. COVID or VOID: A systematic literature review of technology adoption and acceptance in hospitality and tourism since the breakout of COVID-19. *Tourism and Hospitality Research*.

Iwasokun, G.B., Akinwonmi, A.E. & Bello, O.A. 2022. Baseline study of COVID-19 and biometric technologies. *International Journal of Sociotechnology and Knowledge Development (IJSKD),* 14(1):1-26.

Jafari, J. & Brent Ritchie, J.R. 1981. Toward a framework for tourism education. *Annals of Tourism Research,* 8(1):13-34.

Jafari, J. 1974. The components and nature of tourism: The tourism market basket of goods and services. *Annals of Tourism Research,* 1(3):73-89.

Jain, P., Singh, R.K., Mishra, R. & Rana, N.P. 2023. Emerging dimensions of blockchain application in tourism and hospitality sector: A systematic literature review. *Journal of Hospitality Marketing & Management,* 32(4):454-476.

Jeong, M. & Shin, H.H. 2019. Tourists' Experiences with smart tourism technology at smart destinations and their behavior intentions. *Journal of Travel Research,* 59(8):1464-1477.

Jerome, L.G. & Sabuhoro, E. 2024. Consumptive wildlife tourism in Southern Africa: Implications for sustainability. In: Stone, L.S. & Stone, M.T. (eds.). *Wildlife Tourism Dynamics in Southern Africa: Contemporary Issues, Challenges and Prospects for Sustainable Development*. Cham: Springer.

Jia, Z., Li, D. & He, F. 2016. Analysis and reviews on tourism and travel Mobile Apps of China. Online, [Accessed: 2023-12-24].

Joao, E.A.S. 2021. COVID-19 and hospitality operations: What happened and what's next? *African Journal of Hospitality, Tourism and Leisure,* 10(1):318-332.

Jones, E.S.W., Davidson, B.J., Barday, Z., Barday, Z., Davids, M.R., Thomson, D., Day, C.A., Hussey, H., Vermeulen, A., Chothia, M.Y., Nel, J. & Wearne, N. 2021. COVID-19 and the kidney: A South African state healthcare experience. *Clin Nephrol,* 95(4):171-181.

Jones, P. 2022. A review of the UK's tourism recovery plans post COVID-19. *Athens Journal of Tourism,* 9(1):9-18.

Jonker, J. & Pennink, B. 2010. *The essence of research methodology: A concise guide for master and PhD students in management science.* Springer Science & Business Media.

Jonker, J.A., Heath, E.T. & Toit, C.M.D. 2004. The identification of management-process critical success factors that will achieve competitiveness and sustainable growth for South Africa as a tourism destination: A research article. *Southern African Business Review,* 8(2):1-15.

José-Antonio, S.F., José-Manuel, G.M. & José-María, M.M. 2022. An analysis of the competitiveness of the tourism industry in a context of economic recovery following the COVID19 pandemic. *Technological Forecasting and Social Change,* 174:121301.

263

Joshi, A., Kale, S., Chandel, S. & Pal, D. 2015. Likert scale: Explored and explained. *British Journal of Applied Science & Technology,* 7(4):396-403.

Joubert, L. 2020. COVID-19 gives tourism a 'snotklap': Lessons for a climate altered future. *Daily Maverick,* 3.

Jovanović, S. & Ilić, I. 2016. Infrastructure as important determinant of tourism development in the countries of Southeast Europe. *Ecoforum,* 5(1):288-294.

Judd, D.R. 2006. Commentary: Tracing the commodity chain of global tourism. *Tourism Geographies,* 8(4):323-336.

Jung, J.-H., Ha, J.-Y. & Shin, J.-I. 2022. The relationship between attractiveness, convenience, experiential quality, tourism satisfaction, and revisit intention in a local tourism destination: After the easing of the COVID-19 quarantine guideline. 36(10):37-52.

Kadir, N. & Jusoff, K. 2010. The cointegration and causality tests for tourism and trade in Malaysia. *International Journal of Economics and Finance,* 2(1):138-143.

Kaur, K. & Kaur, R. 2016. Internet of Things to promote tourism: An insight into smart tourism. *International Journal of recent trends in engineering & research,* 2(4):357-361.

Kaushik, A.K. & Chakrabarti, D. 2018. Does perceived travel risk influence tourist's revisit intention? *International Journal of Business Excellence,* 15(3):352-371.

Kayumovich, K.O. & Kamalovna, S.F. 2019. Social media-marketing-a forceful tool for tourism industry. *European science,* (7 (49)):41-43.

Kazak, A.N., Chetyrbok, P.V. & Oleinikov, N.N. 2020. Artificial intelligence in the tourism sphere. *IOP Conference Series: Earth and Environmental Science,* 421(4):042020.

Kenny, D.A. & McCoach, D.B. 2009. Effect of the number of variables on measures of fit in Structural Equation Modeling. *Structural Equation Modeling: A Multidisciplinary Journal,* 10(3):333-351.

Khan, A., Khan, N. & Shafiq, M. 2021. The economic impact of COVID-19 from a global perspective. *Contemporary Economics,* 15(1):64-75.

Khan, M.A., Khan, S.A. & Khan, V. 2022. Impact of COVID-19 pandemic on tourists' behaviour and preferences: A critical insight. *South Asian Journal of Social Science and Humanities,* 3(4):123-137.

Khan, M.J., Chelliah, S., Haron, M.S. & Ahmed, S. 2017. Role of travel motivations, perceived risks and travel constraints on destination image and visit intention in medical tourism: Theoretical model. *Sultan Qaboos Univ Med J,* 17(1):e11-e17.

Khazai, B., Mahdavian, F. & Platt, S. 2018. Tourism Recovery Scorecard (TOURS) – Benchmarking and monitoring progress on disaster recovery in tourism destinations. *International Journal of Disaster Risk Reduction,* 27:75-84.

Kim, A.W., Burgess, R., Chiwandire, N., Kwinda, Z., Tsai, A., Norris, S. & Mendenhall, E. 2021. Perceptions, risk and understandings of the COVID-19 pandemic in urban South Africa. *South African Journal of Psychiatry,* 27:1-10.

Kim, D. & Perdue, R.R. 2011. The influence of image on destination attractiveness. *Journal of Travel & Tourism Marketing,* 28(3):225-239.

Kim, S.-B. & Kwon, K.-J. 2018. Examining the relationships of image and attitude on visit intention to Korea among Tanzanian college students: The moderating effect of familiarity. *Sustainability,* 10(2):360.

Kirtil, İ.G. & AŞKun, V. 2021. Artificial Intelligence in tourism: A review and bibliometrics research. *Advances in Hospitality and Tourism Research (AHTR),* 9(1):205-233.

Kliestik, T., Stofkova, Z. & Seemann, P. 2021. The impact of COVID-19 pandemic on the quality of life. *SHS Web of Conferences,* 129.

Kline, R.B. 2023. *Principles and practice of Structural Equation Modelling.* 5th edition ed. New York: Guilford Press.

Koçak, E., Dogru, T., Shehzad, K. & Bulut, U. 2023. The economic implications of the COVID-19 outbreak on tourism industry: Empirical evidence from Turkey. *Tourism Economics,* 29(3):742-758.

Kock, F., Nørfelt, A., Josiassen, A., Assaf, A.G. & Tsionas, M.G. 2020. Understanding the COVID-19 tourist psyche: The Evolutionary Tourism Paradigm. *Annals of Tourism Research,* 85:103053.

Koh, S.W.C., Tan, H.M., Lee, W.H., Mathews, J. & Young, D. 2022. COVID-19 Vaccine Booster Hesitancy among Healthcare Workers: A Retrospective Observational Study in Singapore. *Vaccines,* 10(3):464.

Köhler, T., Bhorat, H., Hill, R. & Stanwix, B. 2021. COVID-19 and the labour market: estimating the employment effects of South Africa's national lockdown. *Development Policy Research Unit*:1-32. [Online] Available from: https://www.africaportal.org/publications/covid-19-and-labour-market-estimating-employment-effects-south-africas-national-lockdown/ [Accessed: 17 June 2022].

Kongtaveesawas, N. & Suwaree, P.P.S.S.A. 2022. *Immersive experience for Thailand wellness tourism*. Paper presented at the 2nd International Conference on Tourism Management and Hospitality, Copenhagen, Denmark:1-14.

Kotzé, K. 2020. Responding to COVID-19: Emergency laws and the return to government in South Africa. *Javnost - The Public,* 27(4):393-406.

Kounavis, C.D., Kasimati, A.E. & Zamani, E.D. 2012. Enhancing the tourism experience through mobile augmented reality: Challenges and prospects. *International Journal of Engineering Business Management,* 4:10.

Kozak, M., Crotts, J.C. & Law, R. 2007. The impact of the perception of risk on international travellers. *International Journal of Tourism Research,* 9(4):233-242.

Krstic, B., Radivojevic, V. & Stanisic, T. 2017. Tourism industry and national competitiveness: A sub-Saharan Africa countries perspective. *Ekonomika,* 63(1):1-17.

Kumar, A. & Nayar, K.R. 2021. COVID-19 and its mental health consequences. *Journal of Mental Health,* 30(1):1-2.

Kumar, S. 2019. Understanding the psychometric testing of a measuring instrument in business research. *Rabindraath Tagore Unniversity Journal,* 8(15):1750-1753.

Kumar, S., Kumar, V., Saini, A. & Kumar, S. 2022. Robotics technology in the tourism and hospitality sector in the wake of the COVID-19 health crises. *Promoting Inclusivity and Diversity Through Internet of Things in Organizational Settings*: IGI Global.

Kupika, O.L. & Dube, K. 2023. A Resilient tourism future for developing countries: Conclusions and recommendations. In: Dube, K., Kupika, O.L. & Chikodzi, D. (eds.). *COVID-19, Tourist Destinations and Prospects for Recovery: Volume Three: A South African and Zimbabwean Perspective*. Cham: Springer International Publishing.

Kusumawati, A., Dewantara, R.Y., Azizah, D.F. & Supriono, S. 2023. Determining outcome factors of city branding post-COVID-19: Roles of brand satisfaction, brand experience and perceived risk. *Journal of Tourism Futures*.

Kwak, S.K. & Kim, J.H. 2017. Statistical data preparation: management of missing values and outliers. *Korean Journal of Anesthesiology,* 70(4):407.

Kwok, A.O.J. & Koh, S.G.M. 2021. *Lux in tenebris: Content analysis of COVID-19 research*. Paper presented at CAUTHE 2021 Conference Online: Transformations in Uncertain Times: Future Perfect in Tourism, Hospitality and Events: Proceedings of the 31st Annual Conference, Australia, January 2021:386-391. [Online] Available from: https://search.informit.org/doi/10.3316/informit.687016301887544 [Accessed: 2023/02/15].

Kyara, V.C., Rahman, M.M. & Khanam, R. 2021. Tourism expansion and economic growth in Tanzania: A causality analysis. *Heliyon,* 7(5):e06966.

Langkamp, D.L., Lehman, A. & Lemeshow, S. 2010. Techniques for handling missing data in secondary analyses of large surveys. *Academic Pediatrics,* 10(3):205-210.

Law, R. 2006. The perceived impact of risks on travel decisions. *International Journal of Tourism Research,* 8(4):289-300.

Lee, L.-C., Wang, Y., Zhang, L., Ping, L., Zuo, J. & Zhang, H. 2024. Impact of COVID-19 on the economic loss and resource conservation of China's tourism industry from the supply chain perspective. *Cities,* 144.

Leiper, N. 1979. The framework of tourism. *Annals of Tourism Research,* 6(4):390-407.

Lekgau, R.J., Harilal, V. & Feni, A. 2021. Reimagining tourism: COVID-19 and the potential of virtual tourism in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(4):1516-1532.

Lekgau, R.J. & Tichaawa, T.M. 2020. Leveraging wildlife tourism for employment generation and sustainable livelihoods: The case of the Kgalagadi Transfrontier Park, Southern Africa. *Bulletin of Geography. Socio-economic Series,* 49(49):93-108.

Lekgau, R.J. & Tichaawa, T.M. 2021a. Adaptive strategies employed by the MICE sector in response to COVID-19. *GeoJournal of Tourism and Geosites,* 38(4):1203-1210.

Lekgau, R.J. & Tichaawa, T.M. 2021b. MICE Tourism policy and strategy responses in managing the impact of COVID-19 pandemic. *African Journal of Hospitality, Tourism and Leisure,* 10(6):1997-2012.

Lekgau, R.J. & Tichaawa, T.M. 2022. The changing nature of the MICE sector in South Africa due to COVID-19. *Tourism Review International,* 26(1):87-101.

Lenth, R.V. 2001. Some practical guidelines for effective sample size determination. *The American Statistician,* 55(3):187-193.

Leonard, L. & Musavengane, R. 2022. The future of community-based tourism amid socioeconomic and political conflicts in Southern Africa. *Conservation, Land Conflicts and Sustainable Tourism in Southern Africa*. Oxfordshire: Routledge.

Lepp, A. & Gibson, H. 2003. Tourist roles, perceived risk and international tourism. *Annals of Tourism Research,* 30(3):606-624.

Leung, D., Law, R., van Hoof, H. & Buhalis, D. 2013. Social Media in tourism and hospitality: A literature review. *Journal of Travel & Tourism Marketing,* 30(1-2):3-22.

Leung, R. 2021. Hospitality technology progress towards intelligent buildings: a perspective article. *Tourism Review,* 76(1):69-73.

Lew, A.A. 2013. Scale, change and resilience in community tourism planning. *Tourism Geographies,* 16(1):14-22.

Lewis, F., Browne, M. & Houdet, J. 2021. COVID-19–What is the impact for tourism as a vehicle of SMME development and incentivizing environmental management in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(3):987-998.

Li, C.C., Mahmood, R., Abdullah, H. & Chuan, O.S. 2013. Economic growth, tourism and selected macroeconomic variables: A triangular causal relationship in Malaysia. *Margin: The Journal of Applied Economic Research,* 7(2):185-206.

Li, H. 2024. Social power and perceived risk of contagious disease: High power leads to lower risk estimation of catching COVID-19. *Risk Anal,* 44(3):623-630.

Li, S., Xu, L.D. & Zhao, S. 2014. The Internet of Things: a survey. *Information Systems Frontiers,* 17(2):243-259.

Li, X., Li, H., Pan, B. & Law, R. 2021. Machine Learning in internet search query selection for tourism forecasting. *Journal of Travel Research,* 60(6):1213-1231.

Li, Z., Wang, D., Abbas, J., Hassan, S. & Mubeen, R. 2022. Tourists' health risk threats amid COVID-19 era: Role of technology innovation, transformation, and recovery implications for sustainable tourism. *Frontiers in Psychology,* 12:1-10.

Liang, Y., Wang, W., Dong, K., Zhang, G. & Qi, G. 2021. Adoption of Mobile Government Cloud from the Perspective of Public Sector. *Mobile Information Systems,* 2021:1-20.

Liew, V.K.-S. 2020. The effect of novel coronavirus pandemic on tourism share prices. *Journal of Tourism Futures,* ahead-of-print(ahead-of-print).

Likholetov, V., Lisienkova, L. & Baranova, E. 2016. Virtual tour as a marketing instrument in tourism. *Economics and Innovations Management,* 1:136-138.

Lim, M.J. 2022. The effect of tourism risk perception on tourism attitudes and intentions: Focus on the contex of COVID-19. *Journal of Digital Convergence,* 20(3):459-468.

Lim, T.Y. & Rahmandad, H. 2020. Responsiveness to risk explains large variation in COVID-19 mortality across countries. *medRxiv:*2020.2012. 2011.20247924.

Lin, C.C., Liu, W.Y. & Lu, Y.W. 2019. Three-Dimensional Internet-of-Things deployment with optimal management service benefits for smart tourism services in forest recreation parks. *IEEE Access,* 7:182366-182380.

Lin, M.S., Liang, Y., Xue, J.X., Pan, B. & Schroeder, A. 2021. Destination image through social media analytics and survey methods. *International Journal of Contemporary Hospitality Management,* 33(6):2219-2238.

Linares-Vásquez, M., Mcmillan, C., Poshyvanyk, D. & Grechanik, M. 2014. On using machine learning to automatically classify software applications into domain categories. *Empirical Software Engineering,* 19(3):582-618.

Linda, N. & Nzama, A.T. 2020. Religious pilgrimages and tourism development: Selected cases from the Ibandla lamaNazaretha and Ibandla lamaKatholika in KwaZulu-Natal, South Africa. *Pharos Journal of Theology,* 101:1-14.

Liu, C. & Chong, H.T. 2023. Social media engagement and impacts on post-COVID-19 travel intention for adventure tourism in New Zealand. *Journal of Outdoor Recreation and Tourism,* 44:100612-100624.

Liu, H. 2022. Intelligent tourism information service model considering tourist experience in the environment of Internet of Things. *Computational Intelligence and Neuroscience,* 2022:1-10.

Locharoenrat, K. 2017. *Research methodologies for beginners.* Singapore: Pan Stanford Publishing.

Loedoff, C. 2014. *Promoting South Africa as an international film tourism destination.* Pretoria: University of Pretoria. Unpublished doctoral thesis. Pretoria: University of Pretoria. [Online] Available from: https://repository.up.ac.za/bitstream/handle/2263/46194/Loedolff_Promoting_2014.pdf?sequence=1&isAllowed=y [Accessed: 2022-12-14].

Louangrath, P. 2014. Sample size determination for non-finite population. *Southeast-Asian J. of Sciences,* 3(2):141-152.

Luković, S. & Stojković, D. 2020. COVID-19 pandemic and global tourism. *Menadzment u hotelijerstvu i turizmu,* 8(2):79-88.

Luo, J.M. & Lam, C.F. 2020. Travel Anxiety, Risk Attitude and Travel Intentions towards "Travel Bubble" Destinations in Hong Kong: Effect of the Fear of COVID-19. *International Journal of Environmental Research and Public Health,* 17(21):7859.

Maani, N. & Galea, S. 2020. COVID-19 and underinvestment in the public health infrastructure of the United States. *The Milbank Quarterly,* 98(2):250.

Mabuka, T., Naidoo, N., Ncube, N., Yiga, T., Ross, M., Kurehwa, K., Nare, M., Silaji, A., Ndemera, T., Lemeke, T., Ademola, T.R., Macharia, W. & Sithole, M. 2021. *The Impact of SARS-CoV-2 Lineages (Variants) on the COVID-19 Epidemic in South Africa.* Cold Spring Harbor Laboratory.2024-05-27T23:06:59].

Madinga, N.W., Van Eyk, M. & Amoah, F. 2023. LGBT tourism in South Africa: the influence of customer value on behavioural intention. *Current Issues in Tourism,* 26(11):1813-1827.

Madureira, L. & Alturas, B. 2022. Impact of social media influencers on the Portuguese tourism and travel industry in a COVID-19 era. In: Reis, J.L., Peter, M.K., Cayolla, R. & Bogdanović, Z. (eds.). Singapore, 2022//:391-403.

271

Magano, J., Vidal, D.G., Sousa, H., Dinis, M.A.P. & Leite, A. 2021. Psychological factors explaining perceived impact of COVID-19 on travel. *Eur J Investig Health Psychol Educ,* 11(4):1120-1133.

Majam, M., Fischer, A., Phiri, J., Venter, F. & Lalla-Edward, S.T. 2021. International citizen project to assess early stage adherence to public health measures for COVID-19 in South Africa. *PLoS One,* 16(3):e0248055.

Malefane, M.R. 2020. Investigating the Core–Periphery Relationship in the Southern African Customs Union. *The Review of Black Political Economy,* 48(2):190-205.

Mallah, S.I., Ghorab, O.K., Al-Salmi, S., Abdellatif, O.S., Tharmaratnam, T., Iskandar, M.A., Sefen, J.A.N., Sidhu, P., Atallah, B., El-Lababidi, R. & Al-Qahtani, M. 2021. COVID-19: breaking down a global health crisis. *Annals of Clinical Microbiology and Antimicrobials,* 20(1).

Makandwa, G., de Klerk, S. & Saayman, A. 2023. Culturally-based community tourism ventures in Southern Africa and rural women entrepreneurs' skills. *Current Issues in Tourism,* 26(8):1268-1281.

Mammadov, Rufat, The Importance of Transportation in Tourism Sector (May 24, 2012). In *7th Silk Road International Conference "Challenges and Opportunities of Sustainable Economic Development in Eurasian Countries"*, May 24, 2012 – May 26, 2012, Available at SSRN: https://ssrn.com/abstract=2231334.

Mandina, S.P. & Du Preez, E.A. 2022. Travellers' risk perceptions and intentions to visit African destinations amidst covid-19: The case of brands South Africa and Zimbabwe. *African Journal of Hospitality, Tourism and Leisure,* 11(3):975-995.

Mangwane, J. & Ntanjana, A. 2020. Wellness tourism in South Africa: Development opportunities. In: Rocha, A., Abreu, A., Decarvalho, J.V., Liberato, D., Gonzalez, E.A. & Liberato, P. (eds.). *Advances in Tourism, Technology and Smart Systems*. Berlin: Springer-Verlag Berlin.

Manolova, T.S., Eunni, R.V. & Gyoshev, B.S. 2008. Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice,* 32(1):203-218.

Mäntylä, M.V., Graziotin, D. & Kuutila, M. 2018. The evolution of sentiment analysis—A review of research topics, venues, and top cited papers. *Computer Science Review,* 27:16-32.

Marasco, A., Buonincontri, P., van Niekerk, M., Orlowski, M. & Okumus, F. 2018. Exploring the role of next-generation virtual technologies in destination marketing. *Journal of Destination Marketing & Management,* 9:138-148.

Martín-González, R., Swart, K. & MaríaLuque-Gil, A. 2020. The COVID-19 Crisis and the 'new'Normality of surf tourism in Cape Town, South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(1):194-213.

Masiya, T., Mandiyanike, D., Molosiwa, D. & Mazenda, A. 2021. Southern African responses to the COVID-19 pandemic: A study of Botswana and South Africa. *Africa's Public Service Delivery and Performance Review,* 9(1):1-11.

Massinga Loembé, M., Tshangela, A., Salyer, S.J., Varma, J.K., Ouma, A.E.O. & Nkengasong, J.N. 2020. COVID-19 in Africa: the spread and response. *Nature Medicine,* 26(7):999-1003.

Martin, T. 2022. A literature review on the Technology Acceptance Model. *International Journal of Academic Research in Business and Social Sciences,* 12(11):2859-2884.

Matei, D., Chirita, V. & Lupchian, M.M. 2021. Governance and tourism resilience during the COVID-19 crisis. Case study Bukovina, Romania. *GeoJournal of Tourism and Geosites,* 34(1):256-262.

Matikiti-Manyevere, R. & Rambe, P. 2022. The Impact of COVID 19 on the Tourism Industry: The Role of Fourth Industrial Revolution Technologies in Mitigating the Impacts. *African Journal of Hospitality, Tourism and Leisure,* 11(3):1173-1187.

273

Matiza, T. 2020. Post-COVID-19 crisis travel behaviour: towards mitigating the effects of perceived risk. *Journal of Tourism Futures,* 8(1):99-108.

Matiza, T. & Kruger, M. 2022. Profiling the South African Recreational Domestic Tourist in the Era of COVID-19. *Leisure Sciences*:1-22.

Matiza, T. & Slabbert, E. 2020a. The salient place brand factor(s) influencing medical tourism to South Africa. *Tourism,* 68(3):336-353.

Matiza, T. & Slabbert, E. 2020b. Understanding the country image-travel motivation nexus in emerging tourism typologies for South Africa. *Polish Journal of Sport and Tourism,* 27(3):28-33.

Matiza, T. & Slabbert, E. 2021. Tourism is too dangerous! Perceived risk and the subjective safety of tourism activity in the era of COVID-19. *GeoJournal of Tourism and Geosites,* 36(2spl):580-588.

Matiza, T. & Slabbert, E. 2022. Tourism Reset: Reimagining South African Domestic Tourism in the Era of Covid-19. *Tourism Review International,* 26(1):103-120.

Matthew, O.A., Ede, C., Osabohien, R., Ejemeyovwi, J., Ayanda, T. & Okunbor, J. 2021. Interaction effect of tourism and foreign exchange earnings on economic growth in Nigeria. *Global Business Review,* 22(1):7-22.

Mbatha, F., Harilal, V. & Tichaawa, T.M. 2021. Tourist Guides, Covid 19 and Survival Mechanisms in South Africa. *GeoJournal of Tourism and Geosites,* 39(4 supplement):1461-1472.

Mbise, B. 2021. *Covid-19 Pandemic Effects on Tanzania Tourism Industry and the Country's Response to the Crisis.* Bloomington: Indiana University Press.

Mcdaniel, M.M., Borgen, W.A., Buchanan, M.J., Butterfield, L.D. & Amundson, N.E. 2020. The philosophical underpinnings of the enhanced critical incident technique. *Canadian Journal of Counselling and Psychotherapy,* 54(4):738-755.

274

McKay, T., McEwan, L. & Baker, M. 2019. The rise of trail running in South Africa: possibilities for small-scale sports tourism. *GeoJournal of Tourism and Geosites,* 26(3):930-942.

Mckibbin, W. & Fernando, R. 2021. The global macroeconomic impacts of COVID-19: seven scenarios. *Asian Economic Papers,* 20(2):1-30.

McLaren, L. & Heath, E. 2013. Towards a framework for identifying and engaging rural tourism route stakeholders in Southern Africa. *Africanus,* 43(1):18-32.

McQuitty, S. 2004. Statistical power and structural equation models in business research. *Journal of Business Research,* 57(2):175-183.

Mearns, K. 2012. Community-based tourism and peace parks benefit local communities through conservation in Southern Africa. *Acta Academica,* 44(2):70-87.

Mei, Z. 2020. The design of marine tourism products based on the Internet of Things. *Journal of Coastal Research,* 112(SI):90-92.

Melber, H. 2020. Covid-19 and Southern Africa. *The Round Table,* 109(4):476-477.

Mensah, E.A. & Boakye, K.A. 2021. Conceptualizing post-COVID 19 tourism recovery: A three-step framework. *Tourism Planning & Development*:1-25.

Meyer, D.F. 2020. Does the diversification of the economy matter? An assessment of the situation in South Africa. *Euro Economica,* 39(2):181-194.

Meyersa, M. & Millsb, J.E. 2007. *Are biometric technologies the wave of the future in tourism and hospitality?*

Michael, N., Reisinger, Y. & Hayes, J.P. 2019. The UAE's tourism competitiveness: A business perspective. *Tourism Management Perspectives,* 30:53-64.

Mihalič, T. 2013. Performance of environmental resources of a tourist destination. *Journal of Travel Research,* 52(5):614-630.

Mikulić, J., Krešić, D., Prebežac, D., Miličević, K. & Šerić, M. 2016. Identifying drivers of destination attractiveness in a competitive environment: A comparison of approaches. *Journal of Destination Marketing & Management,* 5(2):154-163.

Mills, J.E., Meyers, M. & Byun, S. 2010. Embracing broadscale applications of biometric technologies in hospitality and tourism. *Journal of Hospitality and Tourism Technology,* 1(3):245-256.

Mkhize, I.B. 1994. South African domestic tourism beyond apartheid. *Development Southern Africa,* 11(2):249-252.

Mlambo, D.N. 2018. Unearthing the challenges and prospects of regional integration in Southern Africa. *Journal of Public Affairs,* 19(1):1-7.

Mlambo, S.S. & Ezeuduji, I.O. 2020. South Africa's Kwazulu-Natal tourism destination brand essence and competitiveness: Tourists' perspectives. *GeoJournal of Tourism and Geosites,* 32(4):1195-1201.

Mlambo, D.N. & Ogunnubi, O. 2018. South Africa's integration efforts within the Southern African Development Community: Regional supremacy or coalition? *Journal of Public Affairs,* 18(4):1-7.

Mnguni, E.M. & Giampiccoli, A. 2022. Unpacking street food tourism in South Africa: A literature review and a way forward. *African Journal of Hospitality, Tourism and Leisure,* 11(3):1085-1098.

Mohamed Mohamed Elsayed, A. & Nagy Aneis, N. 2021. Goodness of fit indices for different cases. *American Journal of Mathematical and Computer Modelling,* 6(4).

Mokabe, M. 2023. Evaluation of the Efficacy of the COVID-19 Recovery Plans for Tourism: Limpopo Province in South Africa. In: Dube, K., Chapungu, L. & Mensah, I. (eds.). *COVID-19, Tourist Destinations and Prospects for Recovery: Volume Two: An African Perspective*. Cham: Springer.

Morley, C.L. 1990. What is tourism? Definitions, concepts and characteristics. *Journal of Tourism Studies,* 1(1):3-8.

Moro, S. & Rita, P. 2018. Brand strategies in social media in hospitality and tourism. *International Journal of Contemporary Hospitality Management,* 30(1):343-364.

Mosazadeh, H., Faezi Razi, F., Lajevardi, M., Mousazadeh, H., Ghorbani, A., Akbarzadeh Almani, F. & Shiran, F. 2022. Restarting medical tourism in the COVID-19 pandemic: A strategic-based approach. *Journal of Health Reports and Technology,* 8(2).

Moss, S. 2009. *Fit indices for Structural Equation Modeling.* [Online] Available from: https://www.sicotests.com/newpsyarticle/Fit-indices-for-structural-equation-modeling [Accessed: 2024-01-10].

Mthembu, B. & Mutambara, E. 2018. Rural tourism as a mechanism for poverty alleviation in Kwa-Zulu-Natal Province of South Africa: Case of Bergville. *Journal of Hospitality, Tourism and Leisure,* 7(4):1-22.

Mudzanani, T.E. 2016. Investigating medical tourism in South Africa. *African Journal for Physical Activity and Health Sciences (AJPHES),* 22(2:1):454-461.

Muganda, M., Sahli, M. & A Smith, K. 2010. Tourism's contribution to poverty alleviation: A community perspective from Tanzania. *Development Southern Africa,* 27(5):629-646.

Muhanna, E. 2007. The contribution of sustainable tourism development in poverty alleviation of local communities in South Africa. *Journal of Human Resources in Hospitality & Tourism,* 6(1):37-67.

Muijs, D. 2004. Introduction to quantitative research. *Doing quantitative research in education with SPSS*:1-12.

Mukherjee, S., Baral, M.M., Venkataiah, C., Pal, S.K. & Nagariya, R. 2021. Service robots are an option for contactless services due to the COVID-19 pandemic in the hotels. *DECISION,* 48(4):445-460.

Murphy, J., Hill, C.A. & Dean, E. 2014. Social media, sociality, and survey research. In: Hill, C.A., Dean, E. & Murphy, J. (eds.). *Social Media, Sociality, and Survey Research*. First ed. New Jersey: John Wiley & Sons.

Musavengane, R. 2022. The politicisation of COVID-19 Omicron: Southern Africa tourism sector. *African Journal of Hospitality, Tourism and Leisure,* (11(1)2022):147-155.

Musavengane, R. & Kloppers, R. 2020. Social capital: An investment towards community resilience in the collaborative natural resources management of community-based tourism schemes. *Tourism Management Perspectives,* 34.

Musavengane, R., Leonard, L. & Mureyani, S. 2020. Doing tourism in Southern Africa amid the coronavirus pandemic: Navigating political, socio-economic and environmental inequalities. *Development Southern Africa,* 39(1):1-17.

Muthén, B.O. & Satorra, A. 1995. Complex sample data in Structural Equation Modeling. *Sociological Methodology,* 25:267-316.

Muzekenyi, M., Nheta, D. & Tshipala, N. 2018. The effect of international tourism receipts on economic growth in South Africa. *Journal of Contemporary Management,* 15(1):695-714.

Mwamwaja, E.E. 2020. An Assessment of the Impact of COVID-19 Pandemic in the Tourism Sector in Tanzania. *International Tourism and Hospitality Journal,* 3(4):1-15.

Nair, J.C. & Pratt, S. 2022. The impact of risk perceptions on tourists' revisit intention: the case of COVID-19 and Fiji. *Anatolia*:1-16.

Naji, H. 2022. Long-Term Effects of COVID-19: A Systemic Review. *European Journal of Medical and Health Sciences,* 4(4):8-12.

Naseer, S., Khalid, S., Parveen, S., Abbass, K., Song, H. & Achim, M.V. 2023. COVID-19 outbreak: Impact on global economy. *Frontiers in Public Health,* 10:1-13.

Nash, D. 1978. An anthropological approach to tourism. *Studies in Third World Societies,* (6):133-152.

Nash, D. 1979. Toward a theory of tourism. *Tourism and economic change–Studies in third world societies,* (6).

Ndaguba, E.A. 2021. Economic impediment of covid-19 lockdown on Airbnb performance in Cape Town neighbourhood. *Academy of Strategic Management Journal,* 20(1):1-16.

Ndhlovu, E. & Dube, K. 2023. Impact of COVID-19 on tourism in South Africa: Building resilience and prospects for recovery. *COVID-19, Tourist Destinations and Prospects for Recovery*: Springer International Publishing.

Ndou, V., Mele, G., Hysa, E. & Manta, O. 2022. Exploiting technology to deal with the COVID-19 challenges in travel & tourism: A bibliometric analysis. *Sustainability,* 14(10).

Nemasetoni, I. & Rogerson, C.M. 2005. Developing small firms in township tourism: Emerging tour operators in Gauteng, South Africa. *Urban Forum,* 16(2):196-213.

Nene, G. & Taivan, A. 2017. Causality between tourism and economic growth: Evidence from Sub-Saharan Africa (SSA). *The Journal of Developing Areas,* 51(2):155-169.

Neuburger, L. & Egger, R. 2021. Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: a case study of the DACH region. *Current Issues in Tourism,* 24(7):1003-1016.

Netto, A.P. 2009. Chapter 3. What is Tourism? Definitions, Theoretical Phases and Principles. In: John, T. (ed.). *Philosophical Issues in Tourism*. Bristol, Blue Ridge Summit: Channel View Publications.

Neuburger, L. & Egger, R. 2021. Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: a case study of the DACH region. *Current Issues in Tourism,* 24(7):1003-1016.

Nicolaides, A. & Zigiriadis, E. 2011. Medical tourism as an important niche of tourism development in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 1(3):1-12.

Nicolaides, A. 2013. Promoting Avitourism as a special niche area of ecotourism in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 2(3):1-16.

Nicolaides, A., Zigiriadis, E. & Fc, C. 2011. Medical tourism as an important niche of tourism development in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 1(3):1-12.

Nhamo, G., Dube, K. & Chikodzi, D. 2020a. Preparedness and responses to COVID-19: A comparison from selected countries. *Counting the Cost of COVID-19 on the Global Tourism Industry*: Springer International Publishing.

Nhamo, G., Dube, K. & Chikodzi, D. 2020b. Tourism Economic Stimulus Packages as a Response to COVID-19. *Counting the Cost of COVID-19 on the Global Tourism Industry*: Springer International Publishing.

Nilashi, M., Bagherifard, K., Rahmani, M. & Rafe, V. 2017. A recommender system for tourism industry using cluster ensemble and prediction machine learning techniques. *Computers & Industrial Engineering,* 109:357-368.

Nkwanyana, M.S., Ezeuduji, I.O. & Nzama, A.T. 2016. Cultural heritage tourism in South Africa: Perceived a panacea for rural development? *Acta Universitatis Danubius. Œconomica,* 12(6).

Nkwanyana, S., Apleni, L. & Mabaleka, N. 2022. The impact of COVID-19 pandemic on tourism and Catholic religious destinations. *Pharos Journal of Theology,* 103(2):1-12.

Noe, C. 2020. Regionalizing tourism through transfrontier conservation: Implications for local development in Southern Africa. *The African Review,* 47(1):97-119.

Noureddine, F.Y., Chakkour, M., El Roz, A., Reda, J., Al Sahily, R., Assi, A., Joma, M., Salami, H., Hashem, S.J., Harb, B., Salami, A. & Ghssein, G. 2021. The Emergence of

SARS-CoV-2 variant(s) and its impact on the prevalence of COVID-19 cases in the Nabatieh Region, Lebanon. *Medical Sciences,* 9(2):40.

Nuhu, K., Humagain, K., Alorbi, G., Thomas, S., Blavos, A. & Placide, V. 2022. Global COVID-19 case fatality rates influenced by inequalities in human development and vaccination rates. *Discover Social Science and Health,* 2(1):20.

Nunnally, J. & Bernstein, I. 1994. *Psychometric theory.* 3rd edition ed. New York: MacGraw-Hill,.

Nurmazidah, N. 2021. The effect of destination image and risk perception toward decision to visit kampung coklat tourism during new normal COVID-19. *Journal of Business and Management Review,* 2(6):439-453.

Nurpeissova, A. & Islam, D.M.Z. 2021. Analysis of key steps to overcome the crisis in tourism during a pandemic: the experience of Kazakhstan and the United Kingdom. *Central Asian Economic Review,* (2):64-80.

Nurrahma, H., Hakim, L. & Parmawati, R. 2021. Evaluation of the maximum number determination tourists on new normal tourism. *Journal of Indonesian Tourism and Development Studies,* 9(3):180-186.

Nyambiya, H., Mutyandaedza, B., Mugabe, B., Muchanyangi, T. & Zhou, T. 2022. Southern Africa and cultural heritage: An assessment of online promotion strategies. *Journal of Heritage Management,* 7(1):99-117.

Nyathela-Sunday, T., Septoe, N., Menze, C.Z., Banoobai-Anwar, I., Seager, B., Davids, N. & Buser, C. 2022. What innovations would enable hospitality in South Africa to rebuild? *Worldwide Hospitality and Tourism Themes,* 14(6):565-571.

Nyawo, J.C. 2020. Evaluation of government responses and measures on COVID-19 in the tourism sector: A case of tour guides in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 9(5):1144-1160.

Nyika, C., Ivanovic, M. & Griffin, K. 2022. The Effect of COVID-19 on Independent African Churches (IACs) in Johannesburg, South Africa. *The international journal of religious tourism and pilgrimage,* 10(1):107-120.

Nyikana, S. & Bama, H.K.N. 2023. Domestic tourism as a recovery strategy in the face of COVID-19: Insights from South Africa. *Acta Commercii,* 23(1).

Ocheni, S.I., Agba, A.M.O., Agba, M.S. & Eteng, F.O. 2020. COVID-19 and the tourism industry: critical overview, lessons and policy options. *Academic Journal of Interdisciplinary Studies,* 9(6):114.

Ochieng, P.A. 2009. An analysis of the strengths and limitations of qualitative and quantitative research paradigms. *Problems of Education in the 21st Century*, 13:13-18.

Odeku, K.O. 2021. Critical impact and effect analysis of the covid-19 pandemic on the tour guide enterprises in south africa. *Academy of Entrepreneurship Journal,* 27(3):1-7.

Odeku, K.O. 2021. critical impact and effect analysis of the COVID-19 pandemic on the tour guide enterprises in South Africa. *Academy of Entrepreneurship Journal,* 27(3):1-7.

Odhiambo, N.M. & Nyasha, S. 2020. Is tourism a spur to economic growth in South Africa? An empirical investigation. *Development Studies Research,* 7(1):167-177.

Önder, I. & Gunter, U. 2020. Blockchain: Is it the future for the tourism and hospitality industry? *Tourism Economics,* 28(2):291-299.

Önder, I. & Treiblmaier, H. 2018. Blockchain and tourism: Three research propositions. *Annals of Tourism Research,* 72:180-182.

Organisation for Economic Cooperation and Development (OEDC). 1974. *Tourism policy and international tourism in* OEDC *member countries.* Paris.

Ormond, M. 2020. International medical travel or medical tourism. *International Encyclopedia of Human Geography*: Elsevier.

Osayomi, T., Adeleke, R., Akpoterai, L.E., Fatayo, O.C., Ayanda, J.T., Moyin-Jesu, J., Isioye, A. & Popoola, A.A. 2021. A Geographical Analysis of the African COVID-19 Paradox: Putting the Poverty-as-a-Vaccine Hypothesis to the Test. *Earth Systems and Environment,* 5(3):799-810.

Öter, Z. 2017. Cultural tourism in Southern Africa. *Journal of Heritage Tourism,* 12(1):104-105.

Ozturk, H.M., Guler, O. & Polat, O. 2023. Determination and evaluation of parameters affecting tourism revenue by machine learning methods. *Handbook of Research on Innovation, Differentiation, and New Technologies in Tourism, Hotels, and Food Service*: IGI Global.

Ozturk, I. & Acaravci, A. 2009. On the causality between tourism growth and economic growth: Empirical evidence from Turkey. *Transylvanian Review of Administrative Sciences,* 5(25):73-81.

Pachucki, C., Grohs, R. & Scholl-Grissemann, U. 2022. Is nothing like before? COVID-19–evoked changes to tourism destination social media communication. *Journal of Destination Marketing & Management,* 23.

Pandey, K. & Joshi, S. 2021. Trends in destination choice in tourism research: A 25-year bibliometric review. *FIIB Business Review,* 10(4):371-392.

Panina, E., Simbuletova, R. & Kakhuzheva, Z. 2022. Analysis of the applicability of blockchain technology in tourism. *SHS Web of Conferences,* 141:01007.

Papadopoulou, N.M., Ribeiro, M.A. & Prayag, G. 2023. Psychological determinants of tourist satisfaction and destination loyalty: The influence of perceived overcrowding and Overtourism. *Journal of Travel Research,* 62(3):644-662.

Papastathopoulos, A., Ahmad, S.Z., Al Sabri, N. & Kaminakis, K. 2019. Demographic analysis of residents' support for tourism development in the UAE: A Bayesian Structural Equation Modeling multigroup approach. *Journal of Travel Research,* 59(6):1119-1139.

Pappas, N. 2021. COVID-19: Holiday intentions during a pandemic. *Tourism Management,* 84:104287.

Parekh, J., Jaffer, A., Bhanushali, U. & Shukla, S. 2021. Disintermediation in medical tourism through blockchain technology: an analysis using value-focused thinking approach. *Information Technology & Tourism,* 23(1):69-96.

Park, H.-J., Park, J.-H., Oh, A.-S., Kim, Y.-H. & Park, B.-K. 2016. Analysis of relationship between tourism information search motivation, tourism omni-channel satisfaction: Considering the moderator effects of tourism experience and perceived risk. *Journal of Digital Convergence,* 14(10):147-158.

Pata, U.K. 2021. Tourism and economic growth in G10 countries. *Tourism,* 69(1):112-126.

Pathak, K.P. & Thapaliya, S. 2022. Some philosophical paradigms and their implications in health research: A critical analysis. *International Research Journal of MMC,* 3(3):9-17.

Peeri, N.C., Shrestha, N., Rahman, M.S., Zaki, R., Tan, Z., Bibi, S., Baghbanzadeh, M., Aghamohammadi, N., Zhang, W. & Haque, U. 2020. The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? *International Journal of Epidemiology,* 49(3):717-726.

Peiró-Signes, A., Segarra-Oña, M.-D.-V., Miret-Pastor, L. & Verma, R. 2015. The effect of tourism clusters on U.S. hotel performance. *Cornell Hospitality Quarterly,* 56(2):155-167.

Peláez, J.I., Vaccaro, G. & Cabrera, F.E. 2018. The current status of social risks on educational systems. An analysis through social media. Seville, Spain, 2018-11-01[Accessed: 2023-12-09T23:21:09].

Perez, C. 2009. Technological revolutions and techno-economic paradigms. *Cambridge Journal of Economics,* 34(1):185-202.

Perić, G., Dramićanin, S. & Conić, M. 2021. The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. *European Journal of Tourism Research,* 27:2705.

Peterson, R.R. 2023. Over the Caribbean top: Community well-being and over-tourism in small island tourism economies. *International Journal of Community Well-Being,* 6(2):89-126.

Peugh, J. & Feldon, D.F. 2020. "How well does your Structural Equation Model fit your data?": Is Marcoulides and Yuan's equivalence test the answer? *CBE–Life Sciences Education,* 19(3):es5.

Phade, A., Barve, P., M, R. & Kulkarni, A. 2019. A Machine Learning approach to building a tourism recommendation system using sentiment analysis. *International Journal of Computer Applications,* 178(19):48-51.

Pillai, R. & Sivathanu, B. 2020. Adoption of AI-based chatbots for hospitality and tourism. *International Journal of Contemporary Hospitality Management,* 32(10):3199-3226.

Pillay, M. & Rogerson, C.M. 2013. Agriculture-tourism linkages and pro-poor impacts: The accommodation sector of urban coastal KwaZulu-Natal, South Africa. *Applied Geography,* 36:49-58.

Pisa, N. 2018. Causal relationship between air transport, tourism and economic growth: Joinpoint regression and Granger causality analysis. *Euro Economica,* 37(02):164-176.

Pitlik, S.D. 2020. COVID-19 compared to other pandemic diseases. *Rambam Maimonides Medical Journal,* 11(3):1-17.

Plank, P.A., Gomes, L.F., Caldas, P., Varela, M. & Ferreira, D.C. 2023. Assessing the traveling risks perceived by South African travelers during pandemic outbreaks: the case of COVID-19. *Sustainability,* 15(12):1-32.

Plessis, E.d. & Saayman, M. 2017. Aspects contributing to tourism price competitiveness of South Africa. *Tourism Economics,* 24(2):146-156.

Podzharaya, N. & Sochenkova, A. 2021. *Growth of modern technologies usage in tourism due to COVID-19: Examples and forecasts*. Paper presented at 10th Mediterranean Conference on Embedded Computing (MECO), 2021., Budva, Montenegro.

Pop, I. 2014. The role of tourism in the economies of BRICS countries. *Knowledge Horizons. Economics,* 6(2):136-141.

Porsse, A.A., Souza, K.B., Carvalho, T.S. & Vale, V.A. 2020. The economic impacts of COVID-19 in Brazil based on an interregional CGE approach. *Regional Science Policy & Practice,* 12(6):1105-1121.

Posel, D., Oyenubi, A. & Kollamparambil, U. 2021. Job loss and mental health during the COVID-19 lockdown: Evidence from South Africa. *PLOS ONE,* 16(3):1-15.

Pratisto, E.H., Thompson, N. & Potdar, V. 2022. Immersive technologies for tourism: a systematic review. *Information Technology & Tourism,* 24(2):181-219.

Pratt, S. 2015. The economic impact of tourism in SIDS. *Annals of Tourism Research,* 52:148-160.

Prebežac, D. & Mikulić, J. 2008. Destination image and key drivers of perceived destination attractiveness. *Market-Tržište,* 20(2):163-178.

Presidency of South Africa, 2021. *Development of a Country Report on the Measures Implemented to Combat the Impact of COVID-19 in South Africa. South Africa Covid-19 Country Report [First edition]*. Department of Planning, Monitoring and Evaluation, GTAC (Government Technical Advisory Centre) & NRF (National Research Foundation), Pretoria: June.

Proos, E. & Hattingh, J. 2020. Dark tourism: Growth potential of niche tourism in the Free State Province, South Africa. *Development Southern Africa*:1-18.

Pulido-Fernández, J.I. & Cárdenas-García, P.J. 2020. Analyzing the bidirectional relationship between tourism growth and economic development. *Journal of Travel Research,* 60(3):583-602.

Pulido-Fernández, J.I. & Pulido-Fernández, M.D.L.C. 2018. Proposal for an indicators system of tourism governance at tourism destination level. *Social Indicators Research,* 137(2):695-743.

Punch, K.F. 2014. *Social research: Qualitative and quantitative approaches.* 3rd edition ed. New Delhi: Sage Publications.

Radwan, E., Radwan, A. & Radwan, W. 2020. The role of social media in spreading panic among primary and secondary school students during the COVID-19 pandemic: An online questionnaire study from the Gaza Strip, Palestine. *Heliyon,* 6(12):e05807.

Rafael, C. & Pires, A.L. 2021. Analysis of scientific production on Technological Innovation in Tourism. *European Journal of Tourism, Hospitality and Recreation,* 11(1):22-33.

Rafiq, F., Dogra, N., Adil, M. & Wu, J.-Z. 2022. Examining consumer's intention to adopt AI-Chatbots in tourism using Partial Least Squares Structural Equation Modeling method. *Mathematics,* 10(13).

Rahmafitria, F., Suryadi, K., Oktadiana, H., Putro, H.P.H. & Rosyidie, A. 2021. Applying knowledge, social concern and perceived risk in planned behavior theory for tourism in the Covid-19 pandemic. *Tourism Review,* 76(4):809-828.

Rahman, A. & Amin, D. 2022. Technology and COVID-19: How Reliant is Society on Technology? *arXiv preprint arXiv:2211.00062*.

Rahman, M.K., Gazi, M.A.I., Bhuiyan, M.A. & Rahaman, M.A. 2021. Effect of Covid-19 pandemic on tourist travel risk and management perceptions. *PLOS ONE,* 16(9):e0256486.

Rahman, M.M., Thill, J.C. & Paul, K.C. 2020. COVID-19 pandemic severity, lockdown regimes, and people's mobility: Early evidence from 88 countries. *Sustainability,* 12(21):9101-9118.

Rai, P. & Ahirwal, R. 2018. Tourism review sentiment analysis using lexicon features and Machine Learning approach. *International Journal of Research and Analytical Reviews (IJRAR),* 5(4):2348-1269.

Raj, K. 2002. *Modern dictionary of tourism.* Sarup & Sons.

Rajendran, M.M.A., Kumar, D.V. & Dominic, N.A. 2021. COVID-19 impacts on world business economy. *International Journal of Management Research and Social Science,* 8(3):143-148.

Ramaano, A.I. 2021. Potential of ecotourism as a mechanism to buoy community livelihoods: the case of Musina Municipality, Limpopo, South Africa. *Journal of Business and Socio-economic Development,* 1(1):47-70.

Ramadan, A. & Kasim, A. 2022. Factors influencing MICE destination revisit intentions: A literature review. *Turyzm/Tourism,* 32(1):185-217.

Ramu, P., Osman, M., Abdul Mutalib, N.A., Aljaberi, M.A., Lee, K.H., Lin, C.Y. & Hamat, R.A. 2023. Validity and reliability of a questionnaire on the knowledge, attitudes, perceptions and practices toward food poisoning among Malaysian secondary school students: A pilot study. *Healthcare,* 11(6):1-18.

Ramukumba, T. 2019. Community views on the role of tourism in local development: A South African study. *GeoJournal of Tourism and Geosites,* 25(2):638-647.

Rancati, E. & d'Agata, A. 2022. Metaverse in tourism and hospitality: Empirical evidence on Generation Z from Italy. *European Scientific Journal ESJ,* 10:800-811.

Ranchhod, V. & Daniels, R.C. 2020*. Labour market dynamics in South Africa in the time of COVID-19: Evidence from wave 1 of the National Income Dynamics Study-Coronavirus Rapid Survey*. Cape Town, Southern Africa Labour and Development Research Unit. [Online] Available from: https://www.opensaldru.uct.ac.za/bitstream/handle/11090/981/2020_265_Saldruwp.pdf ?sequence=3 [Accessed: 2021-11-23].

288

Rasool, H., Maqbool, S. & Tarique, M. 2021. The relationship between tourism and economic growth among BRICS countries: a panel cointegration analysis. *Future Business Journal,* 7(1):1-11.

Reddy, S., Fox, J. & Purohit, M.P. 2019. Artificial Intelligence-enabled healthcare delivery. *Journal of the Royal Society of Medicine,* 112(1):22-28.

Ren, X. 2020. Pandemic and lockdown: a territorial approach to COVID-19 in China, Italy and the United States. *Eurasian Geography and Economics,* 61(4-5):423-434.

René, H. & Bianca, D.K. 2019. Destination South Africa: Analysis of destination awareness and image by international visitors. *GeoJournal of Tourism and Geosites,* 24(1):201-211.

Retno, P.A.D., Sri, M., Catur, W. & Lorensa, A.S.B. 2022. Collaborative governance model during COVID-19: Towards sustainable tourism in *The 3rd International Conference on Governance, Public Administration, and Social Science (ICoGPASS)*, KnE Social Sciences, Yogyakarta, Indonasia. 749–768.

Ricci, F., Rokach, L. & Shapira, B. 2015. Recommender systems: Introduction and challenges. In: Ricci, F., Rokach, L. & Shapira, B. (eds.). *Recommender Systems Handbook*. Boston, MA: Springer US.

Richmond, S. & Cornelius, T. 2021. Dimensions of destination attractiveness in Cape Coast. *European Journal of Tourism, Hospitality and Recreation,* 11(2):135-148.

Richter, F. 2020. *Economic impact of COVID-19: The industries worst affected by the COVID-19 job crisis*. [Online] Available from: https://www.statista.com/chart/21669/unemployed-persons-in-the-us-by-industry/ [Accessed: 12-08-2021].

Rink, B. 2020. Cruising nowhere: A South African contribution to cruise tourism. In: Rogerson, J.M. & Visser, G. (eds.). *New Directions in South African Tourism Geographies*. Cham: Springer International Publishing.

Ritchie, H, Mathieu, E, Rodés-Guirao, L, Appel, C, Giattino, C, Esteban, O-O, Hasell, J, Macdonald, B, Beltekian, D & Roser, M, 2023. Coronavirus pandemic (COVID-19) vaccinations https://ourworldindata.org/COVID-vaccinations Accessed October 9 2023.

Rittichainuwat, B.N. & Chakraborty, G. 2009. Perceived travel risks regarding terrorism and disease: The case of Thailand. *Tourism Management,* 30(3):410-418.

Rizal Batubara, F., Ubacht, J. & Janssen, M. 2019. Unraveling transparency and accountability in Blockchain. 2019-06-18[Accessed: 2023-12-28T19:52:06].

Roberts, E.F.S. & Scheper-Hughes, N. 2011. Introduction: medical migrations. *Body & Society,* 17(2-3):1-30.

Rodas, J.A., Jara-Rizzo, M.F., Greene, C.M., Moreta-Herrera, R. & Oleas, D. 2022. Cognitive emotion regulation strategies and psychological distress during lockdown due to COVID-19. *Int J Psychol,* 57(3):315-324.

Rodríguez-Molina, M.A., Frías-Jamilena, D.M., Del Barrio-García, S. & Castañeda-García, J.A. 2019. Destination brand equity-formation: Positioning by tourism type and message consistency. *Journal of Destination Marketing & Management,* 12:114-124.

Roehl, W.S. & Fesenmaier, D.R. 1992. Risk Perceptions and Pleasure Travel: An Exploratory Analysis. *Journal of Travel Research,* 30(4):17-26.

Rogerson, C.M. 2006. Pro-Poor local economic development in South Africa: The role of pro-poor tourism. *Local Environment,* 11(1):37-60.

Rogerson, C.M. 2009. Tourism development in Southern Africa: Patterns, issues and constraints. In: Jarkko, S., Fritz, O.B., Haretsebe, M. & Deon, W. (eds.). *Sustainable Tourism in Southern Africa*. Bristol, Blue Ridge Summit: Channel View Publications.

Rogerson, C.M. 2011. Niche tourism policy and planning: The South African experience. *Tourism Review International,* 15(1-2):199-211.

Rogerson, C.M. 2017. Tourism–a new economic driver for South Africa. *Geography and economy in South Africa and its neighbours*: Routledge.

Rogerson, C.M. 2020. Using municipal tourism assets for leveraging local economic development in South Africa. *Bulletin of Geography. Socio-economic Series,* 48(48):47-63.

Rogerson, C.M. & Collins, J.E.K. 2015a. Beer tourism in South Africa: Emergence and contemporary directions. *Nordic Journal of African Studies,* 24(3&4):241-258.

Rogerson, C.M. & Collins, J.E.K. 2015b. Developing beer tourism in South Africa_ international perspectives. *African Journal of Hospitality, Tourism and Leisure,* 4(1):1-15.

Rogerson, C.M. & Kiambo, W. 2007. The growth and promotion of regional tourism in the developing world: the South African experience. *Development Southern Africa,* 24(3):505-521.

Rogerson, C. & Rogerson, J. 2022a. The impacts of COVID-19 on urban tourism destinations: The South African experience. *African Journal of Hospitality, Tourism and Leisure,* 11(1):1-13.

Rogerson, C.M. & Rogerson, J.M. 2021. African Tourism in Uncertain Times: COVID-19 Research Progress. *GeoJournal of Tourism and Geosites,* 38(4):1026-1032.

Rogerson, C.M. & Rogerson, J.M. 2022b. COVID-19 and Coastal Destination Impacts: The Case of South Africa. *GeoJournal of Tourism and Geosites,* 42(2 supplement):767-774.

Rogerson, C.M. & Rogerson, J.M. 2020a. COVID-19 and tourism spaces of vulnerability in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 9(4):382-401.

Rogerson, C.M. & Rogerson, J.M. 2020b. COVID-19 tourism impacts in South Africa: Government and industry responses. *GeoJournal of Tourism and Geosites,* 31(3):1083-1091.

Rogerson, C.M. & Rogerson, J.M. 2019. Emergent planning for South Africa's blue economy: Evidence from coastal and marine tourism. *Urbani izziv,* Supplement (30):24-36.

Rogerson, C.M. & Rogerson, J.M. 2021b. Niche tourism research and policy: International and South African debates. *African Journal of Hospitality, Tourism and Leisure,* 10(4):1131-1151.

Rogerson, C.M. & Rogerson, J.M. 2021a. Niche tourism in South Africa: A renewed policy focus in the COVID-19 environment. *GeoJournal of Tourism and Geosites,* 39(4-supplement):1379-1387.

Rogerson, C.M. & Rogerson, J.M. 2023. VFR Travel and Covid-19 Impacts: The South African Experience. *GeoJournal of Tourism and Geosites,* 48(2 (supplement)):717-742.

Rogerson, C.M. & van der Merwe, C.D. 2015. Heritage tourism in the Global South: Development impacts of the Cradle of Humankind World Heritage Site, South Africa. *Local Economy: The Journal of the Local Economy Policy Unit,* 31(1-2):234-248.

Rogerson, C.M. & Visser, G. 2014. A Decade of progress in African urban tourism scholarship. *Urban Forum,* 25(4):407-417.

Rogerson, J.M. 2021. Tourism business responses to South Africa's COVID-19 pandemic emergency. *GeoJournal of Tourism and Geosites,* 35(2):338-347.

Rogerson, J.M., Lekgau, R., Mashapa, M. & Rogerson, C.M. 2022. Rural tourism challenges in South Africa under COVID-19: Greater Giyani Local Municipality, Limpopo Province. *African Journal of Hospitality, Tourism and Leisure,* 11(3):1099-1117.

Ross, D., Saxena, G., Correia, F. & Deutz, P. 2017. Archaeological tourism: A creative approach. *Annals of Tourism Research,* 67:37-47.

Rota, P.A., Oberste, M.S., Monroe, S.S., Nix, W.A., Campagnoli, R., Icenogle, J.P., PeñAranda, S., Bankamp, B., Maher, K., Chen, M.-H., Tong, S., Tamin, A., Lowe, L.,

Frace, M., Derisi, J.L., Chen, Q., Wang, D., Erdman, D.D., Peret, T.C.T., Burns, C., Ksiazek, T.G., Rollin, P.E., Sanchez, A., Liffick, S., Holloway, B., Limor, J., Mccaustland, K., Olsen-Rasmussen, M., Fouchier, R., GüNther, S., Osterhaus, A.D.M.E., Drosten, C., Pallansch, M.A., Anderson, L.J. & Bellini, W.J. 2003. Characterization of a Novel Coronavirus Associated with Severe Acute Respiratory Syndrome. *Science,* 300(5624):1394-1399.

Roubini, N. 2020. Coronavirus pandemic has delivered the fastest, deepest economic shock in history. *The guardian,* 25(March).

Ruan, W., Kang, S. & Song, H. 2020. Applying protection motivation theory to understand international tourists' behavioural intentions under the threat of air pollution: A case of Beijing, China. *Current Issues in Tourism,* 23(16):2027-2041.

Ruiz-Ballesteros, E. 2023. What community for community-based tourism? *Current Issues in Tourism,* 26(16):2664-2677.

Ryan, J.M. 2023. *COVID-19: Individual rights and community responsibilities: Timeline of the COVID-19 pandemic.* New York: Routledge.

Rylance, A., Snyman, S. & Spenceley, A. 2017. The contribution of tourism revenue to financing protected area management in Southern Africa. *Tourism Review International,* 21(2):139-149.

Ryu, E. 2014. Model fit evaluation in multilevel structural equation models. *Front Psychol,* 5:81.

Saadé, R. & Bahli, B. 2005. The impact of cognitive absorption on perceived usefulness and perceived ease of use in on-line learning: an extension of the technology acceptance model. *Information & Management,* 42(2):317-327.

Saayman, A. & Saayman, M. 2013. Exchange rate volatility and tourism - revisiting the nature of the relationship. *European Journal of Tourism Research,* 6(2):104-121.

Saayman, M. & Du Plessis, E. 2003. Competitiveness of South Africa as a tourist destination. *South African Journal for Research in Sport, Physical Education and Recreation,* 25(2):57-65.

Saayman, M. & Du Plessis, E. 2004. Competitiveness of South Africa as a tourist destination. *South African Journal for Research in Sport, Physical Education and Recreation,* 25(2).

Saayman, M., Rossouw, R. & Krugell, W. 2012. The impact of tourism on poverty in South Africa. *Development Southern Africa,* 29(3):462-487.

Saeed, M. & Shafique, I. 2020. Customer-based brand equity and destination visit behaviour in the tourism industry: the contingent role of social media. *Quality & Quantity,* 54(5-6):1491-1512.

Safiullin, M.R., Savelichev, M.V., Elshin, L.A. & Moiseev, V.O. 2020. Potential of cryptocurrency as global money of the Sixth Technological Mode based on the global financial system. *International Journal of Financial Research,* 11(6):296.

Saha, S., Tanmoy, A.M., Tanni, A.A., Goswami, S., Sium, S.M.A., Saha, S., Islam, S., Hooda, Y., Malaker, A.R., Anik, A.M., Haq, M.S., Jabin, T., Hossain, M.M., Tabassum, N., Rahman, H., Hossain, M.J., Islam, M.S. & Saha, S.K. 2021. New waves, new variants, old inequity: a continuing COVID-19 crisis. *BMJ Global Health,* 6(8):e007031.

Saidmamatov, O., Khodjaniyazov, E., Matyakubov, U., Ibadullaev, E., Bekjanov, D., Day, J., Marty, P. & Zhao, J. 2021. The impact of Central Asian tourists' risk perception on their travel intentions during the COVID-19 pandemic. *Turyzm/Tourism,* 31(2):133-154.

Sallam, M. 2021. COVID-19 vaccine hesitancy worldwide: A concise systematic review of vaccine acceptance rates. *Vaccines,* 9(2):1-14.

Samuel, G. & Sims, R. 2023. The UK COVID-19 contact tracing app as both an emerging technology and public health intervention: The need to consider promissory discourses. *Health (London),* 27(4):625-644.

Sangpikul, A. 2018. The effects of travel experience dimensions on tourist satisfaction and destination loyalty: the case of an island destination. *International Journal of Culture, Tourism and Hospitality Research,* 12(1):106-123.

Sasson, I. 2021. Age and COVID-19 mortality: A comparison of Gompertz doubling time across countries and causes of death. *Demographic Research,* 44:379-396.

Saunders, M., Lewis, P. & Thornhill, A. 2009. *Research methods for business students.* 5th edition ed. London: Pearson Education Limited.

Saunders, M., Lewis, P. & Thornhill, A. 2019. *Research methods for business students.* 8th Edition ed. Essex, London: Pearson.

Saunders, M., Lewis, P. & Thornhill, A. 2023. *Research methods for business students.* 9th edition ed. London, United Kingdom: Pearson education.

Scarlett, H.G. 2021. Tourism recovery and the economic impact: A panel assessment. *Research in Globalization,* 3:100044- 100055.

Scharmer, C., Martinez, K., Gorrell, S., Reilly, E.E., Donahue, J.M. & Anderson, D.A. 2020. Eating disorder pathology and compulsive exercise during the COVID-19 public health emergency: Examining risk associated with COVID-19 anxiety and intolerance of uncertainty. *Int J Eat Disord,* 53(12):2049-2054.

Schudy, A., Zurek, K., Wisniewska, M., Piejka, A., Gaweda, L. & Okruszek, L. 2020. Mental well-being during pandemic: The role of cognitive biases and emotion regulation strategies in risk perception and affective response to COVID-19. *Front Psychiatry,* 11:589973.

Seale, C., Silverman, D., Gubrium, J.F. & Gobo, G. 2006. *Qualitative Research Practice.* London: SAGE Publications Ltd.

Seddig, D., Maskileyson, D. & Davidov, E. 2022. Vaccination against COVID-19 reduces virus-related fears: Findings from a German longitudinal study. *Frontiers in Public Health,* 10:1-9.

Seetanah, B., Durbarry, R. & Ragodoo, J.F.N. 2010. Using the Panel Cointegration Approach to analyse the determinants of tourism demand in South Africa. *Tourism Economics,* 16(3):715-729.

Segobye, A.K., Mpolokang, M., Shereni, N.C., Mago, S. & Seleka, M. 2022. Community-based tourism as a pathway towards sustainable livelihoods and well-being in Southern Africa. In: Saarinen, J., Lubbe, B. & Moswete, N.N. (eds.). *Southern African Perspectives on Sustainable Tourism Management: Tourism and Changing Localities*. Cham: Springer International Publishing.

Seidman, M.N. 2021. *The COVID-19 pandemic and the economy in Southern Africa.* Helsinki: Unu-Wider. [Online] Available from: http://hdl.handle.net/10419/248327 [Accessed: 2023-09-06].

Sekuloska, J.D. & Erceg, A. 2021. The impact of AI on disintermediation processes in the tourism industry. *Handbook of Research on Applied AI for International Business and Marketing Applications*: IGI Global.

Senalasari, W., Setiawati, L. & Wibisono, N. 2022. The role of technology acceptance and readiness on intention to adopt virtual tourism technology during the new normal era. *Proceedings of the International Conference on Applied Science and Technology on Social Science 2022 (iCAST-SS 2022)*: Atlantis Press SARL.

Seong, B.-H. & Hong, C.-Y. 2021. Does risk awareness of COVID-19 affect visits to national parks? Analyzing the tourist decision-making process using the Theory of Planned Behavior. *International Journal of Environmental Research and Public Health,* 18(10):1-14.

Seow, A.N., Choong, Y.O., Moorthy, K. & Chan, L.M. 2017. Intention to visit Malaysia for medical tourism using the antecedents of Theory of Planned Behaviour: A predictive model. *International Journal of Tourism Research,* 19(3):383-393.

Seshadri, U., Kumar, P., Vij, A. & Ndlovu, T. 2023. Marketing strategies for the tourism industry in the United Arab Emirates after the COVID-19 era. *Worldwide Hospitality and Tourism Themes,* 15(2):169-177.

Setyadi, R. 2021. *Analysing tourism application using information technology governance trust model in COVID-19 pandemic situation.* Paper presented at International Conference on Science Education and Technology (ICOSETH):1-10.

Seyfi, S., Hall, C.M. & Shabani, B. 2020. COVID-19 and international travel restrictions: the geopolitics of health and tourism. *Tourism Geographies*:1-17.

Shaikh, A.S., Dars, A., Memon, K. & Kazi, A.G. 2020. A Study of factors affecting travel decision-making of tourists. *Journal of Economic Info,* 7(1):1-10.

Shang, D., Yu, C. & Diao, G. 2021. Study on impacts of COVID-19 pandemic recession based on Monte Carlo Simulation. *Prague Economic Papers,* 30(6):724-747.

Sharifpour, M., Walters, G. & Ritchie, B.W. 2014. Risk perception, prior knowledge, and willingness to travel. *Journal of Vacation Marketing,* 20(2):111-123.

Sharpley, R. 2011. *The study of tourism.* Preston: Routledge.

Sheng-Hshiung, T., Gwo-Hshiung, T. & Kuo-Ching, W. 1997. Evaluating tourist risks from fuzzy perspectives. *Annals of Tourism Research,* 24(4):796-812.

Shin, H. & Kang, J. 2020. Reducing perceived health risk to attract hotel customers in the COVID-19 pandemic era: Focused on technology innovation for social distancing and cleanliness. *Int J Hosp Manag,* 91:102664.

Shoko, C. & Njuho, P. 2023. ARIMA model in predicting of COVID-19 epidemic for the Southern Africa region. *African Journal of Infectious Diseases,* 17(1):1-9.

Shukla, U.N. & Kulshreshtha, S.K. 2021. Mobile application technology in tourism and essential services before, during and after COVID-19 pandemic: An explorative study. *Management Convergebce,* 12(2):26-43.

Siddiquei, M.I. & Khan, W. 2020. Economic implications of coronavirus. *Journal of Public Affairs,* 20(e2169):1-3.

Sifolo, P.P.S. 2020. Cultural Heritage and Tourism Stimulus: Regional Regeneration in Southern Africa. *The Urban Book Series*: Springer International Publishing.

Sigala, M. 2020. Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research,* 117:312-321.

Sigala, M., Kumar, S., Donthu, N., Sureka, R. & Joshi, Y. 2021. A bibliometric overview of the Journal of Hospitality and Tourism Management: Research contributions and influence. *Journal of Hospitality and Tourism Management,* 47:273-288.

Sikarwar, E. 2021. Time-varying foreign currency risk of world tourism industry: effects of COVID-19. *Current Issues in Tourism,* 24(7):887-891.

Sinclair, M.T. 1998. Tourism and economic development: A survey. *Journal of Development Studies,* 34(5):1-51.

Singh, A. & Bhoola, S. 2016. Culinary choices: developing Durban as a culinary destination. *African Journal of Hospitality, Tourism and Leisure,* 5(4):1-13.

Siyabulela, N. 2016. Using sport tourism events as a catalyst for tourism development in the Eastern Cape Province, South Africa. *African Journal of Hospitality, Tourism and Leisure,* 5(3):1-12.

Škare, M., Soriano, D.R. & Porada-Rochoń, M. 2021. Impact of COVID-19 on the travel and tourism industry. *Technological Forecasting and Social Change,* 163:120469.

Slattery, P. 2009. The Otus theory of hotel demand and supply. *International Journal of Hospitality Management,* 28(1):113-120.

Snyman, S.L. 2017. The role of tourism employment in poverty reduction and community perceptions of conservation and tourism in southern Africa. *Tourism and Poverty Reduction*: Routledge.

Šlosar, L., Voelcker-Rehage, C., Paravlić, A.H., Abazovic, E., De Bruin, E.D. & Marusic, U. 2022. Combining physical and virtual worlds for motor-cognitive training interventions: Position paper with guidelines on technology classification in movement-related research. *Frontiers in Psychology,* 13.

Smith, S.L.J., Xiao, H., Nunkoo, R. & Tukamushaba, E.K. 2013. Theory in hospitality, tourism, and leisure studies. *Journal of Hospitality Marketing & Management,* 22(8):875-894.

Smith-Sreen, J., Miller, B., Kabaghe, A.N., Kim, E., Wadonda-Kabondo, N., Frawley, A., Labuda, S., Manuel, E., Frietas, H., Mwale, A.C., Segolodi, T., Harvey, P., Seitio-Kgokgwe, O., Vergara, A.E., Gudo, E.S., Dziuban, E.J., Shoopala, N., Hines, J.Z., Agolory, S., Kapina, M., Sinyange, N., Melchior, M., Mirkovic, K., Mahomva, A., Modhi, S., Salyer, S., Azman, A.S., McLean, C., Riek, L.P., Asiimwe, F., Adler, M., Mazibuko, S., Okello, V. & Auld, A.F. 2022. Comparison of COVID-19 pandemic waves in 10 countries in Southern Africa, 2020-2021. *Emerg Infect Dis,* 28(13): S93-S104.

Snowdon, J.L., Kassler, W., Karunakaram, H., Dixon, B.E. & Rhee, K. 2021. Leveraging informatics and technology to support public health response: framework and illustrations using COVID-19. *Online J Public Health Inform,* 13(1):e1.

Snyman, J.A. & Saayman, M. 2009. Key factors influencing foreign direct investment in the tourism industry in South Africa. *Tourism Review,* 64(3):49-58.

Snyman, S., Sumba, D., Vorhies, F., Gitari, E., Ender, C., Ahenkan, A., Pambo, A.F.K. & Natacha, O.A. 2021. *State of the wildlife economy in Africa.* Rwanda: ALU School of Conservation. [Online] Available from: https://policycommons.net/artifacts/1817148/state-of-the-wildlife-economy-in-africa/2554072/ [Accessed: 2022-06-21].

Sofi, M.S., Hamid, A. & Bhat, S.U. 2020. SARS-CoV-2: A critical review of its history, pathogenesis, transmission, diagnosis and treatment. *Biosaf Health,* 2(4):217-225.

Song, H., Chen, J.M. & Chen, Y. 2020. Mediating and moderating effects in golf tourism: Evidence from Hainan Island. *Tourism Economics,* 27(3):510-526.

Sorci, G., Faivre, B. & Morand, S. 2020. *Why does COVID-19 case fatality rate vary among countries?* MedRxiv, Cold Spring Harbor Laboratory. Unpublished report. [Online] Available from: https://www.medrxiv.org/ [Accessed: 2023-01-06].

Soundararajan, S., Singh, U. & Gera, M. 2023. Adventure tourism: Behavioural drivers to visit and spread word of mouth with perceived risk as moderator. *Global Business Review.*

South African Government. 2022. *COVID-19/Coronavirus: National state of disaster.* [Online] Available from: https://www.gov.za/Coronavirus [Accessed: 2022-09-12].

Southern African Development Community (SADC). 2019. *Tourism Programme 2020 – 2030.* Gaborone, Botswana: [Online] Available from: https://tfcaportal.org/sites/default/files/public-docs/SADC%20Tousim%20Programme%20%28English%29.pdf [Accessed: 26 August 2022].

Spenceley, A. 2012. Impacts of wildlife tourism on rural livelihoods in Southern Africa. *Responsible Tourism*: Routledge.

Stang, A., Standl, F. & Jöckel, K.-H. 2020. Characteristics of COVID-19 pandemic and public health consequences. *Herz,* 45(4):313-315.

Statista. 2021. *World Economy to return to pre-pandemic output in 2021.* [Online] Available from: https://www.statista.com/chart/22924/global-gdp-projections-made-before-and-during-covid-19-pandemic/ [Accessed: 2022-08-2022].

Statistics South Africa. 2022. *Tourism and migration.* [Online] Available from: https://www.statssa.gov.za/?page_id=1854&PPN=P0351 [Accessed: 2022-09-22].

Statistics South Africa. 2023. *Tourism and migration.* Pretoria: [Online] Available from: https://www.statssa.gov.za/?page_id=1866&PPN=P0351&SCH=73532&page=1 [Accessed: 2023-03-27].

Stergiou, D.P. & Airey, D. 2018. Understandings of tourism theory. *Tourism Review,* 73(2):156-168.

Stone, P. 2005. Niche tourism: Contemporary issues, trends and cases. In: Novelli, M. (ed.). *Journal of Vacation Marketing.* London: Sage Publications Ltd.

Stone, M.T., Stone, L.S., Mogomotsi, G.E. & Mogomotsi, P.K. 2022. Protected areas and tourism dynamics in Southern Africa: An overview. *Tourism and Poverty Reduction*. 1st Edition ed. Oxfordshire: Routledge.

Straub, D. & Gefen, D. 2004. Validation guidelines for IS positivist research. *Communications of the association for information systems,* 13.

Stryzhak, O. 2019. Assessment of the relationship between the tourism sector development and other sectors of economy. *Economics of Development,* 18(2):10-18.

Su, Y., Cherian, J., Sial, M.S., Badulescu, A., Thu, P.A., Badulescu, D. & Samad, S. 2021. Does tourism affect economic growth of China? A panel Granger causality approach. *Sustainability,* 13(3):1349.

Su, Z., Mcdonnell, D., Wen, J., Kozak, M., Abbas, J., Šegalo, S., Li, X., Ahmad, J., Cheshmehzangi, A., Cai, Y., Yang, L. & Xiang, Y.-T. 2021. Mental health consequences of COVID-19 media coverage: the need for effective crisis communication practices. *Globalization and Health,* 17(1): 1-8.

Sucheran, R. 2021. Global impacts and trends of the COVID-19 pandemic on the cruise sector: A focus on South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(1):22-39.

Sucheran, R. 2021. Preliminary Economic Impacts of the COVID-19 Pandemic on the Hotel Sector in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 10(1):115-130.

Sucheran, R. 2022. The COVID-19 pandemic and guesthouses in South Africa: Economic impacts and recovery measures. *Development Southern Africa,* 39(1):35-50.

Tabachnick, B.G. & Fidell, L.S. 2019. *Using multivariate statistics.* 7th edition ed. Boston, MA: Pearson.

Tang, C.F. & Abosedra, S. 2015. Tourism and growth in Lebanon: new evidence from bootstrap simulation and rolling causality approaches. *Empirical Economics,* 50(2): 679-696.

Tegally, H., Moir, M., Everatt, J., Giovanetti, M., Scheepers, C., Wilkinson, E., Subramoney, K., Makatini, Z., Moyo, S., Amoako, D.G., Baxter, C., Althaus, C.L., Anyaneji, U.J., Kekana, D., Viana, R., Giandhari, J., Lessells, R.J., Maponga, T., Maruapula, D., Choga, W., Matshaba, M., Mbulawa, M.B., Msomi, N., Bester, A.P., Claassen, M., Doolabh, D., Mudau, I., Mbhele, N., Engelbrecht, S., Goedhals, D., Hardie, D., Hsiao, N.-Y., Iranzadeh, A., Ismail, A., Joseph, R., Maharaj, A., Mahlangu, B., Mahlakwane, K., Davis, A., Marais, G., Mlisana, K., Mnguni, A., Mohale, T., Motsatsi, G., Mwangi, P., Ntuli, N., Nyaga, M., Olubayo, L., Radibe, B., Ramphal, Y., Ramphal, U., Rambaut, A., Laguda-Akingba, O., Gaseitsiwe, S., Von Gottberg, A. & De Oliveira, T. 2022. Emergence of SARS-CoV-2 Omicron lineages BA.4 and BA.5 in South Africa. *Nature Medicine,* 28(9):1785-1790.

Telfer, D.J. & Wall, G. 1996. Linkages between tourism and food production. *Annals of Tourism Research,* 23(3):635-653.

Terzić, A., Petrevska, B. & Demirović Bajrami, D. 2022. Personalities shaping travel behaviors: post-COVID scenario. *Journal of Tourism Futures*:1-15.

Theobald, W.F. 2012. The meaning, scope, and measurement of travel and tourism. *Global tourism*: Routledge.

302

Toerien, D. 2020. Tourism and poverty in rural South Africa: A revisit. *South African Journal of Science,* 116(1/2).

Tom Dieck, M.C. & Han, D.-i.D. 2021. The role of immersive technology in customer experience management. *Journal of Marketing Theory and Practice,* 30(1):108-119.

Tong, C., Shi, W., Zhang, A. & Shi, Z. 2022. Tracking and controlling the spatiotemporal spread of SARS-CoV-2 Omicron variant in South Africa. *Travel Med Infect Dis,* 46:102252.

Torabi, Z.-A., Shalbafian, A., Allam, Z., Ghaderi, Z., Murgante, B. & Khavarian-Garmsir, A. 2022. Enhancing memorable experiences, tourist satisfaction, and revisit intention through smart tourism technologies. *Sustainability,* 14(5):2721.

Torres, A.M. 2022. Harnessing technology in the evolving tourism servicescape during the post-COVID-19 era. *Journal of Next-generation Convergence Information Services Technology,* 11(4):431-442.

Tribe, J. 1997. The indiscipline of tourism. *Annals of tourism research,* 24(3):638-657.

Tronvoll, B., Goudarzi, K., Brown, S.W., Gremler, D.D. & Edvardsson, B. 2011. Paradigms in service research. *Journal of Service Management,* 22(5):560-585.

Tseane-Gumbi, L. & Ojakorotu, V. 2022. Medical tourism and African healthcare system: Behavioural analysis of the role of African leaders. *Gender and Behaviour,* 20(3):19638-19662.

Tshidzumba, N.A. & Oladunjoye, O.N. 2022. The role of technology in the tourism and urban risk nexus in South Africa. *African Journal of Hospitality, Tourism and Leisure,* 11(3).

Tu, R., Park, S.K. & Ding, Y. 2023. Travel intentions of travelers in the COVID-19 context: The moderation of fear of COVID-19. *Frontiers in Psychology,* 14.

Turco, D.M., Swart, K., Bob, U. & Moodley, V. 2010. Socio-economic impacts of sport tourism in the Durban Unicity, South Africa. *Journal of Sport & Tourism,* 8(4):223-239.

Tyan, I., Guevara-Plaza, A. & Yagüe, M.I. 2021. The benefits of Blockchain technology for medical tourism. *Sustainability,* 13(22):12448-12460.

Tyrrell, D. & Bynoe, M. 1966. Cultivation of Viruses from a High Proportion of Patients with Colds. *Lancet*:76–77.

Ukolova, N., Shikhanova, J.A., Pototskaya, L., Novikova, N. & Vasiliyeva, E. 2021. Development of technology transfer in agriculture during the COVID-19 pandemic in Russia. *Bioscience Biotechnology Research Communications,* 14(4):1544-1549.

Ullman, J.B. 2001. Structural equation modelling. In: Tabachnick, B.G. & Fidell, L.S. (eds.). *Using multivariate statistics*. Needham Heights, MA: Allyn & Bacon.

United Nations Conference on Trade and Development (UNCTAD). 2021. *COVID-19 and tourism an update: Assessing the economic consequences.* Geneva: United Nations Conference on Trade and Development. [Online] Available from: https://unctad.org/system/files/official-document/ditcinf2021d3_en_0.pdf [Accessed: 2022-03-29].

United Nations World Tourism Organisation (UNWTO). 2020a. *A compilation of data on tourism employment statistics*. [Online] Available from: https://www.unwto.org/tourism-employment [Accessed: 14-07-2021].

United Nations World Tourism Organisation. 2021. *Governance*. [Online] Available from: https://www.unwto.org/sustainable-development/unwto-international-network-of-sustainable-tourism-observatories/tools-governance [Accessed: 2023-08-12].

United Nations World Tourism Organisation (UNWTO). 2021a. *Glossary of tourism terms*. [Online] Available from: https://www.unwto.org/glossary-tourism-terms [Accessed: 2021-07-11].

United Nations World Tourism Organisation (UNWTO). 2021b. *Why toursim matters?* [Online] Available from: https://twitter.com/unwto/status/1413841181600010241?s=24 [Accessed: 2021-07-11].

United Nations World Tourism Organisation (UNWTO).. 2020b. *International tourism down 70% as travel restrictions impact all regions.* [Online] Available from: https://www.unwto.org/news/international-tourism-down-70-as-travel-restrictions-impact-all-regions [Accessed: 2020-11-18].

United Nations World Tourism Organisation. 2021. *Tourism for all – UNWTO presents "Accessibility and Inclusive Tourism Development" - Compendium of Best Practices.* Press release issued on 2021-05-19 2021. [Online] Available from: https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2021-05/210519-expert-meeting-on-accessible-tourism-en.pdf?VersionId=uBU8CAZb8SyqXfb.r8lM4InFWhLVrvw_ [Accessed: 2023-07-30].

United Nations World Tourism Organisation. 2023. *145 key tourism statistics.* [Online] Available from: https://www.unwto.org/tourism-statistics/key-tourism-statistics.

University of Florida. 2023. *Qualtrics.* [Online] Available from: https://it.ufl.edu/resources/survey-tools/qualtrics/ [Accessed: 2023-12-29].

University of Pretoria. 2021. *Key research terms.*1-23. [Online] Available from: https://clickup.up.ac.za [Accessed: 2023-12-29].

Usmani, G., Akram, V. & Praveen, B. 2020. Tourist arrivals, international tourist expenditure, and economic growth in BRIC countries. *Journal of Public Affairs,* 21(2).

Uwem, S.U. & Elizabeth, O.A. 2022. Forgotten ones: Rhetoric of migration and tourism governance in South Africa in the sedentary epoch of COVID-19. *COVID-19 and a World of Ad Hoc Geographies*: Springer International Publishing.

Uzunboylu, H., Prokopyev, A.I., Kashina, S.G., Makarova, E.V., Chizh, N.V. & Sakhieva, R.G. 2022. Determining the opinions of university students on the education they receive

with technology during the pandemic process. *International Journal of Engineering Pedagogy (iJEP),* 12(2):48-61.

Vagner, L. 2021. The global economy affected by COVID-19. *SHS Web of Conferences,* 129:01030.

Van Der Merwe, P., Saayman, A. & Jacobs, C. 2021. Assessing the economic impact of COVID-19 on the private wildlife industry of South Africa. *Global Ecology and Conservation,* 28:1633-1645.

van der Schyff, T., Meyer, D. & Ferreira, L. 2019. Analysis of the impact of tourism sector as a viable response to South Africa's growth and development challenges. *GeoJournal of Tourism and Geosites,* 29(2):554-564.

Van Dyk, A., Tkaczynski, A. & Slabbert, E. 2019. Repeat tourism, destination image and behavioural intentions: implications for sustainable development in South Africa. *Tourism Recreation Research,* 44(3):392-398.

Van Heerden, J. & Roos, E.L. 2021. The possible effects of the extended lockdown period on the South African economy: A CGE analysis. *South African Journal of Economics,* 89(1):95-111.

Van Oorschot, K.E., Van Wassenhove, L.N. & Jahre, M. 2023. Collaboration–competition dilemma in flattening the COVID-19 curve. *Production and Operations Management,* 32(5):1345-1361.

Van Wyngaard, A. & Whiteside, A. 2021. AIDS and COVID-19 in Southern Africa. *African Journal of AIDS Research,* 20(2):117-124.

Vaughan, A. 2021. Omicron emerges. *New Scientist,* 252(3363):7.

Vengesayi, S., Mavondo, F.T. & Reisinger, Y. 2009. Tourism destination attractiveness: Attractions, facilities, and people as predictors. *Tourism Analysis,* 14(5):621-636.

Vermeulen-Miltz, E., Clifford-Holmes, J.K., Snow, B. & Lombard, A.T. 2022. Exploring the impacts of COVID-19 on coastal tourism to inform recovery strategies in Nelson Mandela Bay, South Africa. *Systems,* 10(4):120-138.

Vermooten, J. 2023. Impact of Omicron COVID-19 restrictions on air transport and tourism to and from South Africa. *Journal of Transport and Supply Chain Management,* 17:1-15.

Verma, J.P. & Verma, P. 2020. Determining sample size and power in research studies: A manual for researchers. Singapore: Springer.

Vermeulen-Miltz, E., Clifford-Holmes, J.K., Snow, B. & Lombard, A.T. 2022. Exploring the impacts of COVID-19 on coastal tourism to inform recovery strategies in Nelson Mandela Bay, South Africa. *Systems,* 10(4):120-138.

Viljoen, J. & Maphosho, N. 2023. Mitigating COVID-19 in Tourism: Evaluating the South African Government's Response. *African Journal of Hospitality, Tourism and Leisure,* 12(1):382-395.

Vinod, N. 2021. Living with 'Long COVID-19': The long-term complications and sequelae. *International Journal of Clinical Virology,* 5(1):11-21.

VisitEngland. 2020. *Tourism in England: Key facts and trends 2019.* [Online] Available from: https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/ve_key_facts_and_trends_2019_csv.pdf. [Accessed: 2021-09-30].

Visser, G. & Hoogendoorn, G. 2015. A decade of second home tourism research in South Africa: research prospects for the developing world? *South African Geographical Journal,* 97(2):111-122.

Visser, G. & Marais, M. 2021. The Impact of COVID-19 on Safari Lodges in Northern KwaZulu-Natal, South Africa.

Visser, G. & Rogerson, C.M. 2004. Researching the South African tourism and development nexus. *GeoJournal,* 60(3):201-215.

Wacker, J.G. 1998. A definition of theory: research guidelines for different theory-building research methods in operations management. *Journal of Operations Management,* 16(4):361-385.

Walrave, M., Waeterloos, C. & Ponnet, K. 2021. Ready or not for contact tracing? investigating the adoption intention of COVID-19 contact-tracing technology Using an Extended Unified Theory of Acceptance and Use of Technology Model. *Cyberpsychology, Behavior, and Social Networking,* 24(6):377-383.

Waluya, B., Ridwanudin, O. & Zahirah, Z.S. 2021. The influence of perceived risk and perceived value toward tourist satisfaction. In: Kusumah, A.H.G., Abdullah, C.U., Turgarini, D., Ruhimat, M., Ridwanudin, O. & Yuniawati, Y. (eds.). *Promoting Creative Tourism: Current Issues in Tourism Research.* Bandung, Indonesia: Routledge.

Wang, X., Lai, I.K.W., Zhou, Q. & Pang, Y.H. 2021. Regional travel as an alternative form of tourism during the COVID-19 pandemic: impacts of a low-risk perception and perceived benefits. *International Journal of Environmental Research and Public Health,* 18(17):9422.

Wan, C.-S., Tsaur, S.-H., Chiu, Y.-L. & Chiou, W.-B. 2007. Is the advertising effect of virtual experience always better or contingent on different travel destinations? *Information Technology & Tourism,* 9(1):45-54.

Watson, R. 2015. Quantitative research. *Nursing Standard,* 29(31):44.

Wei, W. 2019. Research progress on virtual reality (VR) and augmented reality (AR) in tourism and hospitality. *Journal of Hospitality and Tourism Technology,* 10(4):539-570.

Weidmann, S., Filep, S. & Lovelock, B. 2023. How are tourism businesses adapting to COVID-19? Perspectives from the fright tourism industry. *Tourism and Hospitality Research,* 23(1):121-126.

Weller, K. & Kinder-Kurlanda, K.E. 2016. *A manifesto for data sharing in social media research*. Paper presented at Proceedings of the 8th ACM Conference on Web Science:166-172.

Weru, J.N. 2021. Perceived destination image and post-visit behaviour: An international MICE visitors' perspective. *African Journal of Hospitality, Tourism and Leisure,* 10(2):472-486.

Wishal Nafis, R. 2019. The effect of tourism attractiveness and destination image on revisit intention through tourist satisfaction (Study on domestic tourists of Mount Bromo, Malang, East Java). *European Journal of Business and Management,* 11(11):92-98.

Wong, J.-Y. & Yeh, C. 2009. Tourist hesitation in destination decision making. *Annals of Tourism Research,* 36(1):6-23.

Wordu, H., Woryi, J.H., Charley, R.B. & Nkpolu-Oroworukwo, P.-H. 2021. Global influence of information and communication technology (ICT) on education amidst COVID-19 pandemic. *International Journal of Innovative Social & Science Education Research,* 9(3):72-79.

World Bank. 2023. *The World Bank Data | GDP per capita (current US$) - South Africa.* [Online] Available from: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZA. [Accessed: 2023-12-29].

World Economic Forum. 2019. *The travel and tourism competitiveness report 2019.* World Economic Forum. [Online] Available from: https://www3.weforum.org/docs/WEF_TTCR_2019.pdf [Accessed: 2022-06-26].

World Economic Forum. 2022. *Travel & tourism development index 2021 rebuilding for a sustainable and resilient future.* Geneva, Switzerland: [Online] Available from: https://www3.weforum.org/docs/WEF_Travel_Tourism_Development_2021.pdf [Accessed: 2022-06-21].

World Health Organisation (WHO). 2020. *Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020.* [Online] Available from: https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 [Accessed: 2024-05-25].

World Health Organisation (WHO). 2022. *Middle East respiratory syndrome coronavirus (MERS-CoV): Key facts.* [Online] Available from: https://www.who.int/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-coronavirus-(mers-cov) [Accessed: 2024-05-23].

World Health Organisation (WHO). 2022. *Tracking SARS-CoV-2 variants.* [Online] Available from: https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/ [Accessed: 2022-11-09].

World Health Organisation (WHO). 2023. *World Health Organisation Coronavirus (COVID-19) dashboard: Global situation.* [Online] Available from: https://covid19.who.int/?gclid=Cj0KCQjwjo2JBhCRARIsAFG667W6nRaJVddKiqHKrAK OHF1VtTkysxI6G1E0yLI1GagckROJryRxosAaAu4JEALw_wcB [Accessed: 2021-08-24].

World Travel & Tourism Council (WTTC). 2020a. *SouthAfrica2020: 2020 annual research: Key highlights.* [Online] Available from: https://wttc.org/Portals/0/Documents/Reports/2020/Global%20Economic%20Impact%20 Trends%202020.pdf?ver=2021-02-25-183118-360. [Accessed: 2021-09-22].

World Travel & Tourism Council (WTTC). 2020b. *To recovery and beyond-The future of travel tourism in the Wake of COVID-19.* [Online] Available from: https://wttc.org/initiatives/to-recovery-beyond. [Accessed: 2022-07-02].

World Travel & Tourism Council (WTTC). 2021. *Government policies enabling travel and tourism recovery during COVID-19.*World Travels & Tourism Council. [Online] Available from: https://wttc.org/Portals/0/Documents/Reports/2021/Government-Travel-Policies-COVID-19.pdf?ver=2021-08-23-092839-753 [Accessed: 2022-07-02].

World Travel & Tourism Council (WTTC). 2021. *Economic impact reports*. [Online] Available from: https://wttc.org/Research/Economic-Impact [Accessed: 18-04-2021].

World Travel & Tourism Council (WTTC). 2020. *To Recovery and Beyond-The Future of Travel Tourism in the Wake of COVID-19.* Council, [Online] Available from: https://wttc.org/. [Accessed: 2022-07-02].

Woyo, E. 2017. Visa Policies and Visa Openness Scores in SADC – An Exclusion Element of Tourism Development in Southern Africa: A Critical Interjection. *Atna - Journal of Tourism Studies,* 12(2):67-83.

Woyo, E. & Nyamandi, C. 2021. Application of virtual reality technologies in the comrades' marathon as a response to COVID-19 pandemic. *Development Southern Africa*:1-15.

Woyo, E. & Ukpabi, D. 2022. Building Resilient Smart Cities for Sustainable Urban Tourism in Africa Post-COVID-19 Pandemic. *Information and Communication Technologies in Tourism 2022*: Springer International Publishing.

Wu, H.C., Hsieh, C.-M., Yang, C.-H., Huang, W.-S. & Ku, G.C.-M. 2022. Mediating role of attitudinal and behavioral loyalty between destination attractiveness and environmentally responsible behavior based on Stimulus-Organism-Response model. *Asia Pacific Journal of Tourism Research,* 27(7):712-725.

Wu, T.P. & Wu, H.C. 2019. Tourism and economic growth in Asia: a bootstrap multivariate panel Granger causality. *International Journal of Tourism Research,* 21(1):87-96.

Wu, T.P., Wu, H.C., Wu, Y.Y., Liu, Y.T. & Wu, S.T. 2022. Causality between tourism and economic growth nexus. *Journal of China Tourism Research,* 18(1):88-105.

Wu, Y. & Luo, Y. 2022. How to cushion economic recession caused by the COVID-19 pandemic: Fiscal or monetary policies? *Frontiers in Public Health,* 10.

Xin, W.Y., Hizam-Hanafiah, M. & Yin, Z. 2022. Tourism research progress under the impact of COVID-19: Bibliometric visualization analysis based on Citespace. *International Journal of Academic Research in Business and Social Sciences,* 12(12):1374-1394.

311

Xu, S. 2018. When individual cultural orientation and mediated portrayal of risk intersect: Effects of individualism–collectivism and media framing on risk perception and attribution of responsibility. *Journal of Contingencies and Crisis Management,* 26(4):499-509.

Yacob, S., Johannes, J. & Qomariyah, N. 2019. Visiting intention: A perspective of destination attractiveness and image in Indonesia rural tourism. *Sriwijaya International Journal of Dynamic Economics and Business*:122-133.

Yang, E.C.L. & Nair, V. 2014a. Tourism at risk: A review of risk and perceived risk in tourism. *Asia-Pacific Journal of Innovation in Hospitality and Tourism (APJIHT),* 3:1-21.

Yang, K. 2023. *The Effect of Destination Trust on Tourists' Travel Intention after the COVID-19*. In: Jayawardena, C. (ed.). Paper presented at Proceeding of the International Conference on Hospitality and Tourism Management. Sri Lanka 7(1):65-78.

Yang, Y., Zhang, C.X. & Rickly, J.M. 2021. A review of early COVID-19 research in tourism: Launching the Annals of Tourism Research's Curated Collection on coronavirus and tourism. *Annals of Tourism Research,* 91:1-17.

Yangzhou, H. & Ritchie, J.R.B. 1993. Measuring destination attractiveness: A contextual approach. *Journal of Travel Research,* 32(2):25-34.

Yin, J., Cheng, Y., Bi, Y. & Ni, Y. 2020. Tourists perceived crowding and destination attractiveness: The moderating effects of perceived risk and experience quality. *Journal of Destination Marketing & Management,* 18:1-13.

Yingi, E. 2022. Beyond the pandemic: Implications of COVID-19 on regional economic integration in Southern Africa. *International Journal of Research in Business and Social Science (2147- 4478),* 11(2):270-279.

Young, M.E.M. 2020. Leisure pursuits in South Africa as observed during the COVID-19 pandemic. *World Leisure Journal,* 62(4):331-335.

Yu, N. & Chen, J. 2022. Design of Machine Learning algorithm for tourism demand prediction. *Computational and Mathematical Methods in Medicine,* 2022:1-9.

Zachara-Szymańska, M. 2022. COVID-19 Transition Turbulence: Structural Violence in a Time of Economic Paradigm Change. In: Kurochkin, D., Crawford, M.J. & Shabliy, E.V. (eds.). *Energy Policy Advancement: Climate Change Mitigation and International Environmental Justice*. Switzerland: Springer.

Zadeh Bazargani, R.H. & Kiliç, H. 2021. Tourism competitiveness and tourism sector performance: Empirical insights from new data. *Journal of Hospitality and Tourism Management,* 46:73-82.

Zaman, U., Aktan, M., Anjam, M., Agrusa, J., Khwaja, M.G. & Farías, P. 2021. Can post-vaccine 'Vaxication' Rejuvenate global tourism? Nexus between COVID-19 branded destination safety, travel shaming, incentives and the rise of vaxication travel. *Sustainability,* 13(24):1-23.

Zargar, F.N. & Kumar, D. 2021. Market fear, investor mood, sentiment, economic uncertainty and tourism sector in the United States amid COVID-19 pandemic: A spillover analysis. *Tourism Economics,* 29(2):551-558.

Zarzuela, M.M., Pernas, F.J.D., Calzón, S.M., Ortega, D.G. & Rodríguez, M.A. 2013. Educational tourism through a virtual reality platform. *Procedia Computer Science,* 25:382-388.

Zhang, H., Song, H., Wen, L. & Liu, C. 2021. Forecasting tourism recovery amid COVID-19. *Annals of Tourism Research,* 87:1-16.

Zhang, S., Sun, T. & Lu, Y. 2023. The COVID-19 pandemic and tourists' risk perceptions: Tourism policies' mediating role in sustainable and resilient recovery in the new normal. *Sustainability,* 15(2): 1323-1343.

Zhao, W. & Ritchie, J.R.B. 2007. Tourism and poverty alleviation: An integrative research framework. *Current Issues in Tourism,* 10(2-3):119-143.

Zhou, S., Ayandibu, A.O., Chimucheka, T. & Masuku, M.M. 2023. Government social protection and households' welfare during the COVID-19 pandemic in South Africa. *Journal of Business and Socio-economic Development,* 3(4):308-321.

Zhu, H. & Deng, F. 2020. How to influence rural tourism intention by risk knowledge during COVID-19 containment in China: Mediating role of risk perception and attitude. *International Journal of Environmental Research and Public Health,* 17(10): 3514-3537.

Zibanai, Z. 2014. Southern Africa tourism industry: Recent trends and future prospects. *International Journal of Hospitality and Tourism Systems,* 7(2).

Zmyślony, P., Kowalczyk-Anioł, J. & Dembińska, M. 2020. Deconstructing the overtourism-related social conflicts. *Sustainability,* 12(4):1695-1721.

Zurub, H., Ionescu, A. & Constantin, V.D. 2015. Measuring the economic impact of tourism in European emerging markets. *Procedia Economics and Finance,* 32:95-102.

APPENDICES

APPENDIX A:

RESEARCH ETHICS COMMITTEE APPROVAL

RESEARCH ETHICS COMMITTEE

Tel: +27 12 420 3434
E-mail: alewyn.nel@up.ac.za

Faculty of Economic and Management Sciences

Amended Approval Certificate

19 May 2023

Department: Business Management

Dear Mr SO Ilo

The amendments to the research project described below served before this Committeeon: 2022-05-12

Protocol No:	EMS110/22 Line 1
Principal researcher:	Mr SO Ilo
Research title:	Economic implications of tourism disruption: a post-COVID 19 perspective for an emerging economy
Student/Staff No:	21615889
Degree:	Doctoral
Supervisor/Promoter:	Prof S Das
Department:	Business Management

The decision by the committee is reflected below:

Decision:	Conditionally approved
Conditions (if applicable):	Please submit a permission letter from the relevant Tourism authorities in order to receive final approval.
Period of approval:	2022-09-01 to 2023-09-30

We wish you success with the project.

Sincerely

pp **PROF JA NEL**
CHAIR: COMMITTEE FOR RESEARCH ETHICS

Fakulteit Ekonomiese en Bestuurswetenskappe
Lefapha la Disaense tša Ekonomi le Taolo

317

Faculty of Economic and Management Sciences

Amendment Approval Certificate

22 September 2023

Department: Business Management

Dear Mr SO Ilo

The amendments to the research project described below served before this committee on:
2023-09-08

Protocol No:	EMS110/22 Line 1
Principal researcher:	Mr SO Ilo
Research title:	Economic implications of tourism disruption: a post-covid-19 perspective for an emerging economy
Student/Staff No:	21615889
Degree:	Doctoral
Supervisor/Promoter:	Prof S Das
Department:	Business Management

The decision by the committee is reflected below:

Decision:	Approved
Period of approval:	2022-09-01 - 2023-09-30

We wish you success with the project.

Sincerely

PROF JA NEL
CHAIR: COMMITTEE FOR RESEARCH ETHICS

Fakulteit Ekonomiese en Bestuurswetenskappe
Lefapha la Disaense tša Ekonomi le Taolo

318

RESEARCH ETHICS COMMITTEE

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Economic and Management Sciences

Amended Approval Certificate

6 October 2023

Mr SO Lio
Department: Business Management

Dear Mr SO Ilo

The amendments to the research project described below have been approved by the Committee:

Protocol No:	EMS110/22 Line 2
Principal researcher:	Mr SO Ilo
Research title:	Economic implications of tourism disruption: a post-covid-19 perspective for an emerging economy
Student/Staff No:	21615889
Degree:	Doctoral
Supervisor/Promoter:	Prof S Das
Department:	Business Management

The decision by the committee is reflected below:

Decision:	Approved
Conditions (if applicable):	Conditional approval: Collection of data can continue with particpating institutions with permission letters. Data collection of participating institutions with outstanding permission letters can only continue when submitted to the Ethics Protocol.
Period of approval:	2022-04-01 to 2024-09-30

We wish you success with the project.

Sincerely

pp **PROF JA NEL**
CHAIR: COMMITTEE FOR RESEARCH ETHICS

Fakulteit Ekonomiese en Bestuurswetenskappe
Lefapha la Disaense tša Ekonomi le Taolo

319

APPENDIX B:

RESEARCH INSTRUMENT

TOURISTS' PERCEPTIONS ON VISITING SOUTH AFRICA

Combined Letter of Introduction and Informed Consent

Dear Participant

You are invited to participate in an academic research study conducted by Sylvester Ilo, a doctoral student from the Department of Business Management at the University of Pretoria.

The purpose of the study is to examine the disruptive impacts of COVID-19 pandemic on the South Africa's Tourism Industry in order to devise viable and sustainable strategies for post-pandemic stability and growth of the industry.

Please note the following:

This is an **anonymous** study; your personal information will not be asked for nor appear on any transcript. The responses you give will be treated as strictly **confidential** as you cannot be identified in person based on the answers you give.

Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.

I understand that all data collected for this study will be stored on a safe and secure platform as governed by the University of Pretoria's Research Data Management Policy.

Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 15 minutes of your time.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please feel free to contact my study advisers, Prof S. Das (sonali.das@up.ac.za) and Dr. F. Bello (felix.bello@up.ac.za) if you have any questions or comments regarding the study.

In research of this nature, the study advisers may wish to contact respondents to verify the authenticity of data gathered by the researcher. It is understood that any personal contact details that you may provide will be used only for this purpose and will not compromise your anonymity or the confidentiality of your participation.

<u>Expression of Consent</u>

I have read this informed consent and understood that my participation in this study is free and voluntary.

Yes, I consent ☐

No, I do not consent ☐

Please tick [√] the appropriate option

Demographics

1. Age Group:
   a. Below 20 Years ☐

   b. 21 – 30 ☐

   c. 31 – 40 ☐

   d. 41 – 50 ☐

   e. 51 – 60 ☐

   f. 61 and above ☐

2. Gender
   a. Male ☐

   b. Female ☐

   c. Non-binary ☐

   d. Prefer not to indicate ☐

3. Highest Educational Qualification:
   a. Basic Education ☐

   b. Matric ☐

   c. Diploma ☐

   d. Bachelors ☐

   e. Masters ☐

   f. Ph. D ☐

4. Income Level (yearly)
   a. Less than $5,000 ☐

   b. $5,000 and $15,000 ☐

   c. $15,001 and $25,000 ☐

   d. $25,001 and $35,000 ☐

   e. $35,001 and $45,000 ☐

323

f. $45,001 and $55,000   ☐

g.   More than $50,000   ☐

5. Country of resident: _____

(A) Destination Attractiveness

As a tourist, use the underlisted statements to indicate your agreement or otherwise about South Africa as a tourism destination.

Please use SA for strongly agree, A for agree, U for undecided, D for disagree, and SD for strongly disagree.	SD	D	U	A	SA
South Africa's unique ecological environment attracts tourists to South Africa					
South Africa's beautiful forest scenery attracts tourists to South Africa					
South Africa's rich diversity of wildlife attracts tourists to South Africa					
South Africa's well-known culture and heritage attracts tourists to South Africa					
Good environment management mechanisms in South Africa attracts tourists to South Africa					

(B) Risks Perception Associated with COVID-19 Pandemic

Please indicate the extent to which you agree with the following statements regarding the risk associated with COVID-19.

Use SA for strongly agree, A for agree, U for undecided, D for disagree, and SD for strongly disagree.	SD	D	U	A	SA
Severity of COVID-19					

COVID-19 is harmful to human health					
COVID-19 ruins mood in daily life					
COVID-19 reduces humans' quality of life					
General Vulnerability of COVID-19					
I feel I can be infected with COVID-19 in the near future					
I feel that my friends and family members can be infected with COVID-19 in the near future.					
I feel that people will continue to be infected with COVID-19 in the near future					
South African Specific Vulnerability to COVID-19 pandemic					
I am confident that South Africa has taken the right control measures to decrease the chance of infection with COVID-19*					
I am confident that South Africa complies with the COVID-19 safety regulations*					
I am confident that South Africa has taken the right hygiene measures*					
Satisfaction Risk					
I expect that a visit to South Africa at this moment would not meet my expectations					
If I would visit South Africa in the near future, I'm afraid that the visit will be disappointing due to the COVID-19 regulations					
If I would visit South Africa in the near future, I expect that the experience is worse than I am used to due to the COVID-19regulations					
I expect that a visit to South Africa right now will be just as valuable as in the past					

325

Social Risk					
Friends and family members will not appreciate if I would travel to for example South Africa at this moment					
Friends and family members will not think it is unusual if I plan to visit South Africa at this moment					
Friends and family members will discourage a plan to visit South Africa at this moment					
Friends and family members are not inclined to visit places such as South Africa					
Psychological Risk					
Going on a tourism travel is risky at the moment					
I would feel very uncomfortable traveling anywhere in South Africa at the moment					
I would feel nervous about traveling in South Africa right now					
Visiting tourist sites is an unsafe activity					
I feel that safety is the most important aspect a leisure activity can offer					
Safety is an important consideration when I choose a tourism activity					

(C) Tourism Technologies

(Please indicate the technological innovations in tourism that you are familiar with)	
▪ Discovering, accessing, and reviewing destination information through the social media	
▪ Mobile apps for bookings, reservations, contact tracing, meteorological information	

	SD	D	NA	A	SA
▪ Using virtual and augmented reality in cultural and heritage tourism such as virtual tours, museums, and exhibitions					
▪ Biometric technology such as facial, fingerprint, and voice recognitions for secured payments and personal safety					
▪ Internet of Things such as smart hotels, smart wearables, smart destinations for contactless transactions and activities					
▪ Artificial intelligence such as chatbots, virtual assistants, destination recommendation, risk profiling, weather patterns, and crowd monitoring					
▪ Machine learning solutions for destination marketing, information, recommendations, and tourist visitor-experiences					
▪ Blockchain technology such crypto-payments, loyalty programs, digital reviews					

Adoption of technological innovations in tourism

(i) Perceived Usefulness of Innovative Technologies in Tourism *Please indicate to what extent you agree or disagree with the following statements about the usefulness technological innovations in tourism*	SD	D	NA	A	SA
Using the tourism technologies would increase my ability to make better tourism decisions					
I think that using tourism technologies should be part of every tourism experience					
Using tourism technologies course would enhance my tourism experience					
Using tourism technologies would make it easier for me to identify best tourism destinations that suits my expectations					
Using tourism technologies would make it easier for me to express my level of tourism experience					

(ii) Perceived Ease of Use of Innovative Technologies in Tourism

Please indicate to what extent you agree or disagree with the following statements about the ease of using technological innovations in tourism					
Learning to use tourism technologies is hard for me					
I find that the process of using tourism technologies clear, understandable and straightforward					
Navigating through tourism technologies is easy for me					
It would be easy to become skilful at using tourism technologies					
I find the tourism technologies easy to use					

(D) Intention to Visit/Re-visit South Africa

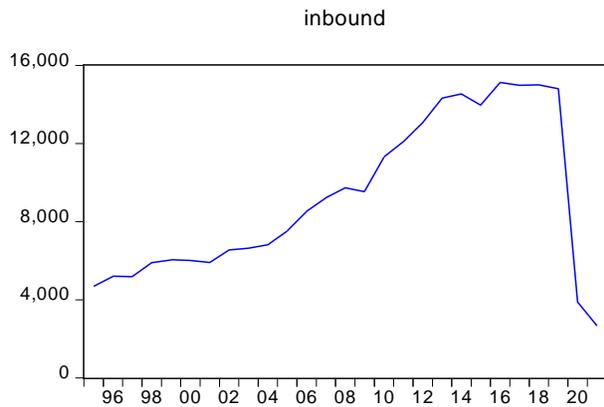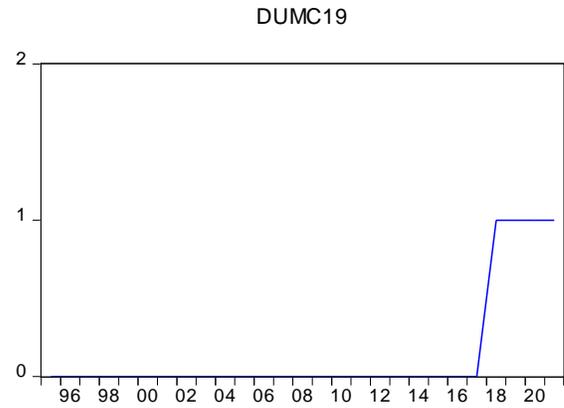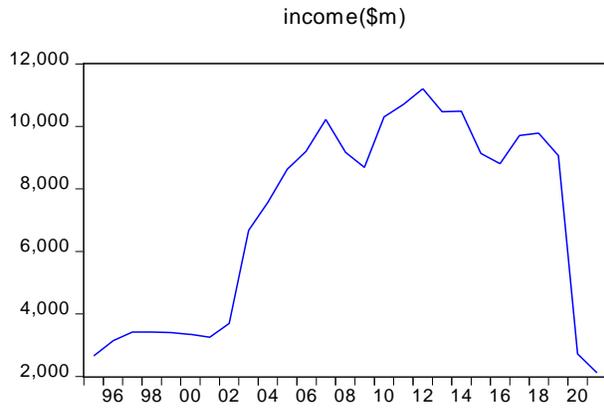| *Please indicate your likelihood of visiting and/or revisiting South Africa using Very Likely (VL), Likely (L), Indifferent (I), Unlikely (U), and Very Unlikely (VU)*	VU	U	I	L	VL
If you have visited South Africa before, what is the likelihood of visiting again?					
If you have not visited South Africa before, what is the likelihood of visiting?					
Will you invite friends and family to visit South Africa?					

APPENDIX C:

CUMULATIVE SUM (CUSUM) GRAPHS

income($m)

DUMC19

inbound

REEXR

APPENDIX D

THE MEASUREMENT MODEL

Destination Attractiveness (DA) = $\int(DA_1) + e_1 + \int(DA_2) + e_2 + \int(DA_3) + e_3 + \int(DA_4) + e_4 + \int(DA_5) + e_5$

Tourists' Behavioural Intentions (TBI) = $\int(TBI_1) + e_1 + \int(TBI_2) + e_2 + \int(TBI_3) + e_3$

Perceived Severity of COVID-19 (PRSEV) = $\int(PRSEV_1) + e_1 + \int(PRSEV_2) + e_2 + \int(PRSEV_3) + e_3$

Perceived General Vulnerability of COVID-19 (PRGEN) = $\int(PRGEN_1) + e_1 + \int(PRGEN_2) + e_2 + \int(PRSEV_3) + e_3$

Perceived South Africa-Specific Vulnerability to COVID-19 (PRSAF) = $\int(PRSAF_1) + e_1 + \int(PRSAF_2) + e_2 + \int(PRSAF_3) + e_3$

Perceived Satisfaction Risk (PRSAT) = $\int(PRSAT_1) + e_1 + \int(PRSAT_2) + e_2 + \int(PRSAT_3) + e_3 + \int(PRSAT_4) + e_4$

Perceived Social Risk (PRSOC) = $\int(PRSOC_1) + e_1 + \int(PRSOC_2) + e_2 + \int(PRSOC_3) + e_3 + \int(PRSOC_4) + e_4$

Perceived Psychological Risk (PRPSY) = $\int(PRPSY_1) + e_1 + \int(PRPSY_2) + e_2 + \int(PRPSY_3) + e_3 + \int(PRPSY_4) + e_4 +$ $\int(PRPSY_5) + e_5 + \int(PRPSY_6) + e_6$

Perceived Usefulness of Technology (PUT) = $\int(PUT_1) + e_1 + \int(PUT_2) + e_2 + \int(PUT_3) + e_3 + \int(PUT_4) + e_4 +$ $\int(PUT_5) + e_5$

333

Perceived Ease of Use of Technology (PET) $= \int(PET_1) + e_1 + \int(PET_2) + e_2 + \int(PET_3) + e_3 + \int(PET_4) + e_4 + \int(PET_5) + e_5$

APPENDIX E

CONFERENCE LETTER OF ACCEPTANCE

Tourism & Leisure Studies

tourismandleisurestudies.com

Letter of Acceptance

February 21, 2024

Dear Sylvester Ilo,

On behalf of the Review Committee for the **Ninth International Conference on Tourism & Leisure Studies**, Jun 19, 2024 – Jun 21, 2024 at Liverpool John Moores University, Liverpool, United Kingdom of Great Britain and Northern Ireland, this letter confirms your presentation proposal "Reviving Post Pandemic Competitiveness Of Tourism Destinations: Negating The Moderating Effects Of Perceived Risks With Innovative Technologies" has been accepted. We believe that your presentation and participation in general discussions will make a significant contribution to the conference.
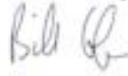
The annual conference is an integral component of the Tourism and Leisure Studies Research Network. Founded in 2015, the Tourism & Leisure Studies Research Network is brought together to explore the economic, cultural and organizational aspects of tourism and leisure.

You can find regularly updated information about the conference on our website: https://tourismandleisurestudies.com/2024-conference
Should you require further information or have any questions, please visit the Knowledge Base: https://cgscholar.com/cg_support/en

We do hope you will be able to attend this important and timely event.

Yours Sincerely,

Dr. William Cope
President, Common Ground Research Networks, USA
Professor, Department of Education Policy, Organization & Leadership, College of Education, University of Illinois, Urbana-Champaign, USA
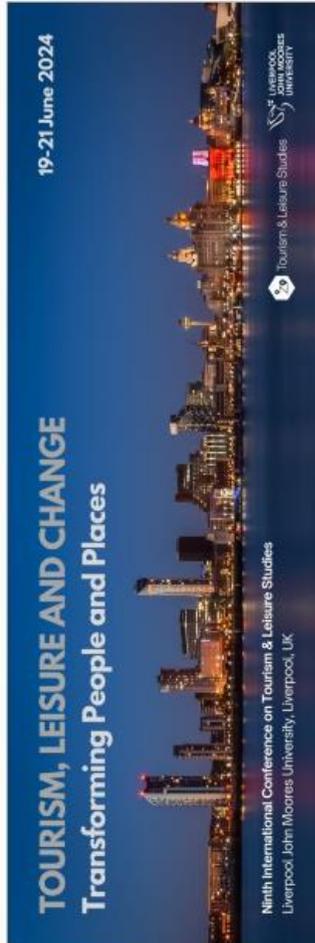
Common Ground Research Networks
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Champaign, IL 61820 USA

Ph: +1-217-328-0405
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support@cgnetworks.org
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LIVERPOOL
JOHN MOORES
UNIVERSITY

336

APPENDIX F

CONFERENCE LETTER OF ATTENDANCE AND PAPER PRESENTATION

CERTIFICATE OF ATTENDANCE AND PRESENTATION

Sylvester Ilo

of University of Pretoria, South Africa, attended (as an Online participant) the Ninth International Conference on Tourism and Leisure Studies, Liverpool John Moores University, Liverpool, United Kingdom, 19-21 June 2024 (24 hours). Sylvester Ilo presented the paper:

Reviving Post-pandemic Competitiveness of Tourism Destinations: Negating the Moderating Effects of Perceived Risks with Innovative Technologies

We thank you for your valuable contribution. The annual conference is an integral component of the Tourism, Leisure and Studies Research Network.

Prof. Hazel Andrews &
Prof. Aggelos Panayiotopoulos
Conference Chairs

Liverpool John Moores University

LIVERPOOL
JOHN MOORES
UNIVERSITY

ANANT
NATIONAL
UNIVERSITY
INDIA'S FIRST DESIGN UNIVERSITY

International Institute
for the Inclusive Museum

19-21 June 2024

Tourism & Leisure Studies

TOURISM, LEISURE AND CHANGE
Transforming People and Places

Ninth International Conference on Tourism & Leisure Studies
Liverpool John Moores University, Liverpool, UK

338

APPENDIX G

EMERGING SCHOLAR AWARD

(AT THE NINTH INTERNATIONAL CONFERENCE ON TOURISM AND LEISURE STUDIES, LIVERPOOL JOHN MOORES UNIVERSITY, LIVERPOOL, UK. 19 – 21 JUNE 2024)

COMMON GROUND

Tourism & Leisure Studies

THE NINTH INTERNATIONAL CONFERENCE ON TOURISM & LEISURE STUDIES
LIVERPOOL JOHN MOORES UNIVERSITY, LIVERPOOL, UK, 19-21 JUNE 2024
PROUDLY PRESENT THE 2024

EMERGING SCHOLAR AWARD

TO

Sylvester Ilo

THIS AWARD RECOGNIZES EXCELLENT SCHOLARSHIP AND
THE PROMISE OF SIGNIFICANT FUTURE ACHIEVEMENT.
WE BESTOW THE EMERGING SCHOLAR AWARD WITH DUE RESPECT AND GRATITUDE

Phillip Kalantzis Cope

Chief Social Scientist
Common Ground Research Networks

Tamsyn Gilbert

Conference Producer
Common Ground Research Networks

340